

Monitoring, Reporting and Verification (MRV) of Climate Finance for Zambia



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Abbreviations and Acronyms

AFOLU	Agriculture, Forestry and Other Land Use
BAU	Business as Usual
BUR	Biennial Update Reports
CAEP	Climate Action Enhancement Package
CCNRMD	Climate Change and Natural Resources Management Department
CDM	Clean Development Mechanism
CE	Coordinating Entity
COMESA	Common Market for Eastern and Southern Africa
COP	Conference of the Parties
CPEIR	Climate Public Expenditure and International Review
CRS	Creditor Reporting System
CSO	Civil Society Organisation
DAC	Development Assistance Committee
EU	European Union
GCF	Green Climate Fund
GEF	Global Environment Facility
GHG	Greenhouse Gas
ICA	International Consultation and Analysis
INDC	Initial Nationally Determined Contribution
IPCC	Intergovernmental Panel on Climate Change
IRENA	International Renewable Energy Agency
IT	Information Technology
MDB	Multilateral Development Bank
MLNR	Ministry of Lands and Natural Resources
MNDP	Ministry of National Development Planning
MoF	Ministry of Finance
MRV	Measurement, Reporting and Verification
NAMA	Nationally Appropriate Mitigation Action
NAPA	National Adaptation Programme of Action

NC	National Communication
NCCAP	National Climate Change Action Plan
NCCF	National Climate Change Fund
NCCRS	National Climate Change Response Strategy
NDA	National Designated Authority
NDC	Nationally Determined Contribution
NDP	National Development Plan
NGO	Non-Governmental Organisation
NIE	National Implementing Entity
NIR	National Inventory Report
NPCC	National Policy on Climate Change
ODA	Official Development Assistance
OECD	Organisation for Economic Co-operation and Development
PIN	Project Information Note
QA/QC	Quality Assurance/Quality Control
REDD	Reducing Emissions from Deforestation and Forest Degradation
REDD+	Reducing Emissions from Deforestation and Forest Degradation, and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks
SCF	Standing Committee on Finance
SDG	Sustainable Development Goal
SWOT	Strengths, Weakness, Opportunities, Threats
TCCCA	Transparency, Consistency, Comparability, Completeness, Accuracy
TNA	Technology Needs Assessment
TNC	Third National Communication
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
ZEMA	Zambia Environmental Management Agency

Glossary

Adaptation:	Actions aimed at managing the known and unknown impacts of climate change.
Capacity-building:	Enabling humans, organisations, inter-organisational networks and systems to meet their own needs. Capacity-building and capacity development for climate change refer to the development or strengthening of 1) individual skills/expertise and/or 2) relevant institutions and organisations to reduce GHG emissions and/or reduce vulnerability and adapt to climate change.
Carbon markets/ mechanisms:	An international market regime in which carbon emission reduction allowances or credits are bought and sold. The market is divided into two categories: regulatory (i.e. under the Kyoto Protocol) and voluntary (which emerged to fulfil the demand from organisations and vbusinesses that wished to offset their carbon emissions voluntarily).
Clean Development Mechanism:	A market-based mechanism under the Kyoto Protocol through which industrialised countries (Annex I countries) invest in projects in developing countries that yield emission reductions that go towards their commitment under the Protocol.
Climate:	Encompasses the statistics of meteorological conditions – that is, temperature, humidity, atmospheric pressure, wind, rainfall, atmospheric particle count and other meteorological elements in a given region over long periods of time (usually 30 years).
Climate change:	A change of climate attributed directly or indirectly to human activities that alter the composition of the global atmosphere, and that is additional to natural variability and is observed over comparable periods of time.
Climate variability:	Variations in the mean state and other statistics (such as standard deviations, occurrences of extremes, etc.) of the climate on temporal and spatial scales beyond those of individual weather events owing largely to natural internal processes within the climate system.
Co-benefits	Social, economic or other environmental benefits than emission reductions, contributing to sustainable development, often essential to making changes long-term sustainable and transformational.
Commitment/ intended contribution	Objective of a country to contribute through enhanced action to achieving the global 2°C objective; can be voluntary or internationally binding.
Conference of the Parties to the UNF- CCC:	The meeting of countries that are party to the UNFCCC; the supreme decision making-body of the Convention.
Consistency	Collected and reported data should be free of internal contradictions and overlaps as well as gaps across MRV systems and over a period of years.
Country-specific data	Data on either activities or emissions generated through monitoring and research in a country and that are the basis for planning and implementation of mitigation actions as well as the tracking of the impacts of these actions.
Emissions:	The release of GHGs and/or their precursors into the atmosphere over a specific area and period of time. This term is used interchangeably with GHGs in this document.
Emissions target:	To reduce emissions, usually quantified and internationally binding.

GHGs:	Greenhouse gases are gaseous constituents of the atmosphere, both natural and human-induced, that absorb and re-emit infrared radiation.
Global 2°C objective:	To shift onto a sustainable development path at a global level, limiting global temperature increases to below 2°C and making societies and economies climate resilient.
Global warming:	Refers to the gradual increase, observed or projected, in global surface temperatures as a consequence of the disturbance in the climate system.
Good practice:	A set of procedures intended to ensure that the MRV system is accurate in the sense that it is systematically neither an over nor an underestimate, and that uncertainties are reduced as far as possible. Covers choices of measuring methodologies appropriate to national circumstances; quality assurance and quality control at the national level; quantification of uncertainties; and data archiving and reporting to promote transparency.
Guidelines	Instrument for technical support for implementers on how to implement and meet international requirements; not (always) binding.
Impact	Causal effect (desired or not) at the end of a causal chain; long-term.
Indicator	Qualitative or quantitative, supposed to enable evaluation of whether or how far a goal (outcome, output) has been achieved.
International requirements:	Fulfilment of internationally agreed-upon strategies, mechanisms, goals (e.g. UNFCCC Framework Convention and subsequent Agreements).
IPCC:	The Intergovernmental Panel on Climate Change is an international body that assesses climate change and provides best available science on climate change.
Kyoto Protocol:	An international legally binding agreement under the UNFCCC that gives legally binding emission reduction targets to industrialised countries.
Mainstreaming:	The integration of climate change considerations into the development planning process, and in sector and local-level plans.
Mitigation:	Efforts that seek to prevent or slow the increase of atmospheric GHG concentrations by limiting current and future emissions and enhancing potential sinks.
MRV plan:	Document defining roles and responsibilities in institutions and procedures of the measurement, reporting and verification (MRV) system.
MRV system:	Institutions, processes and external relations, including responsibilities, methodologies and procedures to collect data, quantify impacts, process data, compile reports and verify reported results.
National Adaptation Programme of Action:	Plan for adaptation by which least developed countries identify priority activities that respond to their urgent and immediate needs to adapt to climate change.
National appropriateness:	Mitigation actions and low emission development strategies depend on national development priorities, the level of national development and economic competitiveness, emission profiles, opportunities for sustainable development co-benefits and emission reduction potential.
Pledge	Voluntary objective of a country to reduce GHG emissions.
REDD:	Reducing Emissions from Deforestation and Forest Degradation is an incentive-based mechanism that seeks to reduce emissions of GHGs from deforestation and forest degradation and to prioritise the role of conservation and sustainable management of forest carbon stocks.

Resilience:	Ability of a system and its component parts to anticipate, absorb, accommodate or recover from the events of the hazardous event in a timely and efficient manner.
Sectoral levels of data aggregation:	In order to track emission reductions towards the 2°C objective, national/ regional/sectoral data need to be aggregated. A sector is a division, most commonly used to denote type of energy consumer (e.g. residential/ transport) or, according to the IPCC, type of GHG emitter (e.g. industrial process).
Sustainability/ sustainable development	Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.
Technology transfer:	Cooperation to transfer or share technologies internationally among implementers to enable developing and developed countries to achieve their development objectives and their climate change intended contributions. Involves a broad set of processes covering the flows of know-how, experience and equipment for mitigating and adapting to climate change among different stakeholders such as governments, private sector entities, financial institutions, non-governmental organisations and research/education institutions.
Transparency:	Enhances the ability of a country to identify opportunities for mitigation actions and planning and implementation thereof nationally, as well as the ability to track progress towards national objectives and the global 2°C objective internationally. Transparency means that the assumptions and methodologies used for an MRV system should be clearly explained to facilitate replication and assessment of the inventory by users of the reported information. The transparency of MRV systems is fundamental to the success of the process, for the communication and consideration of information.
UNFCCC:	The United Nations Framework Convention on Climate Change is a global agreement on climate change that sets an overall framework for intergovernmental efforts to tackle the challenge posed by climate change, whose objective is to stabilise GHG concentration in the atmosphere to a level that would prevent dangerous human-induced interference with the climate system.
Vulnerability:	The degree to which a system is susceptible to, or unable to cope with, adverse effects of climate change, including climate variability and extremes. Vulnerability is a function of the character, magnitude and rate of climate variation to which a system is exposed, its sensitivity and its adaptive capacity. Therefore adaptation would also include any efforts to address these components (IPCC AR4, 2007).

Executive Summary

Zambia is committed to the international community's fight against climate change, and, as part of the response to the challenges linked to this phenomenon, it has established a legal, regulatory and long-term planning framework as defined in its Nationally Determined Contribution (NDC) in 2015, as part of the preparatory work before COP21, where the Paris Agreement was discussed and adopted. The initial NDC outlines the government priorities towards achieving the targets set by the Paris Agreement.

The Paris Agreement, signed in December 2015, integrates the mandates related to climate finance measurement, reporting and verification (MRV) systems and transparency, as core aspects of effective implementation of NDCs. Article 13 of the Agreement compels developing countries such as Zambia to report periodically, within the framework of enhanced transparency, on the support required and received in terms of financing, technology transfer and capacity-building. In line with this, Zambia revised its NDC in 2021 with the aim of increasing its climate change ambition. The revised NDC attest to country need for MRV of support (finance).

In this context, having a climate finance MRV system contributes to building trust between donors and recipients and increasing the effectiveness of actions taken. This instrument makes it possible to quantify and monitor the implementation of climate finance, and therefore to identify the gaps. Also, it helps make the use and allocation of resources more transparent, improving both quality and access to information for better planning of public climate policy, which in turn enables a focused channelling of resources to respond to domestic needs for promoting a low-carbon economy and meeting the goals set in the NDC.

Furthermore, one of the advantages of having a robust climate finance MRV is the potential to attract additional funds by ensuring transparency, accuracy and comparability of information.

Zambia faces major challenges in reducing and managing the risks of climate change. The progressive and growing water crisis, the increase in extreme events related to floods and landslides,

and the challenges involved in achieving sustainable production, among other difficulties, require a robust agenda of climate actions to move forward on a path of low-carbon, climate change-resilient development. To implement these actions, it is essential to have a short-, medium- and long-term financing strategy that makes it possible to address these local needs.

Zambia has made progress in setting arrangements for monitoring, coding and tracking climate change expenditures to enhance accountability and transparency in line with the Paris Agreement. However, the process is still developing and concerted effort is required to develop robust and measurable indicators for both mitigation and adaptation. The country has made progress in identifying relevant and appropriate indicators to track progress on adaptation and building resilience. However, these still need to be refined and agreed upon by various stakeholders. Mechanisms to identify the sources and track how the finance has been used have still not been fully actualised – yet these are international standards required in climate finance and this may prevent the country from benefiting from and accessing some funds.

The Zambian state needs to have technical information available on climate finance and its execution so as to be able to assess the effectiveness of its implementation, which is key to the decision-making process. Interviewees agreed on the advantages of having an MRV system, to enable the identification of the resources being used, assessment of the efficiency of this use and management of the allocation of resources, ensuring continuous financing targeted at the relevant challenges posed by climate change in the country.

Also, and equally important, is the fact that Zambia has international goals and commitments that explicitly refer to the measurement and reporting of public expenditure on climate change, as well as to the definition of a climate financing strategy for the country to be updated every five years, which must be consistent with Zambia's committed Long-Term Climate Strategy. All of this emphasises the need to keep moving forward in this challenge of building a climate finance MRV system for the

country, with common and hopefully standardised elements among African countries in order to share comparable experiences.

This baseline report on MRV for climate change actions in Zambia presents an analysis and diagnosis of practices in the country, the related regulatory instruments, relevant actors, technological platforms and initiatives already implemented or in the process of

being implemented. It was undertaken by the Commonwealth Secretariat with support from NDC CAEP with the aim of increasing the effectiveness of climate finance through improving understanding of the financial flows to mitigate and adapt to climate change, from public, private, national and international sources; helping manage climate finance; and assisting in identifying investment gaps to tackle the climate change problem.

1. Introduction to Climate Finance MRV And Background to the Study

The Paris Agreement, signed in December 2015, underlines the need for climate finance measurement, reporting and verification (MRV) systems and transparency as core aspects in the effective implementation of countries' Nationally Determined Contributions (NDCs). Article 13 of the Agreement compels developing countries such as Zambia to report periodically, within the framework of enhanced transparency, on the support required and received in terms of financing, technology transfer and capacity-building. Zambia revised its NDC in 2021 with the aim of increasing its climate change ambition. The revised NDC attests to the country's need for MRV of support (finance).

A climate finance MRV system contributes to building trust between donors and recipients and increasing the effectiveness of actions taken. This instrument makes it possible to quantify and monitor the implementation of climate finance, and therefore to identify the gaps. Also, it helps make the use and allocation of resources more transparent, improving both quality and access to information for better planning of public climate policy. This, in turn, enables a focused channelling of resources to respond to domestic needs for promoting a low-carbon economy and meeting

the goals set in the country's NDC. Another of the advantages of a robust climate finance MRV lies in the potential to attract additional funds by ensuring transparency, accuracy and comparability of information.

1.1. Overview of the NDC Partnership and CAEP

The NDC Partnership is a coalition of countries and institutions committed to supporting countries in implementing and increasing the ambition of their NDCs under the Paris Agreement. The Government of the Republic of Zambia joined the NDC Partnership in December 2016 and has advanced steadily on the elaboration of a comprehensive plan to advance its mitigation and adaptation actions.

Launched in September 2019, the Climate Action Enhancement Package (CAEP, pronounced "CAP") of the NDC Partnership, through the technical and financial support of 46 partners, is supporting 63 countries to submit enhanced NDCs and fast-track their implementation. CAEP catalyses transformational change towards resilient, sustainable and low-emission development,

Box 1: What is a Nationally Determined Contribution?

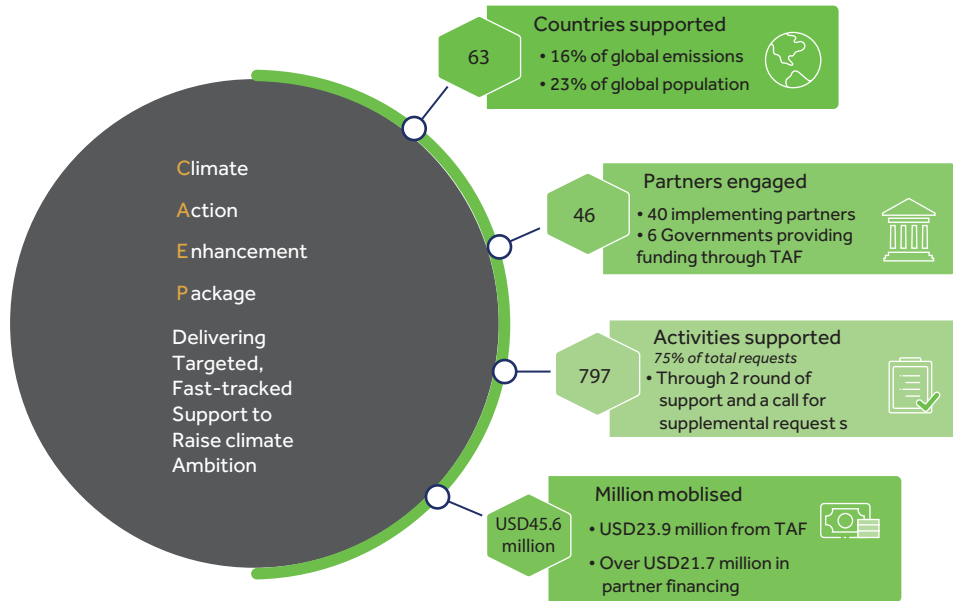
NDCs are country-driven targets that were invited for submission by the United Nations Framework Convention on Climate Change (UNFCCC), without strict instructions on the format. NDCs have become part of Article 4 of the Paris Agreement since it entered into force.

Because countries have different circumstances, resources and abilities, the Paris Agreement was designed so that each country could define its own pledges, in terms of what it could contribute to the 2030 Agenda. These country pledges are the NDCs, and each country produces a document outlining its contributions and how they will be achieved.

Nearly all NDCs include a target to reduce CO₂ emissions by a certain amount over a given time. Most of them also highlight how climatic changes will affect the country, and how the country intends to adapt to these changes.

Source: Adapted from http://unfccc.int/focus/indc_portal/items/8766.php

Figure 1. Overview of CAEP



Source: www.ndcpartnership.org/caep

supporting the objectives of the Paris Agreement for member countries of the NDC Partnership. In other words, CAEP was designed by the NDC Partnership to support developing countries in updating and implementing their NDCs.

Under the Paris Agreement, countries revise their NDCs every five years to cut greenhouse gas (GHG) emissions to limit the temperature rise and to implement solutions to adapt to the effects of climate change. The updating of NDCs presents countries with significant opportunities to align their climate and development agendas to promote sustainable growth, but also presents challenges with regard to reinventing policies and operations and mobilising sufficient investment.

CAEP assists developing country members of the NDC Partnership to achieve two overarching objectives:

- 1 Enhance NDCs, including by raising ambition, as part of the Paris Agreement's NDC update process;
- Fast-track implementation of NDCs, including by providing in-country technical expertise and capacity-building.

1.2. The NDC CAEP for Zambia

Four partners – the United Nations Development Programme (UNDP), the Commonwealth

Secretariat, the International Renewable Energy Agency (IRENA) and the Common Market for Eastern and Southern Africa (COMESA) – are involved in creating collective impact through bold, collaborative efforts for the delivery of the NDC CAEP for Zambia.

The objective is to develop a pipeline of NDC funding for project proposals through consultation and collaboration with stakeholders and other partners based on current and revised NDC priority interventions and building on the NDC finance strategy.

With government leadership and oversight, and in alignment with the NDC Implementation Framework being prepared by the Climate Change and Natural Resources Management Department (CCNRMD) with support from the NDC Partnership, the Commonwealth Secretariat is assisting Zambia in accelerating implementation of its NDC through:

- Capacity support to sector ministries, sub-national institutions, civil society organisations (CSOs) and the private sector on project identification;
- Preparation of Project Information Notes for resource mobilisation under the PIN initiative of the NDC Partnership;
- Support to or leading of the development of concept notes and project proposals;

- Development of a climate finance mapping for the matching of short-, medium- and long-term finance needs;
- Development of toolkits for MRV of support received by respective sector ministries, sub-national institutions, the private sector and CSOs.

The proposed support is implemented through an inclusive engagement process, including consultations with key stakeholders and other CAEP partners and national validation before finalisation.

1.3. Objectives for the climate finance MRV tool in Zambia

The overall objective of the climate finance MRV is to increase the effectiveness of climate finance through an information tool that improves understanding of the financial flows to mitigate and adapt to climate change, from public, private, national and international sources; that helps manage climate finance; and that aids in identifying investment gaps to tackle the climate change problem.

Its specific objectives include:

- To act as a climate finance tracker for NDC action implementation;

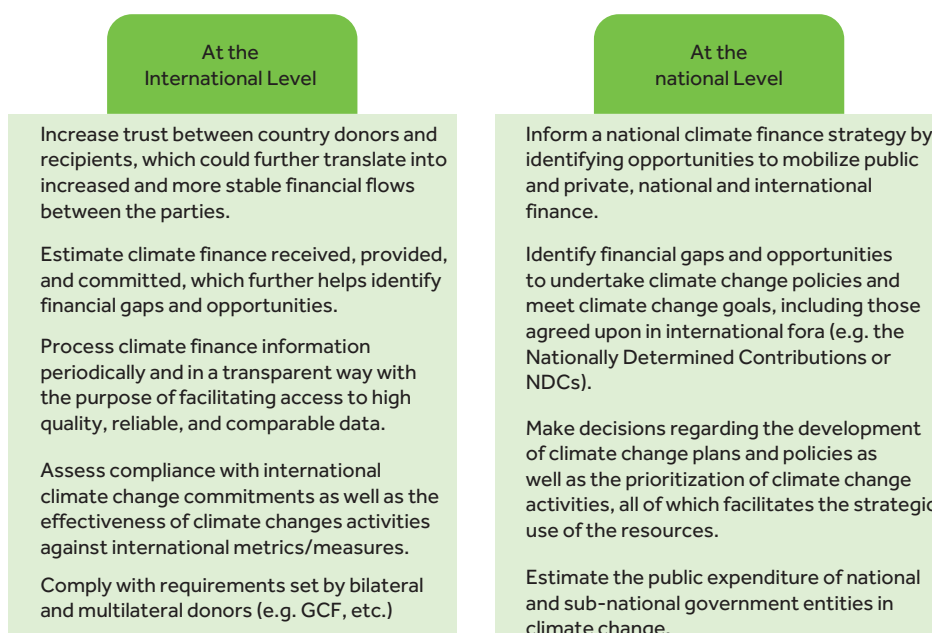
- To compile and consolidate climate finance information;
- To identify gaps and funding opportunities that promote a more efficient use of resources and improve the decision-making process for climate finance;
- To present the trends and evolution of climate finance;
- To facilitate access to information through a digital and user-friendly platform;
- To facilitate a greater understanding of the source and use of climate finance.

Although the MRV of finance was initially intended mainly for developed countries (to clarify how resources were being distributed to developing nations), developing countries are now also encouraged to create MRV systems. This is particularly true for those countries, like Zambia, that are both recipients and providers of finance. The Climate Finance MRV System in Zambia is important because it can help achieve goals that are significant at both the international and the national level.

1.4 Methodology

Data for this study were collected from primary and secondary sources. Primary data collection

Figure 2. How climate finance MRV helps internationally and nationally



was mostly through electronic means as a result of the constraints posed by the COVID-19 pandemic situation. Contact with stakeholders was made by phone and email as well as via various online platforms.

Additional information was gathered in relevant webinars on MRV-related topics that occurred during the development and consultation phases of the report. The responses from stakeholders as well as additional documentation provided by them were triangulated and included in the relevant sections of the report.

The stakeholders approached for this study included staff from the Ministry of Lands and Natural Resources (MLNR), the Ministry of Finance (MoF) and the Ministry of National Development Planning (MNDP).

Secondary sources included national climate change and development policy documents, working papers and scientific literature. These documents were sourced from the websites of governmental institutions, non-governmental organisations (NGOs), the private sector, research

and education institutions and bilateral and multilateral donors operating in Zambia.

The following national documents, among others, were accessed:

- Updated Nationally Determined Contribution (NDC) 2021
- Biennial Update Report 1 (BUR1) 2020
- Third National Communication 2020
- National Policy on Climate Change (NPCC) 2016
- Technology Needs Assessment 2013
- Initial Nationally Determined Contribution (INDC) 2015
- National Climate Change Response Strategy (NCCRS) 2010

Case study selections were undertaken, with Colombia and Ghana emerging as the best examples of climate finance MRV systems in developing countries.

2. National Situation Analysis

Box 2: Zambia national context

Zambia's successive climate change impacts over the past 10 years have resulted in socio-economic losses estimated at 3–5 per cent of gross domestic product annually despite the country having negligible global GHG emissions (<0.1 per cent in 2018). This represents an impediment to the realisation of Zambia's Vision 2030.

Zambia has put in place ambitious policies and measures to pursue her low-emission climate-resilient development pathway to realise Vision 2030. The Updated NDC builds on national policies, plans and legal frameworks including:

- The NCCRS 2010
- The NPCC 2016
- Sector-specific policies and legislation like the Water Act 2016, the Disaster Risk Financial Strategy 2018–2022 and the Zambia Climate Smart Agriculture Strategy 2017–2026

Zambia's INDC, which was submitted in 2015, and its Updated NDC aim to reduce emissions by 47 per cent relative to the business as usual (BAU) scenario by 2030 – that is, 36 MtCO₂eq emission reduction.

Zambia's Updated NDC broadens the scope of sectors under mitigation by adding transport, liquid waste and coal (production, transportation and consumption) and by elaborating the adaptation component of the NDC by developing indicators that will enable the country to track progress on building resilience in both human and physical systems and on adaptation actions. In addition, gender, youth actions and the Sustainable Development Goals (SDGs) are considered.

Meeting the conditional target requires an overall investment estimated at US\$35 billion up to 2030, to be mobilised through new climate finance mechanisms such as the Green Climate Fund (GCF) and other climate-related bilateral, multilateral and domestic financing including the private sector.

2.1. Zambia's vulnerability

Zambia suffers from extreme weather events, climate variability and other systematic changes in climate variables. The country's 2018 rank as per the Global Climate Risk Index is 135 out of 181 countries (Eckstein et al., 2019), compared with Zimbabwe at 132. Its average annual temperature has increased by 1.3°C since 1960, an average of 0.29°C per decade. Its average seasonal rainfall has reduced at an average monthly rate of 1.9 mm, and this is projected to worsen by about 3 per cent and 0.6 per cent by 2050 and 2100.

Zambia is vulnerable to the adverse impacts of climate change. The average temperature across entire provinces for the past 100 years shows an increasing trend. This is believed to increase the risk of hydro-meteorological disasters, mainly drought and floods, which make up more than

85 per cent of disasters. These vulnerabilities to climate change and the threat this poses to achieving long-term development goals were recognised in terms of the country's reliance on hydropower. As a result, Zambia initiated a concerted national effort to respond to climate change. This began with the development of the NCCRS in 2010. This was the first national planning document dedicated to addressing the threats posed by climate change and that took advantage of potential climate change-related opportunities. The NCCRS identified the need to develop a comprehensive NPCC.

2.2. Greenhouse gas context

The country is a net sink for GHGs, as seen in the country's emission levels of 2005 and 2010 (Table 1). The top contributor of emissions, at about 96 per cent of the total, is Agriculture, Forestry and

Table 1. Greenhouse gases by emissions by source and removals by year

Greehouse gases in Gg CO ₂ eq	2005	2010
Emissions by source	106,967	120,507
Removals	138,259	137,323
Net	-31,292	-16,816

Source: Third National Communication 2020.

Table 2. Projected greenhouse gases by emissions by source and removals by year

Greehouse gases in Gg CO ₂ eq	2010	2050
Emissions by source	120,785	171,532
Removals	137,322	103,684
Net	-16,537	67,848

Source: Third National Communication 2020.

Other Land Use (AFOLU). The top emission sinks are the forest woodlands.

Zambia is expected to transition from net sink to net source under the BAU scenario. Its total GHG emissions are projected, from 2010 as the base year, to grow by 42 per cent, and total removals to decrease by 25 per cent by 2050 (Table 2). BUR1 (2020) also notes this decrease in net sink – that is -56,866.0 GgCO₂eq in 1994, -16,718.0 GgCO₂eq in 2010 and -9,508.5 GgCO₂eq in 2016.

2.3. Zambia's Updated NDC

Zambia submitted its updated NDC on 30 July 2021 with a conditional pledge of reducing GHG emissions by 25 per cent (20,000 GgCO₂eq) by 2030 against a base year of 2010 under the BAU scenario, with levels of international support prevailing in 2015, or by 47 per cent (38,000 GgCO₂eq) with substantial international support.

Zambia has enhanced its NDC by broadening the scope of sectors under mitigation by adding transport, liquid waste and coal (production, transportation and consumption). This translates into three additional categories. Industrial processes and product use are not included in the NDC owing to relatively very low emissions and mitigation potential. In subsequent submissions,

Zambia will endeavour to consider all sectors and categories as potential contributors to its mitigation efforts.

Zambia has focused its efforts on sectors with the greatest mitigation potential, with the greatest likelihood of rapid implementation, aligned where possible with the GHG inventory Key Category Analysis, as the country moves progressively towards an economy-wide approach.

The mitigation and adaptation programmes elaborated in this NDC are/will be integrated in the Seventh National Development Plan (7NDP) 2017–2021 and its successor plans.

The National Adaptation Planning process being undertaken by the Government provides a good basis for long term adaptation programming and mainstreaming of climate change adaptation into the national planning and budgeting processes.

The National Designated Authority (NDA) for the GCF has already been assigned and is expected to play a key role of "clearing house or entity" for climate change projects to be funded by the GCF in Zambia. The Development Bank of Zambia was recently accredited as the National Implementing Entity (NIE) for Direct Access under the GCF, and Zambia is in the process of establishing a National Climate Change Fund (NCCF).

Preparation of the NDC was conducted with broad stakeholder participation, with government institutions, CSOs, the private sector and sub-national stakeholders consulted, all the while ensuring gender balance in the process.

This Updated NDC is in accordance with Paragraphs 22–35 of Decision 1/CP.21 and Decision 4/CMA.1 of the Paris Agreements and its annex. The contributions described in this submission build on Zambia's initial NDC, the NPCC 2016, new policies and national plans, and reflect subsequent work as captured in Zambia's Third National Climate Change Action Plan (NCCAP) 2018–2022) and the Third National Inventory Report (NIR3). The Updated NDC has also been informed by a more detailed and robust assessment of mitigation and adaptation measures, in-depth analysis and improved information and data.

Recognising that different gender groups have different vulnerabilities with regard to climate change and contribute differently to the same as a result of their respective gender roles, Zambia will

implement the outlined adaptation and mitigation priorities in a gender-responsive manner.

The effectiveness of the Updated NDC's implementation will be ensured through the ongoing development and strengthening of the Implementation Framework and the MRV system to track progress on both mitigation and adaptation.

2.4. Policy, legal and institutional frameworks

Implementation of Zambia's Updated NDC builds on and supports existing action that the Government of Zambia is taking on climate change, as well as on other key non-climate-related strategies and plans. Before considering NDC implementation in more depth, it is helpful first to consider how NDC implementation fits with wider government policy. NDC implementation is regarded as a vital component in delivering sustainable and low-carbon growth in Zambia and meeting a wider raft of objectives and priorities, including energy access, economic growth, productivity, poverty reduction and improved quality of life. In this, it links closely to the SDGs.

2.4.1. Policy frameworks

Zambia's Vision 2030, the long-term national development blueprint, encapsulates flagship programmes and projects with adaptation and mitigation aspects. The NCCRS, developed in 2010, was the first national policy document on climate change. It aimed to advance the integration of climate change adaptation and mitigation into all government planning, budgeting and development objectives.

To operationalise the NCCRS, the first NPCC (2016) was prepared in 2015. This gives guidance on how the Zambian economy can grow sustainably, thereby fostering smooth implementation of the revised 7NDP and the achievement of Vision 2030. The NPCC enables Zambia to realign its climate-sensitive sectors of the economy and its society to meet its development goals through adaptation and mitigation interventions. Its overall objective is to provide a framework for coordinating climate change programmes to ensure climate-resilient and low-carbon development pathways for sustainable development towards attaining Zambia's Vision 2030.

Zambia is also in the process of developing its National Adaptation Plan for long-term adaptation planning and mainstreaming of climate change into the national development planning process. This will provide a climate hazard and vulnerability assessment and set out priority adaptation actions. The development of 8NDP (2022-2026) is also underway, and this will take into account climate change issues.

In addition to Vision 2030 and climate change-related policies, the country has several sectoral policies to support the implementation of climate change adaptation and mitigation actions. The key policies include the National Policy on Environment 2007, the National Forestry Policy 2014, the National Energy Policy 2008, the National Agriculture Policy 2014, the Transport Policy 2002, the National Strategy for Reducing Emissions from Deforestation and Forest Degradation 2015, the Second National Biodiversity Strategy and Action Plan, the Technology Needs Assessment 2013, Nationally Appropriate Mitigation Actions (NAMAs) 2014, the Second National Communication 2015 and the Third National Communication 2020, among others.

2.4.2. Legal framework

The Zambian government has put in place a comprehensive legal framework for an integrated approach to climate change. The sector ministries regularly review their relevant policies and legislation, in order to ensure these are in line with the objectives of NPCC and other initiatives meant to tackle climate change. The country is considering formulating a specific act on climate change

2.4.3. International commitments

Zambia contributes to global efforts to fight the adverse effects of climate change. As part of the global response, the Government of Zambia signed the UNFCCC on 11 June 1993 and ratified it on 28 May the same year. The country ratified the Kyoto Protocol on 6 July 2006. The Paris Agreement was signed on 20 September 2016 and ratified on 10 November 2016.

As part of its commitment to the UNFCCC, Zambia has submitted three National Communications (NCs): the initial one in 2004, the second in 2014 and the third in 2020. Zambia's GHG ambitions were submitted through the NDC in 2015, and the country's first BUR was submitted in 2020.

2.4.4. Institutions and governance

In Zambia, the Council of Ministers is the supreme decision-making body on climate change interventions chaired by the Office of the Vice President, the Council of Ministers comprises the Ministers responsible for Development Planning; Lands and Natural Resources; Finance; Energy; Water Development, Sanitation and Environmental Protection; Agriculture; Gender; and Disaster Management and Mitigation, among others. The Permanent Secretary of Development Planning acts as Secretary.

The Steering Committee of Permanent Secretaries follows the Council of Ministers, as the Council's main advisory body on policies, programme coordination and implementation. It comprises Permanent Secretaries responsible for Development Planning; Lands and Natural Resources; Finance; Energy; Water Development, Sanitation and Environmental Protection; Communications; Minerals Development; Information and Broadcasting; Works and Supply; Home Affairs; Disaster Management and Mitigation; Agriculture; Local Government; Health; and Gender.

The Technical Committee supports the Steering Committee of Permanent Secretaries by providing technical advice, as it undertakes its role of coordinating the implementation of actions in consultation with wider stakeholders at national level. At sub-national level, the planning and development coordination structures – namely, the Provincial Development Coordination Committees and District Development Coordination Committees – coordinate the implementation of climate change activities.

MNDP provides overall coordination and oversight of programming and supports resource mobilisation. MLNR coordinates implementation of activities. MoF is responsible for overall resource mobilisation and the Disaster Management and

Mitigation Unit is responsible for implementing disaster preparedness and response actions.

The Department of Development Planning is the NDA for the GCF and the Adaptation Fund. It is also the focal point institution for the Climate Investment Fund. The Development Bank of Zambia (DBN) has been accredited as Direct Access to the GCF. At present, the Ministry of Finance, Zanaco PLC and the National Savings and Credit Bank are the country's aspiring NIEs for Direct Access to the GCF. The Department of Climate Change and Natural Resources is the focal point for UNFCCC and the United Nations Convention on Biological Diversity, the Department of Environmental Protection is the focal point for the Global Environmental Facility (GEF) and the United Nations Convention to Combat Desertification. The Forestry Department is responsible for Reducing Emissions from Deforestation and Forest Degradation, and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks (REDD+).

The Zambia Environmental Management Agency (ZEMA) is the coordinator for the GHG management system. The lead institutions responsible for sector inventory preparation are the Department of Energy, responsible for reports on energy; the Department of Commerce and Industry, reporting on industrial processes and product use; the Department of Agriculture, reporting on the Agriculture component of AFOLU; the Department of Forestry, reporting on Forestry and Land Use of AFOLU; and the Department of Local Government, reporting on waste.

Implementation of the NDC is anchored within the framework provided for by the NPCC, coordinated by MLNR. MLNR, together with MNDP, also manages a mechanism (dashboard) to track support received and actions taken in the country. Actual implementation of climate change activities is undertaken by a cross-section of players

3. The Fundamentals of MRV

3.1. Overview of MRV and its three areas

M = Monitoring (or estimation)

R = Reporting – both national and international

V = Verification – includes both national quality assurance/quality control (QA/QC) and international oversight

MRV should be applied in three areas:

MRV of emissions is a concept to **measure, report and verify quantifiable emissions data** at national, regional and sectoral levels. It is nationally owned and is under constant negotiation. A comprehensive MRV system is essential to **improve the basis of information and to monitor mitigation actions** for national planning, implementation and coordination of individual mitigation activities of bottom-up actions and policies and top-down goals. MRV of emissions includes the identification and/or definition of **clearly defined roles and institutional responsibilities** to ensure the smooth flow and **standardisation** of information to all entities producing, reporting and verifying GHG estimates.

What is measured: Emissions and emission reductions from sources at national, regional and sectoral levels based on Intergovernmental Panel on Climate Change (IPCC) guidelines.

What is reported: Emissions from emission sources at national, regional and sectoral levels based on UNFCCC intended contributions (e.g. through NCS, BURs, GHG Inventory).

What is verified: Emissions from emission sources at national, regional and sectoral levels

based on national emission targets and indicators compared with baselines (e.g. through International Consultation and Analysis, ICA); implementation of QA/QC.

MRV of mitigation actions is a concept to measure, report and verify the **impacts of mitigation policies and actions**. Activities of the action are assigned their own **indicators**, whether they seek to measure GHG reductions or other benefits. Therefore, the indicators determine what gets measured, reported and verified. MRV of mitigation actions helps identify challenges and opportunities, as well as the **overall effectiveness of mitigation actions** (e.g. emission reductions and progress on achieving objectives and co-benefits).

COP19 in Warsaw agreed the General Guidelines on domestic MRV for nationally supported NAMAs. These should help countries set up their **national MRV systems for policies and measures** based on existing domestic processes, arrangements, methodologies and experts. Little focus to date on the MRV of mitigation actions, including non-comprehensive descriptions in NCS, means there is often a vague understanding of mitigation impacts.

What is measured: Emission reductions according to emission baseline scenario; progress on achievement of sustainable development goals/ co-benefits.

What is reported: Data on emission savings and methodologies/sustainability objectives, coverage, institutional arrangements and activities, based on the qualitative and quantitative guidelines for submission of BURs.

What is verified: All quantitative and qualitative information reported for the mitigation action.

Figure 3. Three types of MRV systems in the context of the UNFCCC and NDCs

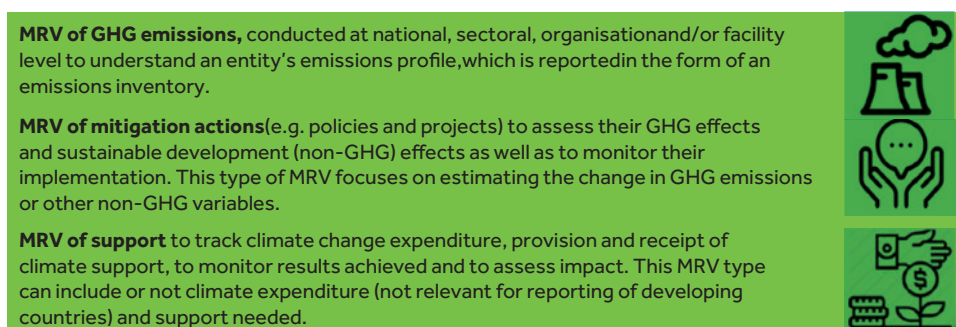
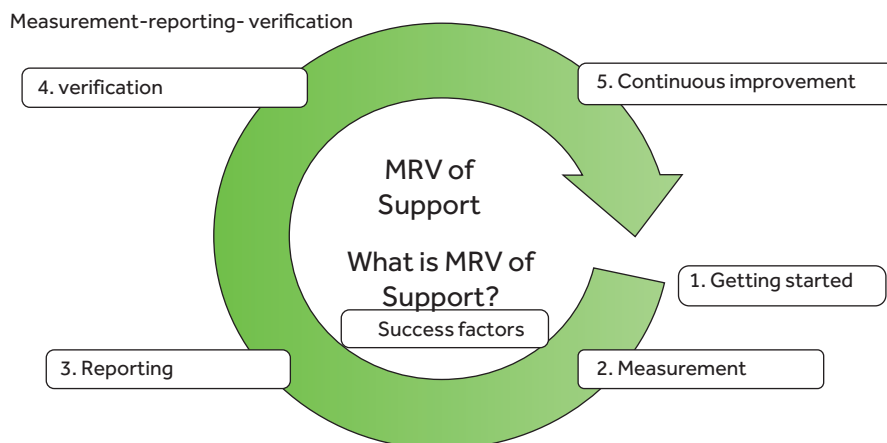


Figure 4. What is MRV of support?



Source: GIZ MRV Tool.

Guidelines for verification are still under negotiation in the UNFCCC; data may be verified through national procedures and ICA and should apply Transparency, Completeness, Consistency, Comparability, Accuracy (TCCCA) criteria.

MRV of support is a concept to measure, report and verify **financial flows, technology transfer, capacity-building** and the impacts of the provided support.

A framework for MRV of support and long-term climate finance serves the purpose of keeping track of intended contributions and their delivery and building trust among developed and developing countries through improved transparency and accountability. The aim is to improve the effectiveness of international cooperation and to create incentives for private investment through providing a clearer **overview of financial flows, trends, sources and purposes of international and domestic climate support.**

The international requirements for MRV support build on three pillars, the Bali Action Plan, the Copenhagen Accord and the Cancun Agreements, and are **not yet decided.**

What is measured: The flow of finance and levels of technology transfer that can be accounted for by interventions related to mitigation actions.

What is reported: The forms of finance, its purpose, sectoral and geographic distribution, leverage of private funding and disbursement.

What is verified: The scale of support between donors and recipients, the effectiveness of support and cost-benefit impacts.

3.2. MRV-Tool objectives and content

Along with the new obligations on MRV come new challenges for raising **national, sub-national and sectoral capacities** to improve information. The MRV-Tool has been put in place to help implementers set up and harness national MRV systems:

- To **improve countries' information basis and to monitor** their mitigation actions for the national planning, implementation and coordination of individual mitigation activities of bottom-up actions and policies and top-down goals.
- To **comply** with common international UNFCCC reporting requirements to be able to track emissions and emission reductions towards the global 2°C objective and to coordinate individual activities internationally (e.g. Mexico's pledge and plan for implementation).
- To **be guided step-by-step through the process of developing a national MRV system** and to **carry out** MRV in three principle areas of scope as required in the BUR guidelines:
 - Emissions/national GHG inventories;
 - NAMAs/mitigation actions;
 - Support/finance, technology and capacity-building needs and support received.

The three principal areas in the MRV-Tool shall also reflect the different groups of people usually in charge of MRV in these three areas and the different responsible ministries in international cooperation.

4. MRV of Support (Climate Finance)

4.1. Overview of MRV of climate finance

MRV of support (climate finance) first emerged in the UNFCCC process through the 2007 Bali Action Plan, which directed Parties to ensure their mitigation actions were measurable, reportable and verifiable. Since then, the impetus has grown for establishing robust MRV systems to cover all climate finance flows.

Measurement starts with defining climate finance: what kinds of projects and activities are covered, and what portion of a project with multiple objectives targets climate objectives. This is a political process; a technical process then follows, identifying the specific data to be collected.

Reporting refers to the ways in which data from finance providers (and, optimally, also recipients) are made available to external parties, ideally the public.

Verification has two main components. The first is evaluating the reported data to ensure accuracy and avoid errors such as double-counting. The second is evaluating how the funds were used, to ensure the original plan was followed and gauge whether the stated objectives were met.

In the big picture, MRV ensures the transparency of climate finance, to demonstrate Parties' compliance with international commitments and enable an open assessment of the scale, quality, distribution and use of climate finance.

Ideally, an MRV framework will compile sufficient information to assess not only the scale of finance flows but also the extent to which concrete mitigation and adaptation outcomes are being achieved. This enables gaps in regional and sectoral support to be identified, and allows financiers to learn from one another, enhancing the efficiency and effectiveness of future support.

The M is often used interchangeably to mean measurement and monitoring, without an agreement on the difference between the two concepts. For the Standing Committee on Finance (SCF) of the UNFCCC and other bodies in the field of climate finance, the M in MRV represents the measurement, while monitoring is the constant

action that is performed throughout the life cycle of the MRV system.

MRV of climate finance systems are often composed of:

Institutional arrangements (who)

Procedures including standards, formats, methodologies and checklists defining how to measure, report and verify (**what, how and when**) **IT system** to enable the data flow and data archive



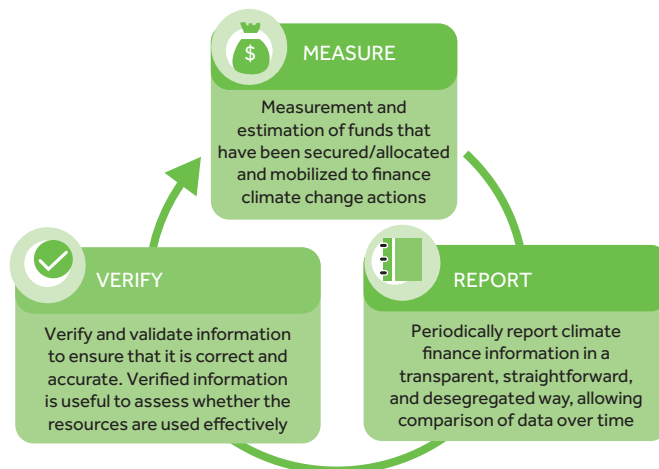
4.2. Getting started with MRV of climate finance

- 1 **Define the intended purpose and rationale** of the MRV of climate finance system as a framework for MRV of long-term climate finance.
- 2 Reflect **intended contributions and actions (depending on support received)** in the design of MRV of climate finance system.
- 3 **Consider the international finance architecture** when designing the MRV of climate finance and **adjust it reiteratively to progress** in the international negotiations.

Scope of transparency (pledge, amount disbursed/mobilised, actions supported, domestic allocation, impacts) must be defined by introducing design options for operationalising MRV of support:

- **Completeness** of areas and kinds of information;
- **Consistency** with timeframes of current and future reporting under the UNFCCC;
- **Collectability** of data that are subject to MRV;
- **Comparability** to coordinate and adjust different kinds of data, for comparison and aggregation (and avoiding double-counting);
- **Accuracy** of the level of collected information on support (received);

Figure 5. MRV of climate finance elements



- **Predictability** of financial support that is subject to MRV.

4.2.1. The rationale of MRV of climate finance

The overarching purpose of an improved framework for MRV of support, including technology transfer, capacity-building and financing, and long-term climate finance, is to:

- **Build trust** among developed and developing countries through improved **transparency** and **accountability**;
- Provide a clearer **overview** of financial flows, trends, sources and purposes of international and domestic climate support;
- **Keep track** of intended contributions and their delivery;
- Identify best practice and improve **effectiveness** of international action and create **incentives for private investment**:

4.2.2. Key challenges to MRV of climate finance design

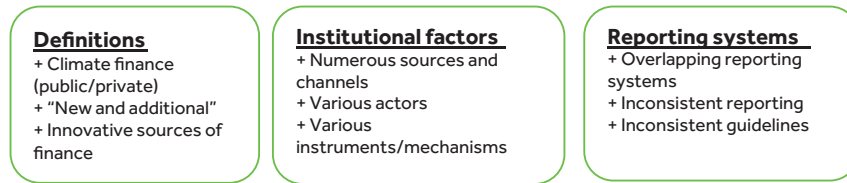
MRV of climate finance is a highly challenging endeavour for various reasons, which relate to institutional factors, definitional issues and reporting systems. MRV of support design options depend on overcoming key challenges.

With respect to the **institutional factors**, MRV of climate finance is very complex because of the multitude of actors, the proliferation of funds and financing mechanisms through which funding is channelled, and the rapidly changing activities in the climate sector. Climate finance towards the US\$50 billion goal for Updated NDC implementation in

Zambia will come from a variety of sources and flow through a variety of channels (e.g. public, private, bilateral, multilateral, alternative sources of finance). This increasing complexity of the overall global climate finance architecture also increases the challenges for MRV in establishing where financing has gone, to whom and how.

Above all, **measuring and reporting** is complicated by the fact that, so far, there is no internationally agreed **definition** of what counts as climate finance. To date, it remains vague which flows, what themes and activities, and what portion of a project are attributed to and accounted for under climate finance. As a result, "Different actors currently make their own decision about what to call climate finance. There is therefore no agreed basis for measurement or methodology for tracking climate finance" (Varma et al., 2011: 6). For members of the Organisation for Economic Co-operation and Development (OECD) Development Assistance Committee (DAC), the Rio markers have provided some guidance on how to better determine which activities are climate-related and how to come to a better understanding of their overall climate-related contributions in bilateral official development assistance (ODA). Although the Rio markers are an important tool in measuring climate-related finance, however, they lack a degree of legitimacy for some developing-country Parties. This stems from the fact that the OECD DAC Creditor Reporting System (CRS) database and the associated Rio markers were not developed within the UNFCCC, nor were they specifically developed to support MRV of climate finance (Varma et al., 2011). The UNFCCC and its Parties would need to address the continuing question of further defining and accounting for climate finance to establish the

Figure 6. Key challenges in designing MRV of climate finance



necessary legitimacy, credibility and support for MRV within developed and developing countries.

The issue of definitional vagueness also relates to private climate finance. So far, the majority of these flows have not been tracked in a systematic manner, or according to any agreed definition. Again, a combination of political and technical issues needs to be addressed. Besides better defining the terms “private climate finance” and “mobilisation,” some of the outstanding political questions are concerned with what private flows to include, how they are accounted for in the developed countries’ US\$100 billion commitment and how the expected share of private and public finance might also be determined. Besides these questions that need further consideration at a political level, complex technical and methodological issues in tracking private climate finance remain – regarding data availability and levels of data disaggregation (e.g. at the geographical and sectoral level), confidentiality, and issues with national attribution in the case of multinational companies and intermediaries, for instance. There is a need for a better overall understanding of data availability and what has been/can be measured. Furthermore, methodological options and technical approaches need to be developed on how to determine and measure private investments that have been mobilised by developed country public interventions. Better comprehension is needed on how different public interventions (e.g. through policy support, financial instruments, technical assistance) interrelate with and mobilise private flows. Concluding on this point, efforts are necessary to work towards a technically feasible and politically acceptable harmonised approach in which the international actors involved use the same definitions and methodologies for accounting and measurement.

As for **reporting**, there are currently obvious overlaps and differences in the reporting systems. These relate to differing reporting timeframes, formats and reporting groups. As a result, the comparability of financial information is complicated, and fulfilling the various reporting requirements

and entering different climate-related financial data in the different reporting templates sometimes stretches member states’ capacities to the limit.

4.2.3. The three pillars of MRV of support

The institutional arrangements for MRV of climate finance are still a work in progress. They build on three pillars: the Bali Action Plan, the Copenhagen Accord and the Cancun Agreements (Table 3, 4).

4.2.4. Monitoring support received by developing countries

The prospect of recipients playing a part in MRV by reporting financial support received within their NCs has already been raised, at COP16 in Cancun. For this to work well, the UNFCCC would need to provide detailed guidance and capacity-building in non-Annex I countries. However, a number of national and international requirements are already in place that can serve as a starting point:

- COP16 in Cancun agreed that developing country recipients of bilateral and multilateral climate finance were obliged to document this in their **biennial update reports** to the UNFCCC. However, common and systematic reporting is not yet in place.
- Many developing countries already keep track of their **ODA flows**. The OECD has suggested **biennial reporting** with flexible guidelines that provide for different “levels” of reporting. The reporting levels could reflect the different national circumstances and capacities of Parties; those with greater capacities would use higher reporting levels and provide more comprehensive information.

BURs require recipient countries to report on support needed and received, in essence to keep comparable books. Having two sets of books (one on the donor side, one on the recipient side) may necessitate some expert analysis to **ensure there is no double-counting and avoid apparent misreporting**.

Example: A donor country may give US\$50 million to another country to assist with climate-related capacity-building. If the donor counts this towards its climate finance contributions, but the recipient counts it as general capacity-building support, this will appear as a discrepancy between the two accounts.

Table 3. The three pillars of MRV of support

Bali Action Plan (1/CP.13)	Copenhagen Accord (1/CP.15)	Cancun Agreements (1/CP.16)
<p>b) Enhanced national / international action on mitigation of climate change, including, inter alia, consideration of:</p> <p>(i) Measurable, reportable and verifiable nationally appropriate mitigation commitments or actions, including quantified emission limitation and reduction objectives, by all developed country Parties, while ensuring the comparability of efforts among them, taking into account differences in their national circumstances;</p> <p>(ii) Nationally appropriate mitigation actions by developing country Parties in the context of sustainable development, supported and enabled by technology, financing and capacity-building, in a measurable, reportable and verifiable manner;</p>	<p>4.Delivery of reductions and financing by developed countries will be measured, reported and verified in accordance with existing and any further guidelines adopted by the Conference of the Parties, and will ensure that accounting of such targets and finance is rigorous, robust and transparent.</p>	<p>112. Decides to establish a Standing Committee under the Conference of the Parties to assist the Conference of the Parties in exercising its functions with respect to the financial mechanism of the Convention in terms of improving coherence and coordination in the delivery of climate change financing, rationalization of the financial mechanism, mobilization of financial resources and measurement, reporting and verification of support provided to developing country Parties; Parties agree to further define the roles and functions of this Standing Committee;</p>

Source: GIZ (2010) MRV: How to Set up National MRV Systems.

4.3. Measurement

Define what MRV of support needs to cover, including, for example:

- **Financial flows** - from whom to whom, amount, type of financial instrument, private/public, new/additional;
- **Type of support** – financing, technology transfer/advice, capacity-building;
- **Supported activities** – type of NAMA, level of impact (sectoral, regional, etc.);
- **Impact of supported actions** – metric/non-metric indicators.

Identify indicators for provided/received support (including technology transfer and capacity-building), in order to be able to **measure** and **quantify** them.

Designate clear responsibilities to government departments/agencies, or the private sector, according to their expertise.

Note: *Given the increasing emphasis being placed on the significant role of private climate finance, countries are strongly encouraged to develop procedures for monitoring private capital flows. Clarity is urgently needed on what private flows might be eligible to be counted.*

4.3.1. Different types of measurement

When financial flows are measured, there are different ways to account for their amounts:

- **Gross value** of financial flows accounts for the full amount of financing provided in the reporting year. For example, for loans this includes the face value of the loan provided by development banks.

Table 4. Measurement: what, how, who, when?

What gets measured?	How to measure?	Who measures?	When to measure?
<p>Flow of finance (how much has gone from whom to whom) and levels of technology transfer.</p> <p>What contributions should be counted under MRV support?</p> <p>What is "new and additional"?</p> <p>When a project has multiple objectives, how much of the total finance is accounted as climate finance?</p> <p>How should the distinction between gross and net finance be made?</p>	<p>Government department or agency, or private sector organisation with expertise?</p> <p>Different types of data and metrics are conceivable:</p> <ul style="list-style-type: none"> • Monetary – i.e. quantified financial support (e.g. costs of capacity-building), disaggregated by use/purpose; • Non-monetary – some description of the delivery of "in-kind" support, technical advice or expertise, and other non-monetary forms of support. <p>This occurs on multiple levels. Each country must develop a data collection system for public finance to fit its domestic needs. Data collection may also necessarily involve multilateral institutions, since these are responsible for directing a significant portion of climate finance and make allocation decisions independent of the countries.</p>	<p>Need information with which to assess eligibility of technology/ programme/project for support.</p> <p>Need information on monetary support (financial resources, technology transfer, capacity-building and technical support received from GEF, etc.) and non-monetary (in-kind support such as technical advice or support).</p> <p>To measure impacts of funding, will be similar requirements to measurement of NAMAs.</p>	<p>Depends on the requirements of the funder. Likely to be at least annually?</p>

Source: GIZ (2010) MRV: How to Set up National MRV Systems.

- **Net value** of financial flows deducts the reflux (repayments of loans, etc.) from the gross value in the reporting year.
- **Budgetary support for climate finance** accounts for the costs in public budgets of donor countries in the reporting year. For example, for loans it accounts for the grants provided to development banks, which then in turn provide concessional loans.

There are good arguments for each type of measurement as well as distorting incentives for the choice of a financing instrument and how it is accounted for. According to the individual type of measurement, results can differ significantly.

Which measurement type is most appropriate depends on the purpose of the MRV or support system.

4.3.2. Defining a baseline to track provision of support

Parties to the UNFCCC have not yet reached consensus on a clear and specific definition of "new and additional" that can be applied to developed country financial pledges. The diversity of information provided by countries reflects the current absence of:

- Agreement among countries on what the baseline of "new and additional" should

be. Several options dominate the current international debate:

- Climate finance classified as aid, but additional to (over and above) the 0.7 per cent of gross domestic product ODA target;
- Increase on 2009 ODA levels spent on climate actions;
- Rising ODA levels and including climate change finance as a pre-defined percentage;
- Increase in climate finance not connected to ODA.
- A common format to report contributions to increase transparency and enable comparisons among countries in order to assess whether climate finance is being diverted from ODA.

Defining “new and additional” is complicated by the inherent difficulty in determining a counterfactual if financial flows are compared with BAU.

- On the one side, it is hard to know with certainty what countries would have given as development assistance under BAU in the absence of climate financial transfers.
- On the other side, **climate change and other developmental needs are not mutually exclusive on the ground**. Accordingly, climate and development needs **should be mainstreamed** where possible in order to maximise the impact of assistance.

4.3.3. Required actions for private finance

There is a need for **clear, common guidance** at the international level.

It has been argued that relevant private climate finance might include:

- Carbon market flows, possibly including CDM and/or voluntary markets;
- Foreign direct investment flows, for instance investments in clean energy or activities that have a clear adaptation benefit;
- Philanthropic contributions;
- Risk guarantee and insurance services.

Such private flows might be privately initiated or publicly mobilised.

The OECD works on these questions and how to define and account financial flows.

4.4. Reporting

Include information on:

- **Forms of finance** (grants, concessional lending, equity, guarantees, etc.);
- **Purpose** of the support (typology: mitigation/adaptation);
- **Distributions** of support across sectors/activities, geographically);
- **Private** finance leveraged;
- **Impact** pursued/achieved;
- **Comparison with donors’ pledged** and actually **disbursed** amount of support
Compile information in **BURs and NCs** and make it publicly accessible.

*Public flows of support are usually reported at a national level. Currently, reporting systems include the **UNFCCC’s National Communications** and the **OECD DAC’s Rio Marker system**. However, as of now, only developed countries are required to report under these.*

These two systems need to be improved greatly in order to meet demand for information and involve developing countries more fully in the reporting process.

The OECD DAC guidance on use of the Rio Markers remains the only semi-detailed international guidance on how to identify and account for climate finance. However, the Rio markers are descriptive and do not allow for accurate quantification of climate finance – which was not their original purpose. Reporting of climate finance is currently based heavily around the OECD DAC system for reporting ODA flows. This makes sense from a donor perspective because climate finance and ODA are so heavily intertwined. However, the OECD DAC system’s role in the governance of climate finance – in particular the responsibility for defining

Table 5. Reporting: what, how, who, when?

What gets reported?	How to report?	Who reports?	When?
<p>What forms of finance are covered (e.g. grants, concessional lending, non-concessional lending, equity)?</p> <p>What data are reported?</p> <ul style="list-style-type: none"> • Purpose: mitigation (including or excluding REDD+), adaptation, etc. • Specific sectors and/or activities supported • Geographic distribution • Disbursed funds only, or also pledged funds? • Private financing leveraged by public funds. 	<p>UNFCCC NCs, OECD DAC CRS database, efforts by bilateral and multilateral development banks and EU's Fast-Start Finance reporting. NAMA registry:</p> <p>Article 53 of the Cancun Agreements, COP16, endorsed the requirement to record NAMAs seeking international support and to facilitate matching of finance, technology and capacity-building to these actions. Private climate finance registry:</p> <ul style="list-style-type: none"> • Ecosystem Marketplace, in collaboration with Bloomberg New Energy Finance • United Nations Environment Programme Risoe compiles a CDM pipeline overview 	<p>UNFCCC and OECD DAC guidelines.</p> <p>The DAC guidance on use of the Rio Markers remains the only semi-detailed international guidance on how to identify and account for climate finance.</p>	<p>OECD DAC annual.</p> <p>UNFCCC NCs every three to five years.</p> <p>Biennial reports.</p>
<p>Public flows should be reported at the national level, rather than by individual (sub-national) channels. This may require boosting institutional capacity, and also creates a need for concerted dialogue among state departments and finance institutions within countries and between countries and international agencies. In some cases, it may require new expertise, as well as new arrangements for institutional cooperation.</p>			

Source: GIZ (2010) MRV: How to Set up National MRV Systems.

measurement and verification procedures – has not been agreed upon. While the OECD CRS system may provide one useful tool for reporting, it will need to be linked to reporting through the UNFCCC NCs and BURs and to guidance from the COP/ UNFCCC in order to gain legitimacy in the eyes of developing countries.

The way OECD CRS reports gross, net and committed/disbursed public finance is currently under reform.

The World Bank's internal tracking system for climate finance tracks co-benefits at the lowest level of financing information available, even considering individual components of the project, thus adding granularity to the Rio Markers. The Bank has published a detailed typology of activities with climate co-benefits by World Bank sector. For example, if only US\$10 million of a \$100 million power project tackles energy efficiency, then only \$10 million will be recorded as having mitigation

co-benefits. The Bank is also part of the multilateral development bank (MDB) group on mitigation finance tracking, and results show differences between the World Bank approach and the MDB approach, though harmonisation is planned going forward.

4.5. Verification

Verify:

- **Scale** of support (comparing data from contributors and recipients);
- **Effectiveness** of support (actual GHG reduction and/or achievement of development countries' priorities);
- Cost-benefit **impacts** (e.g. for adaptation, green growth development).

Ideally, verification should be carried out by **independent, non-political finance experts**.

Table 6. Strengths and weaknesses of UNFCCC National Communications

	Strengths	Weakness
Coverage	All Annex II countries including EU-12 Member States are required to report.	Annex I countries not included in Annex II e.g. new EU-15 Member States are not required to report on financial aid to climate change-related activities in developing countries.
Measurement	Public and private funds including disbursed funds and private sector leveraged funds.	<p>New and additional not clearly defined. Mitigation classifications are not broken down by specific categories.</p> <p>The adaptation classifications leave out several important aspects of adaptation, e.g. water, forests, health, energy, and infrastructure.</p> <p>Issues with guidelines:</p> <ul style="list-style-type: none"> • No information as to how climate change financing is to be distinguished from development assistance support. • Do not distinguish among funding for research and development, planning, assessments, capacity-building, demonstrations or technology deployment. • No information on how to report projects having multiple components.
Reporting	<p>Provides a high-level summary.</p> <p>Remains light and respectful of national specific channels and resource availability.</p> <p>Data are broken down into sectoral and regional categories.</p> <p>Can provide a consistent, standardised format for reporting finance across Parties if improved guidance is made available.</p>	<p>Not all financial flows are currently being reported, though there is technically scope to do so.</p> <p>Lack of primary data on private financial flows (including CDM). Currently, the data do not always distinguish between different financial instruments (among grants, loans and guarantees).</p> <p>Member States have tended to report those flows for which data are readily available (i.e. public development finance) but not those for which there is considerable uncertainty and/or difficulty (i.e. private finance, innovative instruments) although these data may be very relevant.</p>

Source: GIZ (2010) MRV: How to Set up National MRV Systems.

Currently, there are **no guidelines for verifying** level of support. The **scope of verification** (project, sectoral, national) determines the **methods** and data requirements.

Verification of support involves **comparing** MRV data from **contributors and recipients of support**. Therefore, data should be as accurate as possible and comparable.

Verifying the **impact of support** is a similar process to verifying the impact of **NAMAs**.

According to decisions adopted by COP17 in Durban, BURs are subject to **International Consultation and Analysis (ICA)** under the Subsidiary Body for Implementation, to be conducted in a manner that is non-intrusive, non-punitive and respectful of national sovereignty.

The aim of ICA is to help countries **improve domestic reporting systems** and increase the **transparency** of mitigation actions and their effects, **through analysis by technical experts**

Table 7. Strengths and weaknesses of OECD DAC system

	Strengths	Weaknesses
Coverage	<p>Rio Markers are mandatory reporting requirements for DAC members.</p> <p>Data is added annually. Strong interest from other OECD and non-OECD countries.</p> <p>Other regional development banks (International Bank for Reconstruction and Development, European Investment Bank) already use CRS coding and can easily adapt to the Rio markers. However, questions remain on the willingness of the MDBs to apply OECD DAC methodologies consistently when in-house tracking methodologies of various standards and purposes are being developed.</p>	<p>Not all Member States or all Annex I Parties report to the OECD DAC. All OECD DAC members do not use the Rio Markers for reporting climate finance.</p> <p>Covers only ODA flows (a subset of all climate finance). Plans are in place to consider expanding the coverage of Rio Markers to non-ODA flows, such Other Official.</p>
Reporting	<p>Increasingly stable and comprehensive statistical system.</p> <p>Since CRS reporting is based on agreed definitions and classifications, it permits comparisons between contributing countries.</p> <p>As there are standardised definitions, the OECD Rio Marker data represent a more systematic treatment of the same bilateral delivery channels for mitigation support than what is reported by countries in the UNFCCC monitoring system.</p> <p>Allows reporting of a high level of detail in relation to the content of climate finance, for instance project-level breakdown of financial flows.</p> <p>The principal and significant Rio Markers provide an approximate lower and upper threshold of climate-related aid.</p> <p>Export credits and MDBs are partially reported to OECD DAC.</p> <p>Well-established channels and forums for regular discussions and improvements. Working groups exist between OECD members, the European Commission, the UNFCCC and the International Energy Agency.</p>	<p>Some data inconsistencies /gaps between Member States.</p> <p>Does not allow exact quantifications of aid activities' contributions to the objectives and thus figures based on Rio Markers are approximate</p> <p>Coding systems limit the accuracy of reported climate aid and can generate political bias.</p> <p>Current method for reporting data using climate change Rio Markers separates finance into four different markers that cannot be analysed together. To get the full picture of climate finance from a country, it is necessary to add up statistics from:</p> <ul style="list-style-type: none"> • Climate change only; • Biodiversity and climate change; • Desertification and climate change; • Biodiversity and climate change and diversity. <p>Only limited reporting of different channels. No breakdown by individual institutions or funds.</p>

Source: GIZ (2010) MRV: How to Set up National MRV Systems.

Table 8. Verification: what, how, who, when?

What gets verified????	How to verify?	Who verifies?	When?
<p>Three levels of verification:</p> <ul style="list-style-type: none"> • Verify the scale of support (i.e. of financial flows themselves) by comparing data from contributors and recipients. • Verify effectiveness of support – the actual achievement of climate-related outcomes (e.g. GHG emission reductions) and consistency with developing countries' own priorities. • Verify cost-benefit impacts, e.g. of adaptation activities, or the wider benefits of low-carbon development. 	<p>Currently, there are no guidelines for verifying the level of support. Scope of verification determines methods and data requirements:</p> <ul style="list-style-type: none"> • Level of support verified by comparing data from funders and recipient countries. • Impacts of support can be verified in the same way as for NAMAs. 	<p>Ideally independent, non-political finance experts. Introduce process for review by independent, non-political technical finance experts.</p>	<p>Annual UNFCCC NCs every three to five years. Biennial reports.</p>
<p>Introduce process for review by independent, non-political technical finance experts.</p> <ul style="list-style-type: none"> • Consider scope for <i>ex-ante</i> quantitative assessment of social, economic and environmental impacts (e.g. through use of carbon footprint tools). • Assess supported actions against expressed domestic priorities in recipient countries, such as priorities identified in NAPAs and NAMAs as well as NDPs and the Millennium Development Goals. 			

Source: GIZ (2010) MRV: How to Set up National MRV Systems.

in consultation with the Party concerned and through sharing of views, to result in a summary report. The ICA process will consist of two steps:

- 1 A **technical analysis** of the BURs submitted by non-Annex I Parties by a team of technical experts in consultation with the Party, which will result in a summary report. The technical analysis is supposed to identify capacity-building needs and will consider the principles applied to the BURs (TCCCA). The information considered should include the national GHG inventory report, information on mitigation actions, including a description of such actions, an analysis of their impacts and the associated methodologies and assumptions, progress made in their implementation and information on domestic MRV and on support received.

2 A **facilitative sharing of views**.

The first rounds of ICA will be conducted for developing country Parties, commencing within six months of the submission of the first round of BURs by developing country Parties (i.e. June 2015). The frequency of participation in subsequent rounds of ICA by developing country Parties will be determined by the frequency of the submission of BURs.

4.6. MRV of finance: continuous improvement

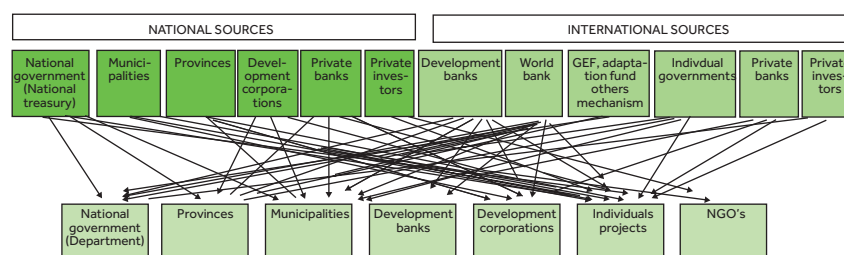
Examine and evaluate continuously the **strengths, weaknesses, opportunities** and **threats** of the existing system (*SWOT analysis*), in order to identify and realise potential for improvement. The following key challenges must be addressed:

Table 9. Continuous improvement: SWOT analysis

Strengths	Opportunities
<ul style="list-style-type: none"> • Existing systems well recognised and can serve as a robust tool for measuring climate finance. • Building on existing systems reduces burdens for Parties that already have established domestic systems for tracking and reporting data. • Some countries have sophisticated systems that can be applied more universally. • Increasing inter- and intra-country communication and coordination in Europe. 	<ul style="list-style-type: none"> • Greater recognition of climate finance in UNFCCC conventions. • Harmonise existing systems so that the NCs and CRS data adopt the same definitions of climate finance and the same methodologies for accounting (measurement). • Proposed changes to scope of UNFCCC NCs and the option of UNFCCC as the origin of all guidance on climate finance, even where it relates to use of the OECD CRS system, can address key weakness and constraints and complement needed data to improve effectiveness and track support needed for achievement of the global 2°C objective. • Fast-start finance can provide practical experience to aid design of a future MRV framework for climate finance.
Weaknesses	Threats
<ul style="list-style-type: none"> • Climate finance definition, especially for adaptation and private finance, can restrict progress. • Inconsistent coverage and requirements of existing systems. • Existing guidelines provide too much scope for interpretation. • Existing systems have not been set up for the purpose of supporting MRV of climate-related finance, so there may be limits to the extent to which they will fully and easily meet the needs of an MRV framework. • The scope of verification is unclear and requires greater involvement of developing countries. 	<ul style="list-style-type: none"> • Private climate finance stakeholders are not integral part of key discussions. • Developing country views are not in sync with developed countries, especially on definition, objectives and institutions involved in climate finance. • Lack of formal governance and legitimacy for tracking climate flows. The OECD DAC CRS database and the associated Rio Markers were not developed within the UNFCCC, nor were they developed to support MRV of climate finance specifically. Therefore, while potentially useful tools for reporting, if used to progress issues related to the governance of climate finance – such as what finance is eligible and how it should be accounted – they are likely to lack legitimacy for developing countries.

Source: GIZ (2010) MRV: How to Set up National MRV Systems.

Figure 7. Complicated structures and practical challenges



Source: GIZ (2010) MRV: How to Set up National MRV Systems.

- **Multiple channels** for climate finance and the possibility to observe them;
 - **Differentiation** of channels of finance flows;
 - **Heterogenous** capacities and governance structures.
- 2 Integration with development priorities of developing countries
- 3 Packaging programmes and projects to deliver development co-benefits
- 4 Fragmented and unrealised scale/replication
- 5 Low impact, transaction costs
- 6 Creating donor and country disciplines to better coordinate
- 1 Poor cohesion across donors on standards, definitions, MRV

Note: Results from the MRV of support should also be reflected in the reassessment of pledges.

Table 10. Developing countries’ key challenges and requirements

Challenges	Requirements
Multiple channels for climate finance – many outside the direct oversight of developing country government officials.	Clear definition and common guidelines for what is to be considered climate finance – attempts should be made to build consensus among developing countries before definitions are adopted.
Differentiating between ODA finance and new climate finance – development activities on the ground often re-labelled as climate finance, particularly community-level climate change adaptation and resilience activities.	Third party verification is essential – needs to be genuinely independent, not developed countries reporting for developing countries.
Developing countries are not homogenous units – have different perspectives, incentives and priorities in relation to climate change and climate finance as well as widely varying capacities and governance structures to report on climate finance.	Limit additional reporting burden – advantage if UNFCCC either issues detailed guidance on standardised reporting requirements for developing countries to report in their NCs, or the UNFCCC actively brings together reporting and verification data in a single database.

5. Development of a Climate Finance MRV System

A climate finance MRV system comprises three main elements: official, institutional and procedural. Based on international best practice examples, it is strongly recommended that:

- a Data collection procedures, information flow and related roles and responsibilities are formalised through a memorandum of understanding, or any other formal or legal agreement. The purpose of such an **official set-up** is to clarify the roles and responsibilities between the coordinating entity and other relevant stakeholders involved in the process of climate finance MRV.
- b The institutions involved are mapped out and the institutional framework and related roles and responsibilities are clearly defined. **Institutional set-up** encompasses a coordinating entity (which coordinates the activities and compiles the final report), an inter-ministerial committee, sectoral working groups and sectoral inventory compilers.
- c Data collection, reporting, related QA/QC and archiving procedures are clearly defined and standardised. The **procedural set-up** encompasses standardised reporting templates and protocols, ideally all managed by the coordinating entity under a web-based platform that can be accessed by data providers and sectoral inventory compilers.

Each of these elements is described in further detail below.

Following this, the section goes into other considerations, recommendations and lessons learnt in developing a climate finance MRV system.

5.1. Official set-up

To implement a climate finance MRV system effectively, relevant stakeholders involved in the climate finance MRV activities have to be directly engaged. Therefore, a formal instrument must be established to define roles and responsibilities, flow of information and data collection, frequency of reporting and reporting modalities among different stakeholders. The official set-up can be either legally binding in the form of a law, an act by parliament or an executive decree (presidential or cabinet level). It can also be a non-legally binding agreement in the form of a memorandum of understanding setting out the intended reporting modalities. Every official set-up instrument has its strengths and weaknesses. However, the selected instrument has to be suitable to the country's circumstances. The official set-up serves mainly to formalise the engagement of stakeholders, usually between the coordinating entity of the climate finance MRV system and other government and non-government institutions.

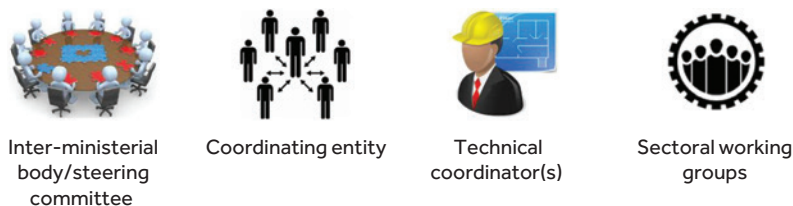
5.2. Institutional set-up

To implement an effective climate finance MRV system, it is essential to develop a robust institutional framework that encompasses the relevant entities as well as the necessary staff, systems and processes. The institutional climate finance MRV set-up of a country reflects the specific drivers such as meeting the country's commitment to the Convention. Therefore, the institutional set-up is the country's vehicle to implement climate finance MRV activities, including tracking the inflow of climate finance.

Box 3: Climate finance MRV system

The MRV climate financing system is defined as a set of information management processes for monitoring and reporting on flows of climate finance: public, domestic, international, public and private. It is to be understood that these processes involve people data operations and calculation tools and a platform for reporting and visualisation.

Figure 8 Common institutional setup elements



Box 4: Recommendations for setting up institutional structures

- Secure the necessary political mandate over time and set up all necessary institutional arrangements for coordination, ensuring clearly defined responsibilities and avoiding conflicts of interest.
- Ensure staff have or are provided with the necessary capacities/expertise for their tasks.
- Ensure all necessary knowledge and data remain within the institutional structures.
- In developing a national MRV system, build on the existing institutional structures.
- Using a decentralised/integrated structure like an inter-ministerial committee can be helpful for the coordination of a national MRV system.

Countries have taken various approaches to designing institutional arrangements for climate finance MRV that also reflect their national circumstances, capabilities and capacities of the entities involved. Therefore, there is no single way of setting up an institutional framework. However, the common element found in most countries' climate finance MRV institutional arrangements is a coordinating entity that takes the leading role. Usually, the ministry of environment, or equivalent, coordinates the climate finance MRV system and directs the activities of other entities. Other good practice examples include establishing an inter-ministerial body or steering committee to promote

coordination across stakeholders; forming sectoral working groups to carry out specific climate finance MRV activities; and appointing technical coordinators to be responsible for the outputs of the MRV system in each specific sector. The first step in defining an institutional set-up is to map key stakeholders and their respective roles and responsibilities.

5.2.1. The coordinating entity



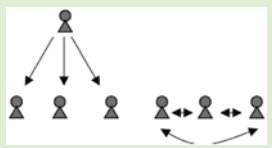

A single body (coordinating entity) should be designated, responsible for overall coordination and management.

Table 12. Roles of the coordinating entity

- **Plans** all coordination and consultation activities
- **Identifies** all institutions to be involved
- **Allocates** responsibilities for all components of the MRV system
- **Develops** a schedule for preparing the required deliverables
- **Identifies** constraints and needs - financial, technical, skills
- **Informs** committees/working groups of progress and emerging issues
- **Develops** and oversees a QA/QC system
- **Manages** the overall budget
- **Develops** and **maintains** an archiving system



Table 13. Types of coordinating entity

			
Centralised vs. decentralised	In-sourced vs. out-sourced	Single agency vs. multi-agency	Integrated vs. separate

Centralised vs. decentralised

Centralised

- Maintains extensive control and decision-making authority
- Only a small number of other teams working under it

Decentralised

- Includes many different teams and/or institutions
- Each works on different parts or categories of the MRV system



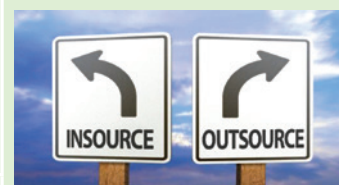
In-sourced vs. out-sourced

In-sourced

- Deliverables are developed by government entities
- More sustainable - avoids loss of experience, skills and institutional memory

Out-sourced

- Deliverables are developed by private consultants, research/academic institutions or NGOs
- The case of many developing countries (NC/BUR)



Single vs. multi-agency

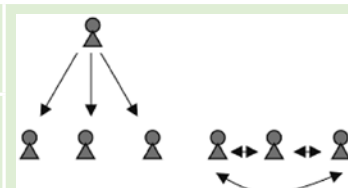
Single agency

- Single body located within a governmental agency


Multi-agency

- Structured as a multi-agency working group or inter-ministerial committee

In both cases, it is common to have several technical working groups sourced from different institutions under the coordinating entity.



Integrated vs. separate



<p>Integrated</p> <ul style="list-style-type: none"> Integrates several national efforts (e.g. finance monitoring combined with technology monitoring) 	
<p>Separate</p> <ul style="list-style-type: none"> Performs only GHG monitoring independent of any other national efforts 	

5.2.2. Typical stages of sustainable institutional set-up

Figure 9. Institutional set-up stages



Source: UNFCCC, 2018. Introduction to MRV process and cross-cutting issues.

<p>Planning (1)</p> <ul style="list-style-type: none"> Define work plan and schedule Define roles and responsibilities of government agencies <ul style="list-style-type: none"> Data collection Monitoring of finance received QA/QC Archiving system 	
<p>Planning (2)</p> <ul style="list-style-type: none"> Establish coordination mechanisms Establish verification mechanisms Define a system for tracking continual improvements Define capacity-building needs Plan funding allocation 	

Preparation

Consultation workshop with all stakeholders to:

- Present scope of the climate finance MRV system
- Present suggested roles/responsibilities
- Present timelines and milestones
- Receive comments
- Reach agreement on the MRV system
- Coordination meetings with different entities to be involved in the system



Reporting

- Different entities perform assigned tasks
- CE receives inputs from different entities
- CE processes inputs (or receive processed inputs)
- CE compiles inputs in a single report (can be allocated to another entity)
- CE sends the report to predefined entities for first draft review
- CE supervises the process of addressing comments
- CE prepares final report for national approval



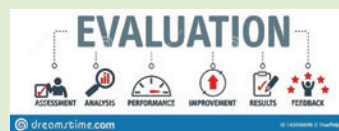
Documentation and archiving

- CE supervises the documentation and archiving procedures:
 - Ensure transparency and sustainability of the process
 - Defend the deliverable contents during review
 - Build on the experiences gained to ensure continuous improvement
- Comments from different entities should be documented
- The climate finance system should be able to track continuous improvements



Evaluation

- Identifying lessons learnt
- Identifying strengths and weaknesses
 - Sectors not covered
 - Lack of QA/QC for some data/sectors
 - Others
- Prepare plan for improvement
 - Capacity-building needs
 - Additional resources needs
 - Others



National consultation process

- Takes place before final approval of the report
- Relevant stakeholders invited to present main outcomes
- Receiving final comments and obtaining formal agreement on report
- National consultation should be a common practice



Key questions to check performance

- Is there a framework for cooperation with relevant ministries/agencies?
- Are entities aware of the required international deliverables?
- Are there procedures for QA/QC?
- Is there a process for continuous improvement?
- Is there a system for electronic data management?
- Is there a system for archiving relevant information?
- Have the entities received relevant capacity-building?



5.2.3. Improve the MRV system over time

Ensure MRV reports are relevant

- Establish a mechanism to ensure that the outputs from the MRV systems can inform regular updates of the climate finance planning processes, and lessons learnt can be integrated into subsequent actions within the implementation of the NDC.

Consider options for continuous improvement

- Evaluate the effectiveness of the MRV system in collating and reporting relevant data, and adjust the implementation plan and the systems according to any lessons learnt.

- Engage with stakeholders to seek feedback on the working and effectiveness of the MRV system.
- Work with countries with similar NDC targets and MRV needs to share lessons learnt and best practice.

5.3. Procedural set-up

The procedural set-up refers to the predefined, standardised templates and procedures for data collection, reporting and monitoring. Examples include standardised data collection templates and automated financial flow estimation spreadsheets, as well as QA/QC plans.

Information and data templates

- Concise format is important, in order to:
 - Standardise tasks
 - Ensure roles and responsibilities of all stakeholders are clearly defined
 - Provide an objective and efficient system for future improvements
 - Present information in a consistent, transparent, complete and timely manner
 - Starting point for future teams
 - Create transparency in a Party's institutional arrangements

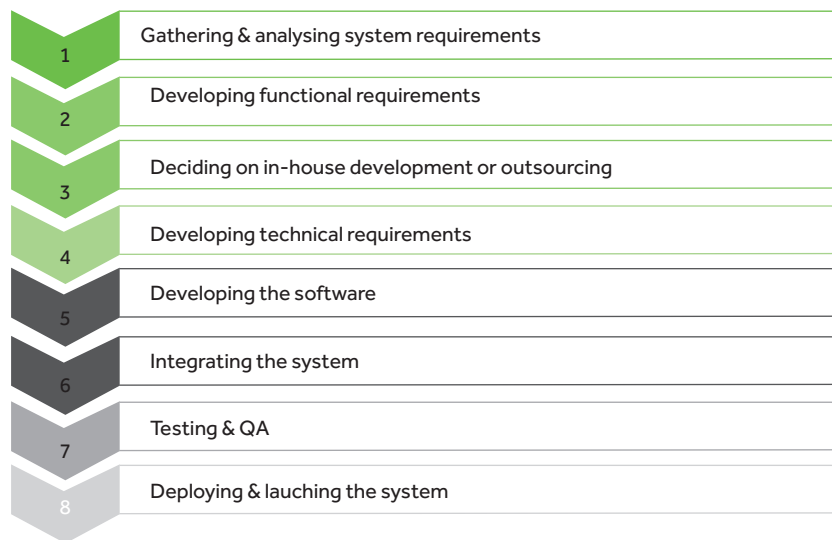


Key considerations in designing a database

- Ensuring the system is flexible enough to respond to future requirements and regulatory changes
- Building or buying a finance data management system
- Mitigating the costs of acquisition, development and maintenance
- Integrating data from other data sets or systems
- Consider data-related laws (e.g. confidentiality) in the country



Figure 10. Development process for a database



Platform

- A data management system provides access to data/information from various sources (hard copy to electronic programmes)
- Should also support QA/QC, track nation financial flow over time and support analyses, measuring, monitoring and reporting



Data, database, data management platform

- Simple data information storage system (e.g. computer)
- Simple data information multiple access system (e.g. intranet on simple server serving one site with multiple users, multiple access including VPN virtual presence network – for off-site users)
- Multiple access multiple site “hosted” server (physical intranet with dial in other “hard-wired” user access)
- Web-based system (e.g. hosted server with web-based access)



Web-based platforms

- A web-based system can:
 - Facilitate programme management
 - Handle large volumes
 - Allow access to multiple users
 - Support efficient data processing
- The first step in developing a web-based system is careful consideration of features, and whether the system will be independent or integrated with other data management systems

**Archiving**

- Archiving is essential for national climate finance inventories reporting & MRV – “paper trail” to track all data sources assumptions
- Archiving should be documented both electronically and “on paper,” all organised in an easily followed logical fashion with “off-site” back-ups of electronic files
- It is important that the archiving system is transparent, well designed and well managed
- The archive should reside at and be managed by the coordinating entity (with off-site third party back-up)



5.4. Considerations on the development of a climate finance MRV

- Institutional arrangements are key to sustained and efficient climate finance MRV.
- There are no official methodologies; there is widespread use of the Rio markers and Climate Public Expenditure and International Reviews (CPEIRs). The methodologies of the climate finance MRV must be country-driven.
- There is no need for complex IT systems and data flows. Keep it as simple as possible.

- The link/integration with other MRV systems will facilitate reporting to the UNFCCC.

5.5. Key recommendations for designing a climate finance MRV capacity-building project

The following are key recommendations for designing an MRV capacity-building project:

- **Design the capacity-building plan and workshops in cooperation with national stakeholders** to ensure the content is relevant to the target audience. A sense

Box 5: Recommendations related to MRV of public climate finance

- Appoint one institution to monitor climate finance received and its use.
- Provide a clear legal basis for the exchange of information between institutions.
- Use the data monitored to decide on future needs and use of climate finance and to improve the effectiveness of its use.
- Use your insight on climate finance at national level for negotiations with donors.
- Reduce reporting effort by combining reporting activities in one institution.

of ownership of the capacity-building plan and training events is crucial for active engagement.

- **Involve local experts.** The use of local trainers alongside international trainers at workshops contributes to achieving a greater focus on the national context. In addition, this can increase the knowledge of the local trainer, which ensures this knowledge remains in the country. The success of the project lies in engaging local technical experts and senior decision-makers, as well as accurately targeting their needs for support activities in order to align with the expectations of local actors.
- **Prioritise communication and engagement across relevant institutions.** The key to successful capacity-building is transparent communication, applying the principles of inclusiveness, and collaboration. Communication, both vertically within ministries and horizontally between ministries, as well as communication with the participating stakeholders, is important. Existing channels of communication – national climate change committees or equivalent, technical working groups, etc – need to be fostered and utilised. In many cases, stakeholders do not understand why they need to build up their systems or provide data. Proper communication on the necessity and need for the capacity-building activity is therefore crucial.
- **Encouraging active participation and hands-on training.** The best way to maintain and expand the knowledge base is by applying the skills in practice. Finding the right balance between lecturing and exercises is crucial. It is advisable to spend more than 50 per cent of the time on exercises, but this is subject to the specific context of the capacity-building activity. Extensive hands-on training on IPCC methods, spreadsheets and software is encouraged.
- **Create ownership** for participating ministries by involving them in discussions and decisions. Key stakeholders should be involved in mapping out the current MRV system and describing its strengths and

weaknesses and the required actions to move forward to an enhanced MRV system. Similarly, key stakeholders should be involved in mapping out the selected pilot sub-sector and identifying actions required for improved reporting, as well as designing and testing of the MRV templates.

- **Recognise the best performers.** Offering tangible incentives for active participation motivates the audience to exert their best effort. Awarding a scholarship to enrol in additional on-line courses can be used as an incentive. Awards can also be configured on a smaller scale by verbally recognising the most active or best-performing participant in each capacity-building activity.
- **Pilot** in one sector: apply in practice what has been learnt through the capacity-building workshops. This offers the participating stakeholders an opportunity to apply their knowledge in practice and discuss and design the required steps in consultation with the capacity-building experts. It is important that this experience can be further replicated in other sectors. Such an approach would ensure further experience is accumulated across a number of sectors.

5.6. Lesson learnt from success in Colombia and Ghana

Lessons from the country case studies from Colombia and Ghana provide examples of a broad range of factors that have influenced the process of developing their Climate Finance MRV systems. These factors relate to the context within which the MRV system was developed, and how the support received interacted with other salient contextual conditions.

The case studies highlight that many lessons have already been learnt and applied as countries, donors, consultants and other stakeholders have developed their experience and knowledge in relation to the climate finance MRV. This means that countries and support partners have moved a long way forward in terms of their knowledge and experience, and this now affords them a stronger basis for working towards operational and institutionalised systems.

Lessons learnt include the following:

- **Ensure a clear policy direction** for the various institutions involved in an MRV system, to encourage and enable linking of data sources and to avoid double-counting.
- Mainstream **international MRV requirements** within national development strategies and governance structures, to put the role of MRV design in a better perspective and highlight significant governance benefits.
- **Implement consistent, long-term support.** Long-term funding and relationships were identified as being important in building trust as well as helping embed and internalise the system and processes within country teams. The case studies showed that it can take time to build the capacity, processes and arrangements for climate finance MRV systems. In many instances, support that was embedded in-country helped build close working relationships. However, this was not always necessary, as there were some examples where remote support served to offer close collaboration and effective engagement.
- **Focus on the system operationally and build towards semi-automation of processes.** Starting in a simple way, with a framework that is progressively developed over time, may be a more effective and faster way to develop a climate finance MRV system. This has many benefits, including the regular and early generation of results; progressive development of knowledge and capacity; and gaining experience in operating MRV as a system rather than as the precursor to a single report. Building complex components – and then trying to piece them together into a system – is more likely to result in unforeseen challenges and obstacles.
- **Ensure support is focused on the development of in-country capacity for system operation.** The case studies highlighted the importance of focusing on developing capacity. Support that involved out-sourcing the development of the system, or parts of the system, was more likely to encounter obstacles. The case studies showed a strong preference for the countries to run and operate their systems.

The systems may be composed of a mixture of in-house components and out-sourced components. This is becoming more relevant as standardised and specialist tools are being made available. The support for system development therefore needs to take into account that ultimately it is the countries that will be running the systems and using the mix of in-house and externally sourced tools and systems. The design of support can take this into account by ensuring that procurement processes and programme design include the need to develop capacity as a component of all support.

- **Facilitate country-driven systems and processes.** The case studies indicated that a system and process that was driven by the country team helped overcome or avoid obstacles more effectively. In particular, this helped overcome obstacles to support predicated on a lack of coordination among donors, the country team and other stakeholders. This recommendation applies equally to donors and to countries. Donors should be mindful when delivering support of any risk that it might remove the country from its role as owner and operator of the system. The stronger the role the country takes in designing, developing and implementing the system, the better it is able to coordinate and control the outcomes of the support. Countries taking a leading role in driving the system and processes can help direct support in a strategic manner.

In conclusion, none of the two countries studied was keen to out-source its MRV responsibilities. On the contrary, the indication was that countries want to own and conduct their MRV responsibilities. Having the capacity in-country supports broader programme implementation as well as enabling more effective support for policy development and analysis. Opportunities exist to better support countries with consistent methods and tools, but this should be achieved through a collaborative development process, rather than through a centralised MRV approach or as an out-sourcing model.

All the countries indicated that they still needed support to keep developing and improving their systems. Although the countries are transitioning to operational phases, their systems are not fully

developed. Work is still needed to expand scope or scale, to improve methods and data or to help embed processes and institutional relationships. The inexorable overall conclusion is that ongoing support is needed – even for those countries that have already undergone an extensive readiness phase. Depending on the status of a country's system, the support could range from broader

assistance to targeted support for specific issues. Support should focus on helping countries build upon and continuously improve their systems. Ongoing support will remain important, albeit in some instances at a reduced level, in order to operationally embed the systems in a sustainable way.

6. Common Obstacles, Successes and Emerging Lessons for Climate Finance MRV System Development

The key contextual and design factors have enabled the identification of specific lessons in relation to the MRV system development phase, and a series of contextual factors. These are highlighted in the subsequent discussion of common obstacles, examples of successes in overcoming obstacles and emerging lessons. This section is divided into common obstacles, successes and lessons learnt related to (i) enabling conditions for MRV system development; (ii) technical aspects of MRV systems; and (iii) the modalities of delivering MRV support. The section then discusses the main challenges and the challenges specific to Zambia in setting up a climate finance MRV system, as well as discussing the sustainability of such a system in Zambia.

6.1. Enabling conditions for MRV system development

The four crucial enabling conditions with regard to MRV system development are financing issues; the enabling environment; national ownership and coordination; and Clarity of requirements.

6.1.1. Financing issues

- **Incomplete financing to cover establishment of the climate finance MRV system:** There is a need for financial and technical support to be long term, to the extent possible, and focused on building an integrated operational system rather than generating discrete outputs. This is particularly important for countries with lower levels of development that struggle with expenditure on system development from their national budgets.
- **The need for ongoing financing to update functionality and refine systems:** Some funding will be required beyond the readiness phase to update guidance and methodologies,

and to support countries to enhance functionality and refine their climate finance MRV systems.

- **National systems in combination with sub-national jurisdictional systems require greater investment than centralised systems:** The scale of investment in capacity-building and time needed to build capacity in countries with sub-national systems may be much larger than for countries with centralised systems; this needs to be factored into the readiness and operational budgeting of the system, commensurate with what is ultimately likely to be sustainable for the country.

6.1.2. Enabling environment

- **Insufficient political support:** Alongside the need for technical advisory support in REDD+ MRV system development, there is also a need in some countries for donors to work with the national government to improve the political context for REDD+ MRV.
- **Contextual barriers to the MRV system development phase:** Fundamental contextual barriers to REDD+ MRV system development and operation need to be identified from the outset, and sustainable solutions identified during the development phase. Enabling activities are likely to be needed in order to address contextual barriers to hiring of staff, procurement, access to fundamental IT infrastructure and internet connectivity.

6.1.3. National ownership and coordination

- **Insufficient national ownership:** MRV support, much like other development, needs to be fully embedded in national needs and

priorities with support designed to facilitate national ownership.

- **The need for programmatic support in some national contexts:** In low-capacity contexts, donors and support partners may need to attend particularly diligently to coordination in order to prioritise activities, ensure their integration and avoid duplication. Support partners may need to lead this coordination role – alongside national government counterparts – if national counterparts do not have the capacity for managing multiple support partners and multiple concurrent activities.

6.1.4. Clarity of requirements

- **Lack of clarity on technical needs of the system:** Early work on REDD+ MRV system development was hampered by a lack of clarity on the technical needs of the system.

6.2. Technical aspects of MRV systems

- **System components versus system operationality:** A programmatic design, which focuses on whole system operationality, is likely to be a more efficient and faster way to build a climate finance MRV system than an assemblage of individual components.
- **Stepwise development of functionality over time:** Starting with simple operationality, followed by strategic, step-wise building of functionality over time (as envisaged in the Warsaw Framework), has been a successful design approach.
- **Providing a strategic pathway for REDD+ MRV system development:** Whatever the current stage of development or operation of the climate finance MRV system, having a strategic roadmap in place is an effective way for countries to focus their activities along a pathway to a defined end point, and to help guide the support that is provided in the most effective way. Where a country is at the earliest stages of development of their system or where capacity is relatively low (such as least developed/low- to middle-income countries), more support will be required to help the country develop the roadmap.

- **Planning for sustainability:** Standard practice in most development support is to incorporate planning for sustainability or an “exit strategy.” This needs to be addressed in climate finance MRV support and should at the very least incorporate planning to ensure ongoing staffing and operating costs. This is not a technical challenge *per se* and requires a relatively conventional programmatic development approach to support provision.
- **High operational and maintenance costs and lack of financial sustainability:** Planning for eventual financial sustainability must be built into climate finance MRV system development. This is general good practice, but is a particular need for countries with less scope for results-based payments for emission reductions.
- **Methods to facilitate data production and reporting to a range of partners and other needs as a system development goal:** This is important given that there is no carbon market mechanism, and countries will likely need to seek results-based payments from a range of sources to aid financial sustainability.

6.3. Modalities of delivering of MRV support

- **Delivery without national ownership:** Technical support needs to be delivered in a collaborative way that facilitates national ownership to generate buy-in and enable strategic decision-making by the national team. Collaborative, participatory engagement, with support focused on capacity development, has been well received by country stakeholders and has enabled the establishment of trusted technical partnerships based on deep knowledge of the national context.
- **Tailoring of support to the national context:** Technical advisory support needs to be provided from a standpoint of good knowledge of the national context, including physical geography, capacity, administration and institutional dynamics.
- **Addressing initial capacity gaps:** Climate finance countries favour support that is focused strongly on developing national

capacity to own and operate the climate finance MRV system. Embedded or high-input support was necessary universally at the design stage, while countries with low capacity required ongoing, often embedded, coaching and mentoring. Countries with higher capacity and those further along the development process favoured less intensive capacity-building support focused on the strategic transfer of knowledge relevant to the national system, including advanced technical guidance. Facilitated South-South sharing of knowledge and experience was also a favoured modality of technical support provision.

- **Building sub-national capacity:** In sub-national systems that require operational capacity at the sub-national level, capacity-building at this level has been insufficiently developed and seems to be a gap in readiness planning.
- **Maintaining a sustainable pool of national expertise:** Examples of ways countries have sought to develop a sustainable pool of trained experts include specific management planning for staff turnover; development of clear standard operating procedures; working with national research institutions to train a pool of experts; and ensuring multiple staff are able to implement each activity.
- **Methodological challenges and gaps:** An overarching lesson on technical obstacles is that there is a current and ongoing need for methodological guidance and tools developed through collaboration between technical partners and countries. This is a key support role as countries develop, operate and refine their REDD+ MRV systems, and it will persist as the state of the art evolves and matures. Current thematic areas for development include methodologies for measuring degradation, displacement and reversal, guidance for complex contexts (heterogeneous landscapes, sub-national systems), integration and automation of processes. While the case studies illustrated a desire and opportunity for donors and technical agencies to develop tools and best practices involving the most advanced technology and methods, for example for monitoring of degradation and distinguishing forest from tree crops, promotion of these tools and approaches needs to be tailored towards meeting the needs of the particular country.
- **Understanding the technical needs of the system and access to satellite data:** Technical working groups are a helpful modality that aid in providing clarity for national experts on the technical needs of the system. Furthermore, facilitation of access to satellite imagery is a valued aspect of REDD+ MRV support provision.

6.4. Main challenges of climate finance MRV

- The definition of institutional arrangements, with key roles and responsibilities, is essential for an efficient MRV system.
- The roles of the entities involved should be in line with the competences of each entity.
- Capacity-building, avoiding high staff turnover and retaining technical capacity are key challenges for climate finance MRV systems.
- Numerous entities receive climate finance at national level (public entities, private entities and NGOs). Tracking all finance received and involving all entities receiving finance is not always easy.
- The MRV system requires a data flow between institutions. We should find the best IT solution for the country (simple, efficient and inexpensive).
- Integration with other MRV systems in the country is necessary to facilitate reporting (especially in view of NDC reporting).
- There are no official methodologies (such as the IPCC for inventories GHG emission). Methodologies used are generally OECD methodologies and CPEIR methods. We need to adjust the methodology to the national context and priorities.
- The main methodological challenge involves deciding the definitions of the MRV system, the national markers to use and the national criteria in line with national law and priorities.
- Consideration of loans (concessional and non-concessional) is necessary. What part is considered support received? OECD countries have criteria; we need to decide ours.

- Consideration of ODA and new and additional funding is also critical. We might consider differentiating ODA sources from climate-related finance in our MRV system. Furthermore, we could consider including a definition of what is considered new and additional (not very relevant after the Paris Agreement).
- Consideration of non-monetary support, such as capacity-building or technical activities, is also required.

6.5. Specific challenges for Zambia

- **Scattered and fragmented data:** There is a risk of not being able to identify and gather all the relevant data, or of potentially missing relevant data, leading to an incomplete overview of international support received for climate action.
- **The time-consuming** nature of data collection and reporting: This is because data are not available in one centralised MRV system.
- **Lack of sustainability:** Climate finance tracking and reporting in Zambia is completed on an *ad hoc* and project basis and relies entirely on external support.
- **Lack of tracking of financial flows received:** Financial flows received outside the national government are not systematically tracked in Zambia. In addition, external finance is more difficult to track.
- **Voluntary reporting and lack of reporting:** The current reporting of ODA support to Zambia is carried out on a voluntary basis. It is currently dependent on donors' goodwill as to whether they provide this information.
- **Lack of methodology to track climate finance:** There is no approved international standardised methodology to identify and track climate finance. What countries consider to be climate finance may vary. This is why each country needs to develop its own methodology based national Georgian circumstances.

6.6. The sustainability of Zambia's climate finance MRV system

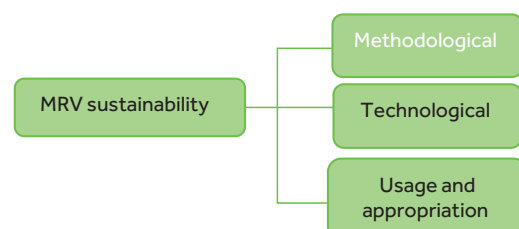
The climate finance MRV system platform should be conceived as a dynamic and sustainable tool,

sustainable over time. It should be recognised that this is a process that demands technological infrastructure resources and a human team dedicated to its maintenance and updating. Currently, Zambia is in the process of setting up a comprehensive MRV system for climate finance. The sustainability of this should focus on the three pillars shown in Figure 11. Below the figure, the suggested actions to follow in each pillar are detailed.

Methodological update:

- Join forces with MoF, MLNR, MNDP and ZEMA to conceptually align the climate finance MRV with the national MRV system in its emissions and GHG emission reduction components, respectively.
- Update tracking processes and integrate impact measurement modules to maintain the annual tracking update for the three types of funding and its reporting through the web platform. To this end, it will be relevant to involve stakeholder entities in the process of validation of the tracking results.
- Continue the process of updating the Methodological Guide for the Classification and Tracking of Climate Finance, with special attention to the taxonomy and classification of the impact associated with the activity.
- Strengthen the tracking of private financing flows through the integration of usage reporting practices in the private sector. Entities such as the Bank of Zambia, the Development Bank of Zambia, the Security Exchange Commission and the Chamber of Commerce are important allies in this process.
- Integrate impact measurement modules into the system. For this purpose, approach universities that have experts in the quantification of investment impact.

Figure 11. Pillars of the sustainability strategy of the MRV of climate finance in Zambia



Technological update:

- Promote a platform with more dynamic analysis, reporting and visualisation options oriented to reporting needs. The platform is to have options that must be updated to improve its use – for example creating options to visualise the destination given to the resources coming from a specific source or programme (e.g. carbon tax, green bond, etc.).
- Include a repository of programmes executed by local governments, making it possible to identify impacts according to the destination of the resources: mitigation, adaptation, both.
- Create a bank of guiding projects and best practices in information management by destination: mitigation, adaptation, both (e.g. model projects).

Usage and appropriation of the MRV system platform:

- Promote implementation of the MRV System Divulcation and Appropriation Strategy, emphasising the involvement of public and private actors in the full cycle of information management, not only as users but also as sources and data validators.
- Continue with efforts to bring the portfolio sectors closer, as well as the provinces, in order to make climate finance information an input into the formulation of comprehensive sectoral and territorial climate change management plans.

7. Conclusions and Recommendations

7.1. Conclusion

MRV of climate finance, especially measuring and tracking private flows, is a highly complex endeavour, owing to the multitude of actors, the diverse financing channels and the rapidly changing nature of climate activities. While MRV of (publicly mobilised) private finance is only gradually evolving and will remain a methodologically very challenging ambition, the annual measuring and reporting of climate-related ODA from bilateral donors and also increasingly multilateral organisations under the OECD DAC provides a reference point. Nevertheless, it still remains highly challenging to compare climate finance figures, given the varying underlying methodological approaches and reporting formats (OECD, MDBs, UNFCCC, etc.), placing doubt on the practical comparability and political usability of the data generated.

Zambia has continued to mobilise both public and private climate finance flows and other related flows for mitigation, adaptation, technology transfer, capacity-building and policy development. The sources of climate change finance in Zambia are divided into five areas: the government national budget; sources that contribute to the national budget dependent on national decisions; sources that contribute to the national budget dependent on international agreements; funds collected internationally pursuant to an international agreement; and leveraged private sector funds.

The main challenges lie in tracking climate finance inflows, especially private inflows. Public climate finance inflows are easier to track because there are already systems in place for this, such as the Zambia Development and Assistance Database. This is an intuitive and user-friendly system used to facilitate data collection, information-sharing and reporting on ODA. The study learnt that the system can be used to track climate finance flow, because it captures most international assistance data on a donor- and project-specific basis, including pledges, committed and disbursed amounts, sector and region of implementation, project description, relevant key indicators, implementing agency and other contacts.

7.2. Recommendations

- In order to ensure better comparability of data as well as the compatibility and coherence of reporting approaches, take further action to improve the consistency of data, strengthen common reporting parameters and agree on underlying methodologies and key terminology. In this respect, reporting countries, for instance, will be required to continue working towards improved, more harmonised and standardised definitions, classifications and methodologies of the OECD DAC system, so that they become politically opportune for climate finance reporting under the UNFCCC framework while supporting trust and credibility among Parties.
- Although it will not be practically feasible to track every last dollar, generate further guidance on definitions from the political level, as well as pragmatic technical advice on underlying methodologies and approaches, to make it possible to create a workable and cost-effective MRV framework. Connecting actors and the existing bits and pieces of relevant ongoing work on MRV of climate finance will remain critical to enhancing the overall MRV system. To achieve this, strong cooperative action between governments and international agencies such as the UNFCCC, OECD and the international finance institutions, as well as private data providers, will be key.
- Engage relevant stakeholders to develop MRV to respond to the challenges of tracking private climate finance.
- Develop and establish a well-coordinated registry to coordinate the different forms of private climate finance inflow in the countries.
- Work with contributors of private inflows and data providers to develop and customised with active information so as to provide a more inclusive dataset on private climate finance.

- Ensure the definition of institutional arrangements, with key roles and responsibilities, as this is essential for an efficient MRV system.
- Ensure the roles of the entities involved are in line with the competences of each entity.
- Capacity-building, avoiding high staff turnover and retaining technical capacity are key challenges for climate finance MRV systems. Hence the need to build and have a strengthen manpower
- Numerous entities receive climate finance at national level (public entities, private entities and NGOs). To track all finance received and involving all entities receiving finance is not always easy. Therefore, the intentional plan to have some centralized units for collation of data
- To address the need for a data flow between institutions, find the best IT solution for the country (simple, efficient and inexpensive).
- Ensure integration with other MRV systems in the country to facilitate reporting (especially in view of NDC reporting).
- Adjust the methodologies (OECD and CPEIR) used to the national context and priorities.
- Decide the definitions of the MRV system, the national markers to use and the national criteria in line with national law and national priorities.
- Decide criteria on loans (concessional and non-concessional), including what part is considered support received.
- Consider ODA and new and additional funding. We might consider differentiating ODA sources from climate-related finance in our MRV system. Furthermore, we could consider including a definition of what is considered new and additional (not very relevant after the Paris Agreement).
- Understand the MRV system as a set of information management processes, and not just as the platform used for reporting and visualisation. The platform is only the medium, not the end.
- Design a web platform for reporting, dynamic in terms of the possibilities of generating analysis, reports and visualisation of the data, thinking about the relevance and usage of the new free software tools.
- Consider the legal and technological aspects from the beginning of the process to turn the platform into a public asset, aligned with the information system requirements of the entity that manages the MRV system. These processes in public entities take time and must have internal legal procedures.
- Define a flexible taxonomy. In Zambia, the indicative list of actions on climate change and their classification should be periodically reviewed and updated, seeking to align it with the national climate change planning and policy instruments, as well as with the international reference framework.

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