



## **Initiative for Climate Action Transparency - ICAT -**

### **Achievements and Lessons Learned in the First Phase of ICAT Mozambique**



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#### **Deliverable #1**

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## 1. Introduction

### 1.1 The country context

Mozambique is a country located in South East Africa, with a shoreline to the Indian Ocean, and is one of the most climate vulnerable countries in the world. The country is diverse in natural resources with wide fertile areas suitable for agriculture, forestry, and aquaculture, important watersheds, mineral resources, and biodiversity. However, Mozambique's economy is highly vulnerable to changes occurring in precipitation and temperature patterns and to the increased frequency of extreme weather events. Therefore, the priority of Mozambique's National Strategy for Adaptation and Mitigation of Climate Change for the period of 2013 to 2025, (in Portuguese, ENAMMC - [Estratégia Nacional de Adaptação e Mitigação das Mudanças Climáticas](#)), is to increase the resilience of the economy through the reduction of climate risks, and promoting low carbon development through integration of adaptation and mitigation measures at sectoral and local levels. The ENAMMC was approved by the Council of Ministers in 2012.

The ENAMMC mandated the creation of a mechanism for monitoring its implementation, which resulted in the National System for Monitoring and Evaluation of Climate Change (in Portuguese, SNMAMC - [Sistema Nacional de Monitoria e Avaliação das Mudanças Climáticas](#)) being established in 2014. The first SNMAMC report was produced in 2017, with data reporting on the progress of implementation of the ENAMMC until 2016. This report was prepared by the former Ministry for Coordination of Environmental Affairs, now named Ministry of Land and Environment, but was not submitted for approval by the Council of Ministers, which is the final consignee. The SNMAMC report is supposed to be prepared annually.

Another climate change report produced in Mozambique is the Climate Public Expenditure and Institutional Review. This report was produced in 2017, using data from 2009 to 2014. The report provided information regarding the government's expenditures on climate change in relation to the priorities established in the ENAMMC, and considerations about the effectiveness of public spending on climate change actions. To our present knowledge, the report is not yet published.

The country has the special status of least developing country and, in response to the reporting requirements of the United Nations Framework Convention on Climate Change (UNFCCC), submitted its first National Communication (NatCom) in 2006, with data from the GHG inventory of 1994. The second NatCom was prepared in 2011, with data from the GHG inventory from 2004, but the Government of Mozambique did not approve the second NatCom and it has not yet been submitted to the UNFCCC. The country published a National Adaptation Programme of Action in 2007.

For its own domestic monitoring of climate change, Mozambique has produced multiple GHG inventories, namely:

- In 1998: First National GHG Inventory, with data from 1990
- In 2000: Second National GHG Inventory, with data from 1994 (used for first NatCom)
- In 2010: Third National GHG Inventory, with data from 2004 (used for the ENAMMC)
- In 2018: [Forest Reference Emissions Level](#), with data from forestry sector for 2003 to 2013

Mozambique is currently elaborating another national GHG inventory, for the first time using the IPCC 2006 guidelines, which will be included in the first Biennial Update Report.

Mozambique submitted its nationally determined contribution (NDC) in 2015 and ratified the Paris Agreement in 2018. Mozambique's NDC aims to achieve a reduction of 76,5 MtCO<sub>2</sub>eq from 2025 to



2030, with 23,0 MtCO<sub>2</sub>eq by 2024 and 53,4 MtCO<sub>2</sub>eq from 2025 to 2030. These reductions will be implemented through a set of actions from policies and programmes, and they are conditional on the provision of financial, technological, and capacity-building support from the international community. The targeted sectors for the set of actions are energy, land use and forestry, and waste. This initial NDC has been revised and the country intends to submit the updated NDC covering the period 2020 to 2025, with a revised target and a revised set of actions from policies and programmes.

In 2018, the country approved the Plan for the Operationalization of the NDC for the period of 2020 to 2025. According to the plan, the implementation of Mozambique's NDC is estimated to cost 11 billion USD. The plan results from an exhaustive consultation process to stakeholders at national and subnational level. Ninety-nine measures aligned with the ENMAMC and the NDC were discussed and agreed for implementation in the said period. The measures were categorized by sector and completed with operational information including the current status, location, mapping of stakeholders, expected results, costs, and sources and needs of funding. Several complementary capacity-building needs were inventoried and compiled in a document elaborated by the NDC Partnership Plan.

## 1.2 Objectives and outcomes of ICAT Mozambique Phase 1 Project

In 2019, the former Ministry of Land, Environment and Rural Development (MITADER), completed the first phase of a project funded by the Initiative for Climate Action Transparency (ICAT) aiming to:

1. Improve the design of the national MRV system supported by sustainable institutional arrangements.
2. Enhance capacity for assessing the impacts of climate policies, and sharing of lessons learned from piloting selected ICAT sectoral guidance for recommendation to other relevant sectors.
3. Enhance capacities for reliable and accurate data collection and analysis

These objectives were selected in order to address limitations of the National System for Monitoring and Evaluation of Climate Change (SNMAMC) and to enhance the capacity of Mozambique to plan and to assess the impacts of climate actions that are part of its NDC and to regularly report on climate change, both domestically and internationally.

In what concerns the first objective, the project set out to assess the existing institutional arrangements and to identify barriers to the establishment of a robust and sustainable national system for monitoring, reporting and verification (MRV) of climate policies and actions. Armed with this understanding of the limitations of the existing system, a set of recommendations for improving the national MRV system was developed, and a road map for the implementation of the recommendations was subsequently produced. The first objective resulted in the following outputs of the project:

- **Output 1:** A report outlining the stakeholders that have been consulted and introduced to the objectives of the project, and describing the selected policies to pilot ICAT Guidances
- **Output 2:** A report with the assessment of existing institutional arrangements and identification of the barriers for establishing a robust national MRV system for policies and actions.
- **Output 5:** A report with recommendations for Mozambican policy makers to establish a robust national MRV system for policies and actions.
- **Output 6:** A report depicting a road map for the implementation of the recommendations to establish a robust national MRV system.



For the second objective, the project developed capacity to assess the impacts of selected climate policies on GHG emissions and sustainable development. The policies selected were the REFIT Decree, a decree that establishes a renewable energy feed-in tariff, and the NAMA Sustainable Charcoal Production in Mozambique, a nationally appropriate mitigation action aiming at reducing deforestation through regulation of the vegetable charcoal value chain. These policies were selected because of their relevance for the sectors prioritized in the mitigation component of Mozambique's NDC. The impact assessment of REFIT applied the ICAT Renewable Energy Methodology, and the assessment of NAMA Sustainable Charcoal applied the ICAT Sustainable Development Methodology.

In addition, for the third objective, in order to enhance capacities for reliable and accurate data collection and analysis, the project delivered training on the topic of the enhanced transparency framework of the Paris Agreement and the modalities, procedures, and guidelines to implement it, and contributed to the development of capacity to model GHG emission scenarios in order to enhance climate policy planning. Staff from various ministries received training on the Excel-based tool Greenhouse Gas Abatement Cost Model (GACMO). The training focused on how to make use of national data on fossil fuel consumption and sectoral GHG emissions to build business-as-usual scenarios and emissions reduction scenarios. The emission reduction scenarios calculated by the GACMO tool are complete with the approximate costs of implementation. In sum, the second objective resulted in the following outputs of the project:

- **Output 3:** Assessment of the ex-ante GHG impacts of the energy policy REFIT (renewable energy feed-in tariff), using the ICAT Renewable Energy Methodology
- **Output 4:** Assessment of the sustainable development impacts of the NAMA Sustainable Charcoal, using the ICAT Sustainable Development Methodology.
- **Output 7:** Training in the use of the Greenhouse Gas Abatement Cost Model (GACMO)



## 2. Approach and key results

The objectives of ICAT phase 1 project in Mozambique were double: to strengthen the institutional arrangements for MRV at the national level, and to pilot the application of ICAT guidance at sectoral level to assess the impact of selected climate policies. For these activities, the institutional partner was the Department of Climate Change of the former Ministry of Land, Environment, and Rural Development (now renamed Ministry of Land and Environment), where the UNFCCC Focal Points are located.

The results of the project were validated through stakeholder workshops, which had the participation of representatives of the different ministries, academia, civil society organizations, representatives of industrial associations in the private sector, the National Statistics Institute, and other international development partners. The work in the country was done by three national consultants, with close supervision from UNEP DTU Partnership (UDP). The national consultants hired for the project have previous experience working with DMC, namely in the SNMAMC project, in the development of NAMAs, and also involvement in the current BUR project. Two of them are affiliated with the University Eduardo Mondlane.

The following outputs resulted from ICAT phase 1 project:

### **1. Report describing the stakeholders that have been consulted and introduced to the objectives of the project, and a description of selected policies to pilot ICAT Guidance**

The report documents the initial barriers for enhanced transparency, and the selection activities for ICAT implementation and selection of policies to pilot the impact assessment through ICAT guidance. The selection of policies was done in a broad consultation process with the sectors.

### **2. Report about the assessment of current institutional arrangements and identified barriers for a robust national MRV of climate change policies and actions.**

Literature review was used to analyse the current and future transparency requirements for national and international reporting on climate action. A series of stakeholder consultations were held in order to inform the analysis of barriers and gaps of the existing institutional arrangement and take stock of available data for feeding a national MRV system that can address both national and international reporting needs.

### **3. Report about the impact assessment of the Renewable Energy Feed-in-Tariff (REFIT), included in Mozambique's NDC.**

The report describes the application of the ICAT Renewable Energy Guidance to the REFIT policy. This covers the results of the ex-ante assessment of the policy, included recommendations on how to improve data collection and reporting for the MRV of the policy, and how lessons learned can be transferred to other sectors. The assessment provided a solid estimation of the impact the policy can have on GHG emission reduction and its contribution to achieving the goals of the NDC.

Specifically, the results reveal that in the baseline scenario, the GHG emissions are expected to be 31.65 and 68.41 MtCO<sub>2</sub>eq in 2025 and 2030, respectively. The emission reductions in the NDC\_REFIT (32 MW) scenario are found to be almost negligible for the period 2020-2025, and only 0.34 MtCO<sub>2</sub>eq by 2030, corresponding to a 0.6% reduction compared to the business as usual scenario. However, the full implementation of REFIT (250MW) would lead to a reduction of 0.17 MtCO<sub>2</sub>eq by 2025 and 2.54 MtCO<sub>2</sub>eq by 2030, corresponding to a 0.5% and a 4.3% reduction in GHG emissions by 2025 and 2030, respectively.



The results of the assessment indicated the potential for the policy to stimulate higher NDC ambition through full implementation of the policy, and highlighted barriers for a robust MRV of the policy in light of the current MRV set up and the country capacity. The lessons learned from this assessment may be used as benchmark for other policies and regulations in the energy sector, and in other sectors of activity.

#### **4. Report about the impact assessment of the NAMA Promoting a Sustainable Charcoal Value Chain in Mozambique (NAMA Sustainable Charcoal), included in Mozambique's NDC**

The report describes the application of the ICAT Sustainable Development Guidance to the NAMA Sustainable Charcoal. It covers the results of the ex-ante assessment of the NAMA, recommendations on how to improve data collection and reporting for the MRV of the NAMA, and how lessons learned can be transferred to other sectors. The assessment provided a solid estimation of the impact the policy can have on GHG emission reduction, and its contribution to sustainable development. The sustainable development impacts were assessed both qualitatively and quantitatively, and the indicators and methods to monitor and to assess the sustainable development impacts of the NAMA were developed. The assessment further provided an assessment of the NAMA's potential contribution to the achievement of the NDC target, and how promoting a sustainable production of charcoal could in the end lead to carbon sequestration especially when coupled with a variety of interventions, including sustainable forest management. Finally, it highlighted specific barriers for a robust MRV of the given policy under the current MRV set up and available capacities, and the side benefit of improving the concept note of NAMA Sustainable Charcoal.

#### **5. Report providing recommendations for the improvement of the national MRV system**

The report takes into consideration the previous deliverables and stakeholder consultations to develop recommendations for enhancing the national MRV system and making it adequate to respond to the transparency requirements of the Paris Agreement and the national monitoring and reporting needs. The report proposes an updated institutional arrangement for the national MRV system, replacing institutions that are no longer active, revitalising the role of institutions that currently have little involvement, and adding other institutions with a more active role, such as the National Institute of Statistics (INE), and the Ministry of Economy and Finance (MEF). It proposes the introduction of a climate change reporting instrument (law or decree-law) to ensure that data related to climate change is shared between institutions allowing the Ministry of Land and Environment to fulfil its mandate. Training about the enhanced transparency framework (ETF) and the modalities, procedures and guidelines (MPGs) to implement it was provided to members of the Inter-institutional Group of Climate Change (in Portuguese, GIIMC).

#### **6. A road map for the establishment of a strengthened national MRV system**

This report provides a road map with concrete actions and steps for the implementation of the recommendations described in output number 5.

#### **7. Training in the use of the Greenhouse Gas Abatement Cost Model (GACMO)**

Training was provided to members of the Inter-institutional Group of Climate Change, to ministry staff relevant to MRV work (Environment, Agriculture, Forestry, Industry, Transport), and to staff of University Eduardo Mondlane. The objective of the training was to develop capacity for the identification, prioritisation and planning of climate actions. Mitigation actions were identified, and scenarios for business-as-usual and mitigation were elaborated. This training made use of existing national data on fossil fuel consumption and sectoral emissions to demonstrate application of the GACMO approach.





### 3. Impacts of the project in the country

The project had impacts at different levels, which are explained in this section. A key contribution of ICAT phase 1 is that the project created awareness and buy-in for establishing an enhanced national MRV system among a wide range of stakeholders, including among more high-level decision makers. The more specific impacts are:

- An understanding of the barriers and limitations of the national MRV system coupled with a road map to overcome them and to establish a robust system that can meet the requirements of the enhanced transparency framework of the Paris Agreement;
- An in-depth understanding of the expected impacts of selected climate policies, which are planned in the country's NDC, including their GHG emissions and sustainable development impacts;
- Development of capacity for planning mitigation actions, assess their impacts, and track its implementation;
- Development of capacity for establishing systems for monitoring and reporting on climate action and support at national and international level.

Regarding the barriers of the national MRV system and the road map to overcome them, the project engaged in consultations with many stakeholders and through this has increased awareness about the benefits of an improved structure for planning, monitoring and reporting on climate policies and the requirements for reporting internationally to UNFCCC and the Paris Agreement. These consultations involved ministerial staff, representatives of industrial associations in the private sector, public sector companies, civil society organizations, academia, and the international development organizations working in related projects. The involvement of more high-level decision makers like the National Director of Environment and the Permanent Secretary contributed to the increased visibility of the project results and to creating momentum for advancing this kind of work in the country.

The assessment of existing institutional arrangements and identification of barriers and limitations was further used as input information for the Mozambique's project proposal to access funding from the Capacity-building Initiative for Transparency, and may also be used for the section on constraints, gaps and needs of support of the ongoing first BUR project. Members of the GIIMC were introduced to the new requirements of the ETF and the MPGs through a half-day training provided by UNEP DTU Partnership. As more stakeholders in Mozambique get sensitized on the benefits of monitoring and reporting of climate policies and the international requirements in place, so the capacity for the country to establish systems that enable planning, monitoring, and reporting of policies also increases.

For Mozambique to improve on policy planning it is key that policy development is linked to costing and budgeting and that an efficient system for policy assessment and evaluation is in place. The ICAT phase 1 project contributed to development of capacity to establish GHG emission scenarios through the training provided on the Greenhouse Gas Abatement Cost Model (GACMO) excel-based tool. It has provided participants with a tool for establishing business-as-usual and emissions reduction scenarios resulting from the implementation of specific mitigation actions. This tool is being used in the ongoing first BUR and second NatCom projects, and will be used in future NDC updates. The Ministry of Land and Environment plans to transition from LEAP into GACMO for their scenario modelling needs. More targeted training on GACMO is envisioned to develop the skills of ministry staff and other technicians, and this has already started with an online South-South exchange with Ghana,



where Mozambique is learning about the how Ghana is using GACMO in their custom-developed NDC accounting tool.

With respect to policy assessment, the outputs 3 and 4 about the ex-ante assessments done to the REFIT renewable energy policy and the Sustainable NAMA Charcoal contributed to the development of capacity for tracking the implementation of Mozambique's NDC. The assessments provided a set of indicators for doing the MRV of these policies, which have been included in the Plan for the Operationalization of the NDC and hence contributed for making the plan more complete, transparent, and accurate. Moreover, the assessments illustrate and quantify the beneficial impacts of implementing the policies, providing information that can be used to improve the policies' design and consequently enhance the ambition of the NDC. The improvement of the design of the REFIT policy and its implementation needs to happen in parallel with the development of regulation to encourage the uptake of renewable energy projects in the country, which is under the mandate of the Ministry of Mineral Resources and Energy (MIREME). As to the Sustainable NAMA Charcoal, the assessment contributes with a better documentation of the policy's impacts and a framework for monitoring its implementation, which will be used in the future applications for financing this NAMA.

The national consultants engaged for the work on assessment of policies are lecturers in the University Eduardo Mondlane and now they have the capacity to perform impact assessments following the ICAT Assessment Guides. The lessons learned from their work have already been communicated to staff in line ministries, and they can be engaged in future training programs to capacitate ministry staff, if that is planned.

Overall, ICAT has created awareness and timely momentum in Mozambique for establishing a functional national MRV system across a wide range of stakeholders. By highlighting the national benefits of improved policy monitoring, and the existing gaps in national level MRV, ICAT has helped to reinvigorate national efforts to comply with UNFCCC requirements and to prepare for the implementation of Paris Agreement's ETF.



## 4. Lesson learned and recommendations

The process of identifying gaps in the national MRV system and developing a road map for enhancing it engaged various stakeholders in Mozambique promoted a discussion in the country about how to improve policy planning, monitoring, and reporting. With the ICAT phase 1 project successfully completed and the demonstrated benefits of assessing the impacts of mitigation policies from the NDC, there is now good momentum in the country for continuing and deepening the work on establishing a functional and robust national MRV system that addresses the national and international information reporting needs.

The ICAT phase 1 project had Mozambique benefitting from the ICAT experience in other countries, namely the identification of indicators for monitoring and assessing NDC implementation in Brazil. The reports from ICAT Brazil phase 1 project were shared with Mozambique to exemplify how NDC indicators can be identified and selected for specific NDC actions. Likewise, other countries could benefit from Mozambique's experience with the impact assessment of NDC policies, and how these assessments can contribute to the improvement of policy designs and potential enhancement of NDC ambition. For example, the proposed institutional arrangements for transparency of climate action with the use of sectoral working groups has been shared with Mauritius as an example of an approach which could fit in Mauritius' own institutional set-up. The reports about the assessments done in Mozambique have been shared with other countries (e.g. Mauritius), as example of how to identify indicators for NDC policy tracking.

Mozambique is very well aware of the limited in-country capacity to implement the MPGs of Paris Agreement's ETF, and this capacity gap cannot improve solely based on ad-hoc provision of capacity-building by external actors. For that reason, the country sees as strategic the development of a training programme on the focus areas of the ETF. This programme will be used for developing the capacity of the current and future members of the Inter-institutional Group on Climate Change, with the vision of building a strong and cohesive group of climate change aware technicians who can ensure that reporting on climate change action and support is sustainable over time.

With the ICAT phase 2 project, the country thus expects to institutionalize the arrangements for collecting and providing data for the national MRV system. This will require a consultative process with all stakeholders, involving both technicians and higher level ministerial staff, and will result in the attribution of formal mandates and responsibilities for the different institutions. These mandates will then be enshrined in a legal instrument.

Therefore, the ICAT phase 2 project logically address the aspects that need further support, in continuation of phase 1 project, namely: the lack of a functional national MRV system with roles and responsibilities clarified and institutionalized; and the limited capacity of the institutions and actors that should be part of this national system. The project will pursue this through the following objectives:

- The establishment of formal institutional arrangements for climate transparency activities, based on the road map and recommendations produced in ICAT phase 1 project;
- Secure sustainable capacity-building efforts in the country through the development of a training programme covering tracking of policies and actions in the NDC, planning mitigation actions, GHG inventories, and monitoring and reporting of support needed and received.