

**Update of the First Nationally  
Determined Contribution to the United  
Nations Framework Convention  
on Climate Change**

# **MOZAMBIQUE**

Period: 2020-2025



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# DATASHEET

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## **GRAPHIC DESIGN AND PAGINATION**

Ana Paula Bouças

## **PHOTOGRAPHIC CREDITS**

Inês de Sousa Mourão

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## ABBREVIATIONS AND ACRONYMS

**AFOLU** Agriculture, Forest and Other Land Use

**AP** Paris Agreement

**ARA** Regional Water Administration

**BM** Bank of Mozambique

**BTR** Biennial Transparency Report

**BUR** Biennial Update Report

**CA** Adaptation Communication

**CBD** Convention on Biological Diversity

**CCGC** Disaster Management Coordination Council

**CGCMC** Centre for Climate Change

Knowledge Management

**CH<sub>4</sub>** Methane

**CN** National Communication

**CO<sub>2</sub>** Carbon dioxide

**CO<sub>2</sub>eq** Carbon dioxide equivalent

**CONDES** National Council

for Sustainable Development

**COP** Conference of the Parties

**CSE** Higher Council of Statistics

**CTCM** Technical Council for Methodological  
Coordination

**CTGC** Disaster Management Technical Council

**DA** Activity data

**DINAB** National Directorate of Environment

**DNMC** National Directorate of Climate Change

**EBAC** Low Carbon Development Strategy

**EDM** Mozambique Electricity

**ENAMMC** National Climate Change Adaptation  
and Mitigation Strategy

**ENH** National Hydrocarbon Company

**ETF** Enhanced Transparency Framework

**FAO** United Nations Food and Agriculture Organization

**FNDS** National Sustainable Development Fund

**FOLU** Forest and Other Land Use

**FREL** Forest Reference Level

**FUNAB** National Environment Fund

**FUNAE** National Energy Fund

**GEE** Greenhouse Gases

**Gg** Gigagram

**GIIMC** Inter-Institutional Group for Climate Change

**HCB** Hidroeléctrica de Cahora Bassa, SA

**ICAT** Transparency Initiative for Climate Action

**IGEE** Greenhouse Gas Inventory

**IIAM** Institute of Agricultural Research of Mozambique

**INAHINA** National Institute of Hydrography  
and Navigation

**INAM** National Institute of Meteorology

**INATTER** National Institute of Land Transport

**iNDC** intended Nationally Determined Contribution

**INE** National Institute of Statistics

**INGD** National Institute of Disaster Management

**INP** National Petroleum Institute

**IPCC** Intergovernmental Panel on Climate Change

**IPPU** Industrial Processes and Product Use

**kTOE** Thousand tons of oil equivalent

(equivalent to thousands of tons of oil)

**LA** Level Assessment

**LDC** Least Developed Countries

**LEAP** Long-range Energy Alternatives Planning System

**M&A** National Monitoring and Evaluation System

**MADER** Ministry of Agriculture and Rural Development

**MEF** Ministry of Economy and Finance

**MGC** Matola Gas Company

**MICOA** Ministry for Coordination of Environmental  
Action

**MIREME** Ministry of Mineral Resources and Energy

**MISAU** Ministry of Health

**MIT** Mitigation Scenario

**MOPHRH** Ministry of Public Works, Housing  
and Water Resources

**MRV** Measurement, Reporting and Verification

**MTA** Ministry of Land and Environment

**MTC** Ministry of Transport and Communication

**MtCO<sub>2</sub>** Millions of tons of carbon dioxide

**MW** Mega Watts

**N<sub>2</sub>O** Nitrous oxide

**NAMA** Nationally Appropriate Mitigation Action

**NDC** Nationally Determined Contribution

**ODS** Sustainable Development Goal

**PBUR** Mozambique's First Biennial Update Report

**PETROMOC** Mozambique National Petroleum Company

**POCA** Agricultural Marketing Plan

**PODA** Agrarian Development Plan

**PQG** Government's Five-Year Plan

**QNFTM** National Strengthened Transparency Framework

**REDD+** Reducing Emissions from Deforestation  
and forest Degradation

**REF** Reference scenario

**RI-AAMMC** Report on the Implementation  
of the Determined National Contribution

**RI-ENAMMC** Report on the Implementation  
of the National Strategy for Mitigation and Adaptation  
to Climate Change

**RIN** National Inventory Report

**SEN** National Statistical System

**TA** Trend Assessment

**UEM** Eduardo Mondlane University

**UNEP** United Nations Environment Programme

**UNFCCC** United Nations Framework Convention  
on Climate Change

**MOZAMBIQUE** submitted its Intended Nationally Determined Contribution (iNDC) to the UNFCCC on 1 October 2015 which became Mozambique's First Nationally Determined Contribution (NDC 1) 2020 - 2030 on 04 June 2018, the date on which the country became Party to the Paris Agreement.

This document presents Mozambique's NDC 1 Update, which was prepared following a participatory approach in which the public and private sectors including civil society and academia were also involved with technical assistance from various international partners. The process of updating NDC 1 took place in the context of the spread of COVID-19, combined with the climatic shocks that affected the south of the country at the beginning of 2021 and the military insecurity in some locations in the central and northern regions of the country, combined with weak global demand, led to a downward revision of the economic outlook initially outlined for 2021, with the growth rate falling from 2.1% to 1.5%.

In this way, reflecting the expected progress in vaccination and the extension of fiscal support in the major

## INTRODUCTION TO MOZAMBIQUE'S NDC 1 UPDATE

economies, with repercussions associated with the global economy and the maintenance of monetary policies, the global economy is expected to grow around 4.9% by the year 2022, and the Mozambican economy is expected to recover slightly, growing at a rate of 2.8% conditioned by the prices of the main commodities on the international market that may boost economic growth in the country. This scenario is based on continuing to respond to Public Health Emergencies as part of the response to the negative impact of COVID 19, with the implementation of the COVID-19 Response Plan through vaccination of 80% of the target population by 2022, providing health assistance to displaced populations and strengthening the Health Emergency Operational Centre.

Meanwhile, it should be noted that the State's economic planning points to the need to incur increased expenditure to deal with the adverse effects of the COVID-19 pandemic and climate events (costs beyond those foreseen in this NDC for adaptation). This will require increased external borrowing to fund investment projects linked to national development. Estimates based on current trends indicate that to meet these needs external credit should increase from 39,904.0 million ZMZ in 2022 to 64,805.9 million ZMZ in 2024<sup>1</sup>.

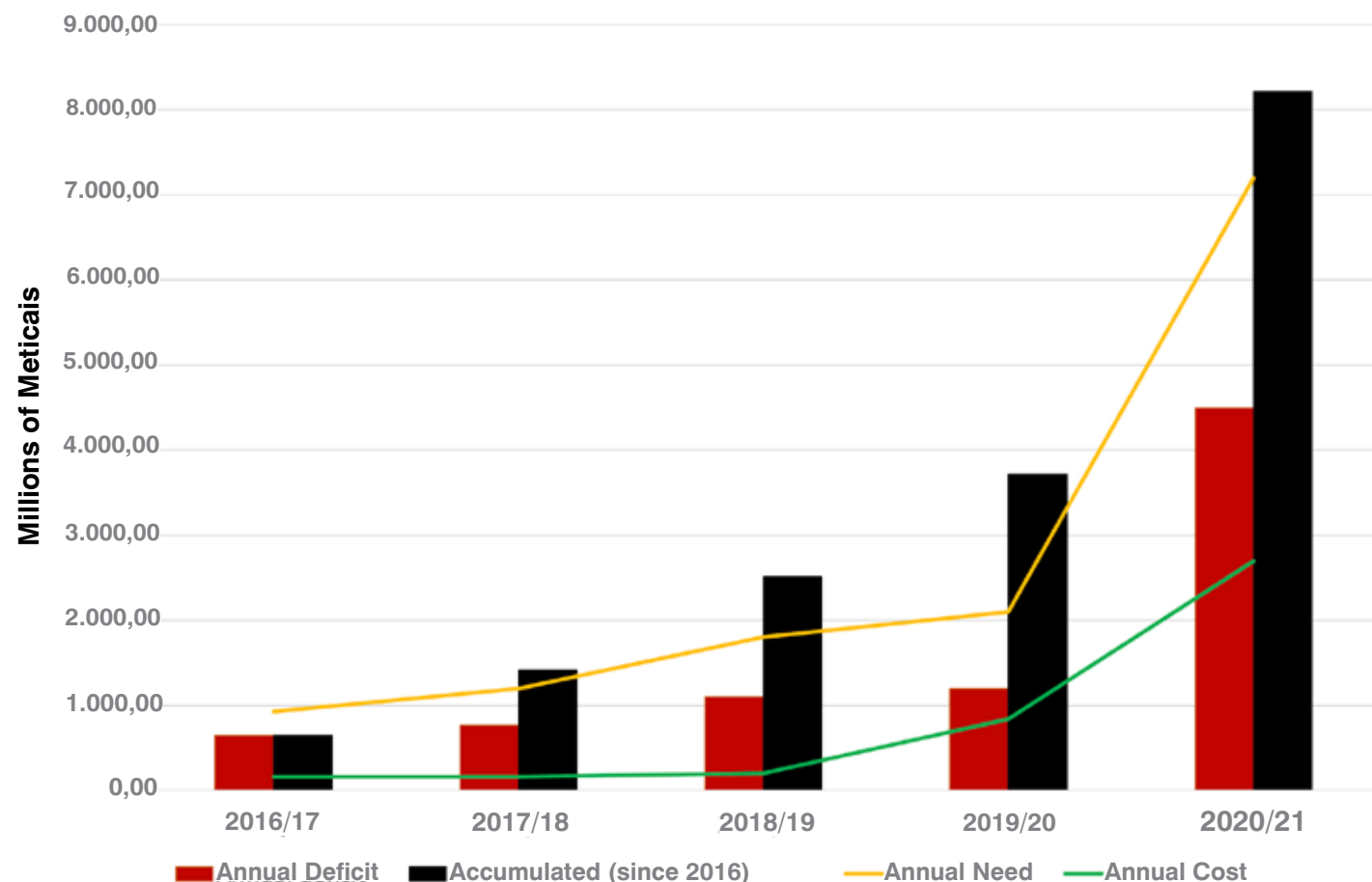
Furthermore, it should be noted that Mozambique is a country that is already facing the adverse impacts of global climate change and in view of the great national socio-economic vulnerabilities, the losses and damages associated with extreme climate events are generating additional difficulties and challenges to the development of the country and the fight against extreme poverty. Since the latest data presented in NDC 1, the National Institute for Disaster Management (INGD) has conducted a preliminary analysis of the costs required for reconstruction following extreme climate events and other emergencies since 2016.

The figure below graphically presents the annual and accumulated figures from 2016 to 2021 of the country's needs regarding the costs necessary for reconstruction after extreme climatic events linked only to the Rainy Season, considering the sectors of Education (classrooms), Health, Agriculture, Miscellaneous Infrastructure and Assistance, as well as the amounts allocated and the deficits identified during the period analysed. This analysis shows a growing financial deficit process related to the impacts linked to extreme climatic events and emergencies, which during the period under review has already reached over 8.2 billion meticaís.



Figure 1

**ANNUAL AND ACCUMULATED COST DEFICITS SINCE 2016 FOR RECONSTRUCTION**



Fonte: Instituto Nacional de Gestão de Desastres, 2021

The commitment to actions to address global climate change is real, measurable and grounded in genuine national sovereignty, however, the large and growing barriers of finance, technology transfer and training & capacity building faced by Mozambique are undeniable.

Thus, Mozambique indicates that the implementation of the adaptation and emission reduction actions foreseen in NDC 1 are conditional to international climate support. The country received from the NDC Partnership support that made it possible to budget the proposed NDC actions and identify the commitments whose realization already had international climate support secured.

This document, as well as Mozambique's NDC 1, includes contributions on adaptation and mitigation, and identifies the financial, technological and capacity building barriers that the country has for its implementation. In terms of both adaptation and mitigation, this document has incorporated dozens of adaptation, mitigation and cross-cutting actions, measures, projects and policies that together would represent a total investment demand from 2020 to 2025 of around USD 7.586 billion. For comparison purposes, according to the World Bank, the country's nominal GDP in dollars in 2020 was about USD 14 billion<sup>2</sup>.

On one hand, regarding the specific contribution on adaptation, this update has considered several documents elaborated under the Convention and that have relevant information on vulnerability and adaptation measures, namely, the Mozambique National Strategy for Climate Change (ENAMMC), Technological Action Plan

(for Adaptation covering agriculture and coastal zones and infrastructure and mitigation the energy and waste sectors), the Local Adaptation Plans (123 districts with local adaptation plans formulated by October 2021), the Second National Communication of Mozambique and other strategic documents including consultations with sectors and other relevant entities, the adaptation contribution is presented in this document.

In chapter 2 below, details on Contribution on Adaptation are presented, including specific sections on Vulnerabilities of Mozambique, Climate Scenarios, Adaptation & Resilience Measures, and Climate Risk Reduction. Among the main sectors that are included in the portfolio of adaptation actions, measures, projects and policies are: Early Warning System, Agriculture and Fisheries, Water Resources and Sanitation, Health, Biodiversity, Forestry, Social Security, Infrastructure, Urban Areas, Settlements and Tourism and Coastal Zones, Communication, Education, Capacity Building and Awareness, among other cross-cutting ones. It should be noted that in relation to the Health sector, the World Health Organization (WHO) is supporting the Ministry of Health (MISAU) and the National Institute of Health in strengthening the National Health System to the Impacts of Climate Change and in

drafting the Plan for Adaptation of the Health Sector to Climate Change.

On the other hand, the contributions associated with the mitigation theme count on the implementation of actions, measures, projects, policies and programmes that contemplate the sectors of Agro-livestock and Sustainable Land Use, Waste Management, Energy Security and Sustainability of Industries. Mozambique is recognized as one of the countries that has been most dedicated to and developed national systems for scaling up emission reductions from deforestation and forest degradation and increasing carbon sinks (REDD+), as evidenced by the fact that it is one of the first countries to receive payment for results under the Forest Carbon initiative with the World Bank. Thus, for Mozambique REDD+ was included in this updated NDC 1 as a key means of implementation to operationalise mitigation ambitions.

Finally, Mozambique proposes to carry out a series of mitigation actions that in aggregate expect to achieve a reduction of GHG emissions by about 40 million tCO<sub>2</sub>eq between 2020 and 2025 (see graph below). These reductions are estimates with a significant level of uncertainty and will be updated with the results of the BUR to be available in 2022. It should be noted

that, it was decided not to include as part of the mitigation contribution of this updated NDC 1 the removals and emissions from the commercial-scale tree planting (*afforestation*) component, due to the uncertainties of how such emissions and any emission reductions achieved by the activities of this component will be accounted for under the Paris Agreement.

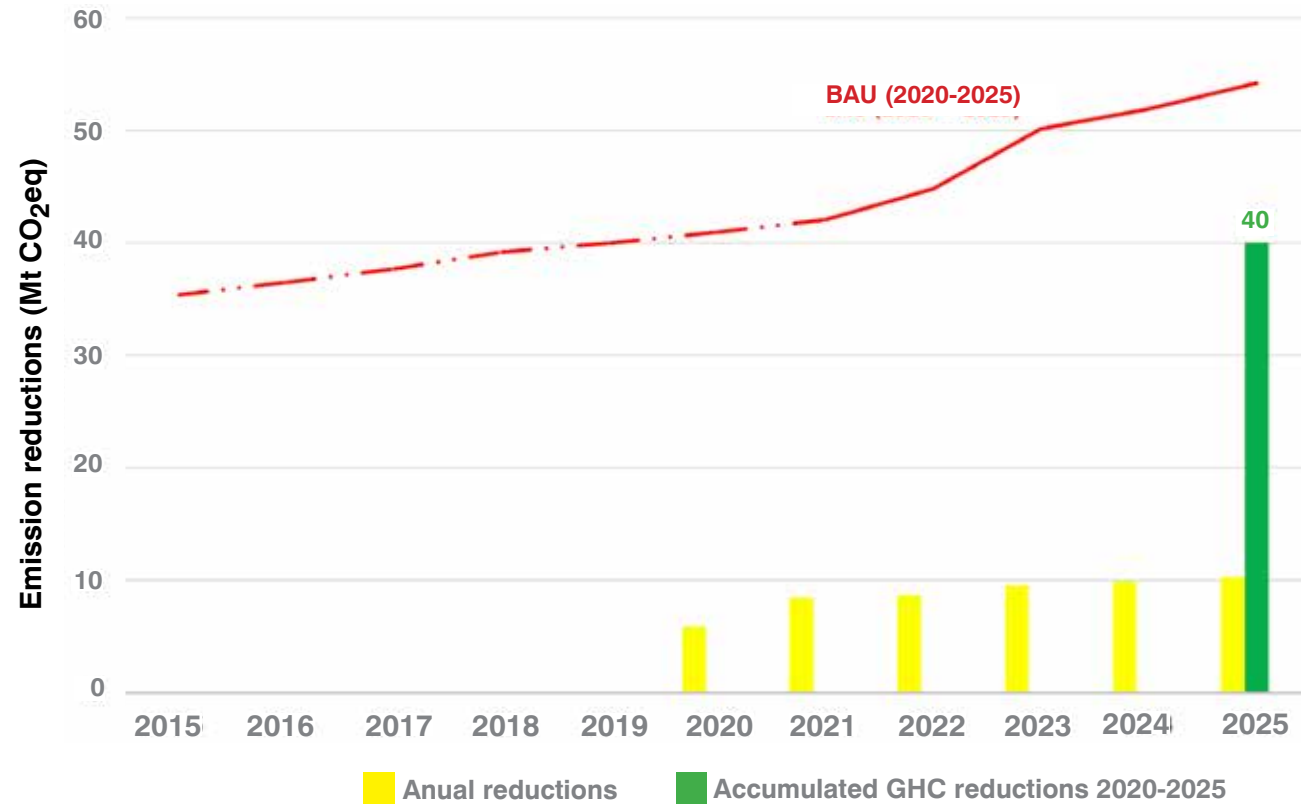
In addition to the uncertainties already identified, we also highlight the lack of clarity on how the accounting rules used to comply with the NDCs will be, especially on the interpretations of how such rules will reflect on the scope of articles 5 and 6, especially on the implications linked to the cooperative approaches provided for in Articles 6.2 and 6.4, and possible accounting processes for the so-called "corresponding adjustments". Although they are not included, Mozambique clarifies that it reserves the right to reconsider their inclusion. The implementation of any proposed reduction is conditional on the provision of financial, technological and capacity building support from the international community. Finally, in chapter 3 below, information is presented to facilitate clarity, trans-

parency and understanding (ICTU) of the mitigation contribution of this NDC 1 Update, following the requirements and guidelines set out in Decision 1/CP.21.

The emission reductions proposed in Mozambique's mitigation contribution would represent a mitigation effort of about 1.2 tCO<sub>2</sub> eq per capita by 2025, a very relevant figure when compared to Mozambique's total GHG emissions per capita which were respectively 0.6 tCO<sub>2</sub>eq in 1990 and about 2 tCO<sub>2</sub>eq today (total emissions with LULUCF). Just for comparison purposes the per capita emissions of developed countries (listed in Annex I of the UNFCCC) in the base year (1990) and in 2019 were respectively 16 tCO<sub>2</sub>eq and 12 tCO<sub>2</sub>eq (total GHG emissions per capita without LULUCF). Globally these values are 6 tCO<sub>2</sub>eq and 7 tCO<sub>2</sub> eq when accounting for total GHG emissions per capita with LULUCF. Figure 03 below, graphically presents such values presented above to facilitate visual comparison between emissions and emissions reductions per capita and comparison of what would be the approximate per capita emissions scenarios for mitigation routes to achieve temperature rise of up to 1.5°C and 2°C.

Figure 2

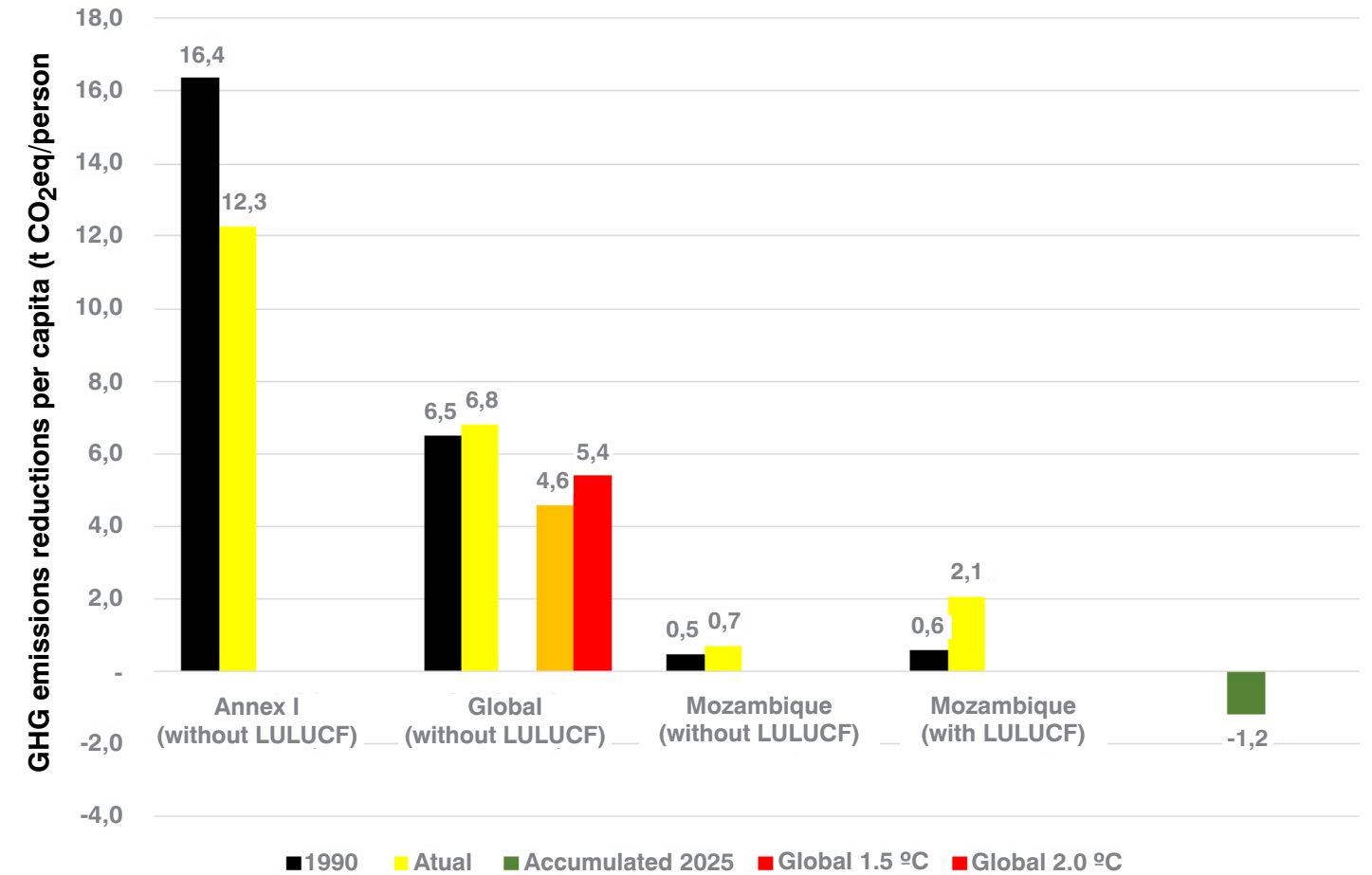
**BAU, ANNUAL AND ACCUMULATED GHG EMISSION REDUCTION ESTIMATES 2020-2025**



This document is thus the result of the process of progression of ambition in various aspects such as adaptation, mitigation, transparency and international support. It is also reiterated that this updated NDC 1 document was prepared in an environment of uncertainty due to the measures imposed by the emergence of new waves of infections

Figure 3

**COMPARISON OF EMISSIONS PER CAPITA**



from COVID-19, natural disasters and military instability in some locations in the centre and north of the country. The country recorded a negative real growth of 1.2% in 2020, this reflects the negative effects of COVID-19 on economic activity during the second quarter, with the sectors that were most affected being hotel and restaurant services

(-35.8%), extractive industries (-25.6%), trade (-5.7%), manufacturing (-5.3%), transport and communications (-4.7%).

In addition to the budgeting of mitigation and adaptation contributions contained in this document, we highlight the cooperation received under the NDC Partnership, which supported the mobilization and coordination given to the country aimed at updating this updated Mozambique NDC 1. It is important to highlight Mozambique's participation in the Initiative for Climate Action Transparency - ICAT that supported the development of the Strengthened Climate Transparency Framework. It is also reiterated that the existence of a robust response presented in this updated NDC 1 in terms of mitigation transparency is evident by contemplating the content of the ICTU table (presented in the next chapter).

Additionally, this update of NDC 1, also represents a significant progression in terms of expanding the country's ambition towards climate action in aspects of its adaptation commitments, comprising that dozens of actions will be implemented, among others, through the emerging *Public Investment Management (PIM) Climate Smart PIM* assessment system coordinated by the Ministry of

Economy and Finance, supported by the World Bank and NDC Partnership. One of the technical outputs was the assessment of the public budget investments related to climate change already disbursed and proposed for the years 2020 to 2022<sup>4</sup>. Such dynamics demonstrate that Mozambique is in a process of defining budget lines that aims to ensure that at least a small portion of the adaptation and mitigation actions and programs foreseen in this NDC are captured and already included in the State budgets. This dimension of mainstreaming climate change into the Public Investment Management Assessment system will contribute to the authorities adopting the guidelines including climate considerations aligned with the new law on the State Financial Administration System (SISTAFE).

These advances will contribute to increased fiscal and climate transparency, increasing the efficiency of public spending through the process of pre-assessment and approval of projects planned by the State of Mozambique before they are funded on social and economic impact, as well as, in particular, on vulnerability considerations and other aspects of global climate change.

## CONTRIBUTION TO ADAPTATION

This chapter describes the adaptation and risk reduction actions that the country commits to undertake in the period 2020 - 2025, aimed at making Mozambique more resilient to the impacts of climate change, reducing climate risks to people and goods as much as possible, restoring and ensuring the rational use and protection of natural and built capital (MICOA, 2012).

It should be noted that the strategic actions presented in the adaptation component of Mozambique's NDC are part of the adaptation and climate risk reduction pillar of the ENAMMC, which covers the following sectors and/or areas considered vulnerable to the impacts of climate change: climate risk reduction; water resources; agriculture, fisheries, food security and nutrition; social protection; health; biodiversity; forests; and, infrastructure, urban areas, other settlements and tourist and coastal zones.

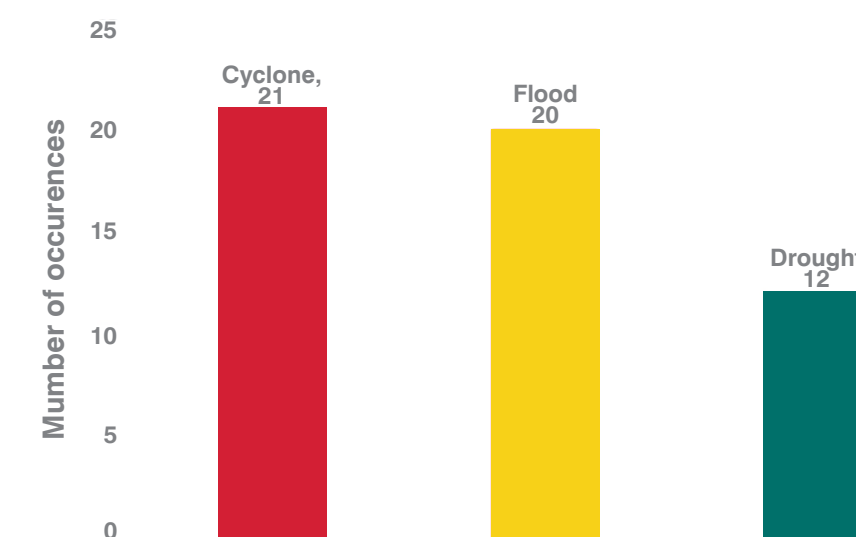
## VULNERABILITY OF MOZAMBIQUE

The previous version of Mozambique NDC 2020-2030 analysed the extreme events that occurred in the country in the period 1980 to 2016 and indicated that floods, tropi-

cal cyclones, droughts including epidemics are the events that most affect the population, who live in prone areas. Floods are the most frequent event followed by tropical cyclones. This trend has changed a little in recent analyses covering the period 1980 - 2019, which show tropical cyclones as the most frequent event, followed by floods and followed by droughts (see graph below). This small change is influenced by the phenomenon that occurred during the 2018/2019 rainy season during which the country was affected by two tropical cyclones IDAI and Kenneth and tropical depression Desmond.

Figure 4

### TOTAL NUMBER OF EXTREME EVENTS FROM 1980 - 2019



Source: data from DeSinventar and reports from INGD

According to the previous figure, it can be concluded that on average, the country is affected by a tropical cyclone or flood event every two years and a drought event every three years. Tropical cyclone and flood events account for about 77% of the total events that occurred in the period under review. The direct impact of these events is often expressed by the number of human lives lost, people affected through loss of personal property and livelihoods, destruction of the country's critical infrastructure such as roads, bridges, water supply system, schools, hospitals, as well as the outbreak of water borne diseases (e.g. malaria, cholera, diarrhoea etc.). However, the lack of systematic and homogeneous recording of events and their impacts and, on the one hand, the persistence in considering only large-scale and high-impact disasters over a short period of time have hidden thousands of small and medium-scale disasters that occur every year in the country. Consequently, Mozambique does not know the real value of direct and/or indirect economic losses associated with these events.

It is observed that the events that struck the country in the 2018/2019 rainy season are those that caused the most suffering in people's lives and those that recorded the most losses and destruction. For instance, the tropical cyclones

IDA and Kenneth, which occurred in the 2018/2019 rainy season, these resulted in losses in livestock due to the death of 5,428 cattle, 10,305 small ruminants, 3,191 pigs and 124,498 poultry; in fisheries, 2,189 vessels were destroyed and 77 engines damaged, 2,387 fishing gear units lost and 5,210 tonnes of fish lost; in fish farming, 562 ponds and 228 cages totally destroyed and 396 tonnes of fish lost. Water supply and sanitation was affected by cyclone IDAI in 2019 and according to assessment by the expert team, 705 water supply boreholes and wells were destroyed affecting about 211,500 people, 47 water supply systems of cities and secondary towns were paralysed which created restriction in water supply to 1,639,244 people. Some 189,953 household latrines and septic tanks were submerged, forcing 416,047 people to return to open defecation with serious consequences for public health.

Regarding the agriculture, water and energy sectors, these were also affected by events during the rainy seasons from 2016/17 to 2019/2020. According to the table below, about 2,960 power poles, 95 water sources were destroyed and 1,529,389 ha of crops were affected.

On the other hand, more than 30 districts are prone to drought and the population living in these districts

Table 1

**IMPACTS OF THE EXTREME WEATHER EVENTS DURING RAINY SEASONS  
FROM 2016 TO 2020 AT HUMAN LEVEL**

Season	Event	Affected People	Affected Families	Injured	Deaths	Destroyed Houses		Flooded Houses	Worship Locations	Health Units	Destroyed Classrooms		Affected Schools	Affected Students
						Partially	Totally				Partially	Totally		
2016-17	---	1,054,707	216,319	379	73	83,500	43,781	89,078	26	108	486	2,413	693	184,507
2017-18	Heavy rains and winds, strong winds, rains with lightning and gales	152,246	31,146	51	61	14,461	7,313	9,099	44	18	463	201	42	10,088
2018-19	Drought, rain and strong winds, sometimes accompanied by lightning, and Desmond, Idai and Kenneth	2,855,417	574,361	1,872	714	153,274	146,482	30,125	1,144	138	1,801	3,109	699	445,404
2019-20	Heavy rains, strong winds, lightning and floods	195,449	40,892	68	57	11,864	6,221	44,809	89	8	---	---	---	---
	<b>Total</b>	<b>4,257,819</b>	<b>862,718</b>	<b>2,370</b>	<b>905</b>	<b>263,099</b>	<b>203,797</b>	<b>173,111</b>	<b>1,303</b>	<b>272</b>	<b>2,750</b>	<b>5,723</b>	<b>1,434</b>	<b>639,999</b>

Source: reports on the rainy seasons from INGD



is deprived of water supply sources for human consumption, for the irrigation of small vegetable gardens and for watering livestock. The lack of access to potable water and the exposure and frequency of droughts on the one hand, and the existence of deep aquifers in the interior of the country with fresh or brackish water on the other hand, make it difficult to access safe water supplies and limit the development and well-being of families living in these regions. The country needs infrastructures to develop Water Supply, Sanitation and Hygiene Systems that are sustainable, safe and resilient to the risk of climate change, including the taking of measures aimed at protecting public health, preserving the water supply systems and, to this end, the country must develop Water Safety Plans, the exploration and development of deep aquifers as an alternative water supply in areas affected by drought and the construction of small water storage infrastructures for human consumption and irrigation, as well as the establishment of an optimum network for Water Resources Monitoring. It should be noted that the occurrence of extreme events has affected the environment and ecosystems, areas that are rarely evaluated for the damage caused.

In addition to the losses and damages registered with the occurrence of extreme events, the country has annually

allocated resources that should fund socio-economic development activities for search, rescue, human assistance and reconstruction actions aimed at alleviating the suffering of the affected people. These actions are supported by national citizens, the private sector, civil society organisations and cooperation partners.

The support needs accumulate from event to event and year to year due to the frequency and intensity with which extreme events occur. Figure 01 (introduction chapter above) shows the amounts required for search and rescue, responding to the needs of the affected and post-disaster reconstruction, the amounts mobilised and the shortfall in the sectors of education, health, water supply, sanitation, various infrastructures and, mainly, for assistance to the affected.

## CLIMATE SCENARIOS

The vulnerability analysis done in the Second National Communication considered the climate projections developed by INGC "Studies on Climate Change Impacts on Disaster Risk in Mozambique Synthesis Report - Second Version" in 2009.

The methodology of the INGC study was based on climatological modelling (temperature and rainfall) with the main purpose of understanding how Mozambique's climate may already be changing and how it may be expected to change in the future. This study details the observed changes in the country's seasonal climate over the period 1960 to 2005, in terms of temperatures and rainfall patterns (INGC, 2009).

Both historical trends and future projections were derived from daily temperatures (maximum and minimum) and recorded rainfall values since 1960 from 32 synoptic weather stations within Mozambique (INGC, 2009).

Seven general circulation models: ECHAM, GFDL, IPSL, CCCMA, CNRM, CSIRO and GISS were used to project future climate (temperature and rainfall) scenarios for the country, focusing on the mid-century (2046-2065) and late-century (2080-2100) periods.

INGC (2009) projections anticipate that CC in Mozambique will manifest itself mainly in the following:

#### **TEMPERATURE STANDARDS**

**The atmosphere** - with an average increase between 1.5°C and 3.0°C in the period between 2046 and 2065 and a record of more warm days and fewer cold days, with an

increase in maximum and minimum temperatures;

**The oceans** - with a rise in average sea levels and a change in the distribution and availability of fish stocks and effects on marine ecosystems (such as corals);

#### **PRECIPITATION PATTERNS**

- With irregular rainfall behaviour in terms of starting and ending times, rainfall load (intense precipitation phenomena in a short space of time) and duration of the rainy season (drought), disfiguring the notions of "official start" and "real start" of the agricultural campaign, which may result in some regions in a reduction of current potential yields in the order of 25%;
- With the growing reduction in potential agricultural yield levels of up to 20% in the main crops that constitute the basis for food security and an indispensable condition for improving the per capita income of Mozambican families;
- Increased frequency and intensity of extreme events (droughts, floods and tropical cyclones);
- Persistence of the extraordinary flood situation in identifiable places in the country that can be referred to as "risk areas";
- Cyclones and other strong winds;

- Prolonged droughts;
- Sea level rise: 15 cm, 30 cm and 45 cm as a consequence of thermal expansion and 15 cm, 110 cm and 415 cm as a consequence of the reduction of the continental ice caps in the years 2030, 2060 and 2100, respectively;
- Identified areas with increased risk potential due to the emergence of other adverse natural phenomena such as the loss by submergence and erosion of coastal areas, saline water intrusion and desertification;
  - Reduction of areas available for agriculture in green or low-lying areas;
  - Many of the country's main coastal urban centres, including Maputo, Beira and Quelimane, are already in a critical situation in terms of vulnerability (human lives, property, social infrastructure, etc.) to the effects of climate change.

## **ADAPTATION AND RESILIENCE MEASURES IN RESPONSE TO CLIMATE CHANGE**

Following is the summary table containing the strategic actions and respective measures that implemented will build climate resilience in communities and natural and built capital in the country.

**SUMMARY OF ADAPTATION AND CLIMATE RISK REDUCTION MEASURES  
AND TRANSVERSE ACTIONS**

<b>SISTEMA DE AVISO PRÉVIO</b>	
Strengthening the Early Warning System 4.6.1.1.1	Strengthening INAM's capacity to provide dedicated and adequate meteorological information to each user, including fisheries (development of products appropriate to the specific needs of meteorological information users) 4.6.1.1.1
	Increasing the scale of the early warning system, reaching district 4.6.1.1.2
	Strengthening of systems for storage, data processing and dissemination of timely meteorological and hydrological information (increasing accessibility and quality of meteorological and hydrological information) 4.6.1.1.3
	Strengthening the role of INAM in coordinating the collection and monitoring of climate data (standardization of the method of collecting hydro-meteorological data under the tutelage of various intuitions/organizations, increasing the number of hydro-meteorological stations in the most vulnerable locations)
	Setting standards for the development and coordination of multi-event early warning systems (development and approval of an effective coordination mechanism between key SAP actors)
	Strengthening of the climate and meteorological information system to anticipate the occurrence of droughts (operationalisation of tools to monitor droughts and issue warning notices on the eminence of droughts)
	The dashboard for the INS National Health Observatory for climate sensitive diseases (Malaria, Dengue, Chikungunya, cholera and diarrhoea) (WHO) was developed. The pilot for integration of climate and epidemiological information and development of early warning system in 4 provinces (Nampula, Sofala, Inhambane and Maputo) is underway.
Strengthening Climate Risk Preparedness and Response Capacity 4.6.1.1.2	Enhancing preparedness on impending climate disasters (Strengthening provincial and district bodies' capacity on disaster preparedness including response capacities) - 4.6.1.1.2.1
	Strengthening the role of the INGC in coordinating response and recovery operations to climate disasters (Expansion of the coverage of Early Warning Systems of climatic phenomena to communities at higher risk;
	Ensuring an effective top-down and bottom-up communication system, Adopting a unified sustainable disaster recovery plan and operationalising tools for assessing the level of resilience at local level) - 4.6.1.1.2.2
	Strengthening the coordinating role of the INGC and its partners in reducing vulnerability to drought in arid and semi-arid areas (ensuring a reliable flow of information on the eminence of drought and the dissemination of timely response measures to communities) - 4.6.1.1.2.3
	Strengthening the role of the Multiple Use Resource Centres (CERUM) in supporting local communities 4.6.1.1.2.4
	Increase and strengthen the capacity of CLGRCs and their equipment with preparedness kits (Promoting the establishment and capacity building of local disaster risk management committees and strengthening local communication capacity in the dissemination of warnings and alerts 4.6.1.1.2.5
	Improved early warning dissemination system at local level (Strengthening the capacity and involvement of information and media outlets, including community radios, in the dissemination of early warning information and raising community awareness on climate change and disaster risk management issues)
Strengthening the role of CLGRCs in climate risk reduction at local level (Drafting the terms of reference of CLGRCs, including actions for their sustainability; Strengthening their capacity and involvement in the flow of information alerting and sensitizing communities on matters of climate change and disasters; Promoting the exchange of experience among local communities on local knowledge of managing extreme events including actions undertaken to minimize their effects)	

### AGRICULTURE AND FISHERIES

Increasing the resilience of agriculture and livestock 4.6.1.3.1	Availability of appropriate technologies and inputs to climate change 4.6.1.3.1.2
	Expansion of the electricity grid and improvement of power quality to enable agrarian enterprises and encourage investment in the six agricultural development corridors
	Transition to a resilient Blue Economy in the western Indian Ocean region
	Dissemination of improved technologies for agricultural production, agroforestry systems, natural resource management, conservation agriculture, irrigation, vaccinations, artificial insemination, reduction of post-harvest losses and processing of plant and animal products, and food and nutrition education - new
	Encouraging seed production and conservation: Implementation of the Action Plan for Seed Production and Conservation and Promotion of Low Cost Grain and Seed Storage Systems contained in the Adaptation Technology Action Plan for Agriculture.
Increasing the resilience of fisheries 4.6.1.3.2	Regeneration of mangroves and implementation of protective measures for seaweed and seagrass, corals and other breeding and feeding areas for fish 4.6.1.3.2.2
	Development of tools for the integration of adaptation into the planning and budgeting process in fisheries - new
Development of low carbon agricultural practices 4.6.2.3.1	Promotion of conservation agriculture/climate-smart agriculture for fodder and food production 4.6.2.3.1.1: Implementation of the Conservation Agriculture Action Plan and the Rainwater Harvesting and Conservation Action Plan (Technological Adaptation Action Plan for Agriculture)
	Promotion of the use of integrated agroforestry systems to recover areas degraded by shifting cultivation 4.6.2.3.1.2
	Promotion of use of methane from rice cultivation systems for energy production/ improved low emission rice production systems 4.6.2.3.1.2
	Promotion of renewable energy use for irrigation/water pumping systems 4.6.2.3.1.3
	Prevention of uncontrolled burning associated with shifting cultivation

### WATER RESOURCES AND RESILIENT WATER SUPPLY AND SANITATION SYSTEMS

Increasing water resources management capacity 4.6.1.2.1	Improving knowledge on the quality and quantity of water resources 4.6.1.2.1.3
	Establishment of the Optimal Water Resources Monitoring Network
	Exploration/development of deep aquifers as alternatives for water supply in drought affected areas
Increased access and capacity for water collection, storage, treatment and distribution 4.6.1.2.2	Increasing storage capacity at all levels 4.6.1.2.1.3 (Promoting construction of surface and sub-surface water storage infrastructure)
	PACA II - Community Adaptation Action Plans
	CUAPA III - Community Adaptation Action Plans
	Construction of multi-purpose water supply systems including desalination for arid and semi-arid areas using clean energy sources
	Promotion of the Water Safety Plans and Institutional Capacity Building of the main actors
	Development of Small Infrastructure for Water repression/storage
Promoting more resilient rural sanitation solutions for floods	Development of more appropriate infrastructure construction technologies for rural sanitation from the point of view of environmental protection and preservation
Conservation of rainwater in excavated and underground reservoirs mainly in the South 4.6.1.2.4	Rainwater conservation in excavated and underground reservoirs mainly in the South (improvement of rainwater harvesting, conservation and management through capacity building and promotion of appropriate technologies) 4.6.1.2.4

Construction of agro-hydraulic infrastructure on major surface watercourses 4.6.1.2.6	Construction of agro-hydraulic infrastructure on the main surface watercourses and small dams which are easy to maintain for irrigation and animal watering (rehabilitation, construction and maintenance of dams and water reservoirs) 4.6.1.2.6
Promotion of low water consumption systems and waste reduction 4.6.1.2.1.8	Promotion of low water consumption systems and reduction of existing waste in the urban water distribution network (Adoption of lower water consumption irrigation technologies) 4.6.1.2.1.8
<b>HEALTH</b>	
Reducing people's vulnerability to climate change disease vectors 4.6.1.5.1	Strengthening the capacity to prevent and control the spread of vector-borne diseases by correctly mapping their distribution and spatial mobility 4.6.1.5.1.1
	Conduct baseline study on diseases that are favoured by climate change 4.6.1.5.1.3
	Establishment of a surveillance system and specific control measures on climate change diseases 4.6.1.5.1.4
	Elaboration of the Health Sector Climate Change Adaptation Plan and finalization is expected by the end of November 2021. The elaboration of the H-Nap is based on the results and recommendation of the assessment of vulnerability and adaptation to climate change of the health sector in Mozambique conducted in 2019. The Plan is being developed with collaboration of MISAU, INS, Eduardo Mondlane University with technical and financial support from WHO through funds from the Government of Flanders.
<b>BIODIVERSITY</b>	
Planning and management of biodiversity and coastal ecosystems 4.6.2.3.	Rehabilitation of deforested areas for pasture creation, agriculture practice, forest resources exploitation 4.6.2.3.3.1
Ensuring the protection of biodiversity (4.6.1.6.1)	Applying management practices that increase the adaptive capacity of ecosystems - 4.6.1.6.1.5; (linked to the national biodiversity strategy, target 10: By 2035, place at least 20% of ecosystems critically affected by climate change under adaptive ecosystem management)
	Identification and replication of lessons and good practices on mitigation and adaptation (Target 10.3 of the National Biodiversity Strategy)
	Establishment of cross-border conservation areas to maintain ecosystem functions and allow wildlife migrations - 4.6.1.6.1.3
	Reclassification and re-dimensioning of conservation areas, identifying areas at risk of biodiversity loss
	Promotion of the survey of knowledge on the contribution of biodiversity to the increase in the carbon stock, with a view to mitigating and adapting to climate change (based on Target 15 of the National Biodiversity Strategy)
<b>FORESTS</b>	
Reducing the rate of deforestation and uncontrolled burning 4.6.2.3.2	Establishment and increased adoption of integrated agroforestry systems (agro-silvo-pastoral); use of multiple-use forest species: shade/nitrogen fixing/forage (REDD+, MozBIO, FIP, Sustenta, Payment for Carbon Credits in Zambezia) - new
	Rehabilitation of degraded ecosystems and grasslands through landscape rehabilitation (REDD+, MozFIP) - new

**SOCIAL SECURITY**

Increasing the adaptive capacity of vulnerable people 4.6.1.4.1	Develop and implement approaches for community-based adaptation through Local Adaptation Plans 4.6.1.4.1.1
	Strengthening basic social protection MEASURES in relation to climate change so that it contributes to the resilience of vulnerable populations 4.6.1.4.1.2
	Strengthening the capacity for targeting and orientation of the Productive Social Action programme to increase the resilience of vulnerable groups 4.6.1.4.1.3
	Strengthening links between the social protection system and the natural disaster response system, including linkage with early warning systems 4.6.1.4.1.4

**INFRASTRUCTURE, URBAN AREAS, SETTLEMENTS AND TOURIST AND COASTAL ZONES**

Developing resilience mechanisms for urban areas and other settlements 4.6.1.8.1	Drafting and updating climate-robust planning and spatial planning instruments and strengthening their implementation 4.6.1.8.1.1
	Mapping of vulnerable infrastructure or infrastructure at risk according to the type of climatic phenomenon (floods, cyclones, sea level rise) 4.6.1.8.1.2
	Reformulation of building codes for transport, telecommunications, energy distribution, buildings, water and wastewater treatment infrastructures to make them climate resilient 4.6.1.8.1.3
	Ensuring that investments, particularly public, in risk areas are climate-proofed 4.6.1.8.1.4
	Promoting the design and implementation of potential climate risk insurance mechanisms in the built heritage 4.6.1.8.1.5
	Strengthening the resilience of the cities of Quelimane and Nacala in relation to flood and erosion control 4.6.1.8.1.6
	Mapping of regions prone to soil erosion and landslides 4.6.1.8.1.7
	Drawing up projects for the construction of water supply infrastructures taking into account the occurrence of the main natural phenomena 4.6.1.8.1.8
	Adoption of resilient measures to natural hazards during the implementation of water supply infrastructures (abstraction, storage, transport and distribution) 4.6.1.8.1.9
Suitability of tourist areas and coastal zones development to reduce climate change impacts 4.6.1.8.2	Assessment of the main climatic risks for resources and areas of interest to tourism 4.6.1.8.2.1
	Advising operators on appropriate building codes 4.6.1.8.2.2
	Promoting good practices among operators and tourists, through public-private partnerships, aimed at the resilience of the sector and the conservation of ecosystems 4.6.1.8.2.3
	Development of conservation and coastal protection practices 4.6.1.8.2.4
	Promoting the adoption of climate insurance for tourism activities and infrastructures 4.6.1.8.2.5
	Implementation of the Technological Action Plan and Project Ideas for Coastal Zone and Infrastructure

**COMMUNICATION, EDUCATION, TRAINING AND AWARENESS-RAISING (TRANSVERSAL ACTIONS)**

	Implementation of the communication and awareness raising plan for climate change adaptation and mitigation
	Mainstreaming climate change issues and curriculum development in school curricula from grade 1 to 11
	Formulation and implementation of a technical-institutional capacity-building plan for NDC implementation under the Capacity Building Initiative for Transparency (CBIT) of the Paris Agreement
	Promoting studies and research on climate change aimed at reducing climate risk and potential for low-carbon development

Mainstreaming climate change issues and programmatic content development at the technical staff training institute
Establishment of infrastructure and human resources to support laboratories dedicated to research, monitoring and verification of climate change adaptation and mitigation projects
Maintenance and feeding of the NDC transparency portalDC
Institutionalising the GIIMC, the CGCMC and the Climate Change Network and strengthening them with a view to their sustainability
National Climate Change Conference to be held every two years
Development of at least 2 national emission factors to achieve the use of TIER 2 in priority sectors (e.g. energy and waste)
Updating climate scenarios and downscaling the results to cover the Mozambican territory



**INFORMATION TO FACILITATE CLARITY, TRANSPARENCY AND UNDERSTANDING (ICTU)**
**1. QUANTIFIABLE INFORMATION ON THE REFERENCE POINT (WITH INDICATION, IF APPLICABLE, OF A BASE YEAR):**

<p><b>a) Reference years, base years, reference periods or other starting points;</b></p>	<p>It is understood that there is no base year and that the results will be compared with the BAU emissions scenarios of the implemented measures, considering two years to reach the target one from 2020 to 2025, made based on the last GHG Inventory provided in PBURM.</p>
<p><b>b) Quantifiable information on the benchmarks, their values in the corresponding reference years, base years, reference periods or other starting points and, as the case may be, in the reference year;</b></p>	<p>Mozambique developed the BAU scenario based on the sum of mitigation actions for the period 2020 to 2025, proposing expectations for annual emission reductions.</p> <p>In the year 2016, total emissions without LULUCF were estimated at about 35 MtCO<sub>2</sub>eq and, using data and methodologies appropriate to national circumstances, estimates of projections of each mitigation action and the 2006 IPCC Guidelines for National Greenhouse Gas Inventories, it is projected that in 2025, if the policy actions and programmes presented in this NDC are not implemented, emissions in 2025 will be about 54 MtCO<sub>2</sub>eq without LULUCF. Based on assumptions of economic and population growth and, it is expected that the country can cumulatively mitigate about 40 MtCO<sub>2</sub>eq in the period 2020 - 2025.</p> <p>The contributions associated with the theme of mitigation count on the implementation of actions, measures, projects, policies and programmes, which include the sectors of Agro-livestock and Sustainable Land Use, Waste Management, Energy Security and Sustainability of Industries. Mozambique is recognized as one of the countries that has been most dedicated to and developed national systems for scaling up emission reductions from deforestation and forest degradation and increasing carbon sinks (REDD+), as evidenced by the fact that it is one of the first countries to receive payment for results under the Forest Carbon initiative with the World Bank. Thus, for Mozambique REDD+ was included in this updated NDC 1 as a key means of implementation to operationalise mitigation ambitions.</p> <p>Finally, Mozambique proposes to carry out a series of mitigation actions that in aggregate expect to achieve a reduction of GHG emissions by about 40 million tCO<sub>2</sub>eq between 2020 and 2025. These reductions are estimates with a significant level of uncertainty and will be updated with the results of the BUR to be available in 2022. It should be noted that, it was decided not to include as part of the mitigation contribution of this updated NDC 1 the removals and emissions from the commercial-scale tree planting (afforestation) component, due to the uncertainties of how such emissions and any emission reductions achieved by the activities of this component will be accounted for under the Paris Agreement.</p>
<p><b>c) In the case of strategies, plans and measures referred to in Article 4, paragraph 6 of the Paris Agreement<sup>5</sup> or policies and measures incorporating nationally determined contributions where paragraph 1(b) above is not applicable, Parties shall provide other relevant information;</b></p>	<p>Mozambique reserves the right to apply this paragraph in the future, including to adjust the information contained in item 1b) above.</p>
<p><b>d) Target in relation to the baseline indicator, expressed numerically, for example as a percentage or quantity of reduction;</b></p>	<p>With the implementation of the identified actions, measures, projects, policies and programmes, Mozambique expects to reduce its GHG emissions by about 40 Mt CO<sub>2</sub>eq between 2020 and 2025. The indicators are the tons of CO<sub>2</sub>eq reduced following the baseline parameters and mitigation actions calculated by measures and accounted in annual results, which will be aggregated and compared to the quantities committed in 2025.</p>

<b>e) Information on the data sources used to quantify the benchmarks;</b>	<b>DATA</b>	<b>VALUE</b>
	Year of the last GHG inventory	2016
	Population	27.9 million inhabitants <sup>6</sup> in 2017. The 2017 National Census indicates that the total number is expected to increase from that year to about 34 million in 2025, or a net increase of about 6 million in the total population.
	Annual population growth	2.8% for the 2 periods (2020-2025).
	PIB Nominal (milhões de meticaís)	2020: 974,649; 2021: 1,037,665; 2022: 1,124,306
	Crescimento de PIB.	Taxa de Crescimento Real de 1.5% (2021) e 2,8% (para 2022) com taxa de inflação média anual de 5,5%.
	As fontes para os dados acima são: PSOE 2022 e o documento "CAEP Support: Mozambique's Long-term low greenhouse gas emissions development strategy (LT-LEDS) INTERIM REPORT" <sup>7</sup>	
<b>f) Information on the circumstances in which the Party may update the benchmarks)</b>	The BAU scenario values may be adjusted in the future, considering possible improvements in GHG emissions calculations covering sectors and gases, and evolutions in inventory techniques, as well as different national circumstances and methods of defining baselines for actions included as part of the NDC.	

## 2. DEADLINES AND / OR PERIODS OF APPLICATION:

<b>(a) Timeframe and/or period of implementation, including start and end dates, in accordance with any other relevant decision adopted by the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement (CMA);</b>	The reference period for operationalization is from 2020 to 2025, so the mitigation results should be achieved by the year 2025.
<b>b) Whether it is a one-year target or a multi-year target, as appropriate.</b>	Cumulative targets considering annual reductions but accounted for a single year in 2025. As indicated in 2a) above, they imply comparisons between the emissions of the proposed mitigation actions and the emissions of the BAU scenarios of the specific actions.

## 3. SCOPE AND COVERAGE:

<b>(a) General description of the target;</b>	The emission reduction target presented by Mozambique is divided into cumulative annual efforts between the years 2020 and 2025, whereby the country commits to reduce its emissions by about 40 MtCO <sub>2</sub> e <sub>q</sub> between 2020 and 2025. The country expects to reduce these emissions in comparison to the BAU of the specific actions and, should Mozambique benefit from international climate finance, the total investment required to generate these reductions and the other actions foreseen in this updated NDC 1 is estimated to be around USD 7.586 billion (from 2020 to 2025).
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<p>(b) ) Sectors, gases, categories and sinks covered by the nationally determined contribution, including, as applicable, consistency with Intergovernmental Panel on Climate Change (IPCC) guidelines;</p>	<p>Sectors: The scope of the contribution covers the sectors of the national economy relevant for GHG emissions in the actions listed in item 1b above.</p> <p>Gases: CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O</p>
<p>(c) How the Party has taken into account paragraph 31 (c) and (d)<sup>8</sup> of decision 1 / CP.21; (indicating how the Party is striving to include all sources and sinks and why all categories were excluded)</p>	<p>The sectors covered are those that cover the mitigation actions listed in item 1.b.</p>
<p>(d) Mitigation co-benefits resulting from Parties' adaptation action and/or economic diversification plans, including the description of specific projects, measures and initiatives of Parties' adaptation action and/or economic diversification plans.</p>	<p>Mozambique has not yet conducted mitigation co-benefit assessments for economic diversification plans.</p>

#### 4. PLANNING PROCESSES:

<p>(a) Information on the planning processes the Party has undertaken to prepare its nationally determined contribution and, if available, on the Party's implementation plans, including, as appropriate:</p>	<p>Following the ratification of the Paris Agreement by Parliament in 2017, the then Ministry of Land, Environment and Rural Development submitted to Camões Institute for Cooperation and Language of Portugal the project "Roadmap for the Implementation of Mozambique's Nationally Determined Contribution - NDCMoz" with the aim of designing the roadmap for the implementation of Mozambique's NDC, contributing to the implementation and success of the Paris Agreement, through a country with a low carbon and resilient development and to the pursuit of the Sustainable Development Goals (SDGs). In parallel, the country benefited from the World Bank and NDC Partnership initiative through which it intended to support the Government to prioritize the operationalization of Mozambique's NDC targets in the sectors of: agriculture, energy, water, transport and early warning system, aligning them with government policies and priorities.</p> <p>These two initiatives were harmonised to cover all sectors of the Mozambique NDC 2020 - 2030, and enabled a broad consultation process with stakeholders, including business sectors, provinces and civil society representatives to prioritise the actions to be included in the NDC and the format in which they should be presented. The implementation of these two initiatives resulted in the formulation of the Mozambique NDC 2020 - 2025, the Mozambique NDC Operationalisation Plan 2020 - 2025, which details the actions of the NDC. On the other hand, Mozambique has benefited from the support of the NDC Partnership which has resulted in the formulation of the NDC Partnership Plan that identifies both the project and capacity building needs for the implementation of NDC.</p>
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These documents were approved by the Council of Ministers at its 38th Session, held on 11 December 2018. However, some actions of the Mozambique NDC 2020 -2025 and the respective Mozambique NDC Operationalization Plan 2020 - 2025 lacked relevant information for the process of measuring/monitoring, reporting and verifying both the actions and the support. On the other hand, there was a need to have updated inventories, as the estimated contributions in NDC 1 were based on the National Greenhouse Gas Inventory Report 1995 - 2004. It is in this context that Mozambique has submitted in the two calls made by the NDC Partnership - Climate Action Enhancement Package (CAEP I and II), requests for assistance to adjust its NDC to the Transparency Modalities, Procedures and Guidelines. Under this support it was possible, amongst other results, to update the NDC budget and identify actions whose implementation is conditioned to international climate support and those that are not conditioned; formulate project ideas for priority actions conditioned to international climate support; formulate Mozambique's Long Term Low Carbon Development Strategy 2020 - 2050; update energy sector statistics; integrate NDC into planning and budgeting processes; detail NDC actions; formulate National Adaptation Plan for the Health Sector; develop Local Adaptation Plans; strengthen gender sensitivity in Mozambique's NDC actions; and, design terms of reference for developing emissions factors for the energy and waste sectors.

Other initiatives that contributed to the improvement of Mozambique's NDC are: (i) the Initiative for Transparency in Climate Action - ICAT which supported in the formulation of the Strengthened Framework for Transparency including capacity building of technicians; and, the project to formulate the First Biennial Mozambique Transparency Report (PBTRM).

(i) Domestic institutional arrangements, public participation and engagement with local communities and indigenous peoples in a gender sensitive manner;

Since the approval of the ENAMMC, the Government has been strengthening the institutional framework in order to improve the coordination and implementation of climate change actions including the reporting process established in the UNFCCC. It is in this context that in 2020, the Ministry of Land and Environment was created, with the following competencies, in the area of climate change, relevant to the implementation of the NDC:

1. To propose the enactment of legislation, policies, development strategies and plans conducive to reducing vulnerability, building resilience and adaptive capacity to climate change, as well as promoting low carbon development and mitigation of greenhouse gas emissions in the context of sustainable development;
2. To promote and coordinate the implementation of the commitments assumed in the scope of the UNFCCC and Agreements, with emphasis on the Nationally Determined Contribution and other instruments that the country ratifies in the context of climate change;
3. Disseminate climate change issues with an emphasis on financial, technological and capacity building opportunities;
4. To coordinate and ensure the timely submission of reports required under the implementation of the Convention and signed Agreements;
5. Monitor, oversee and evaluate climate change adaptation and mitigation actions including support received and report on the status of implementation

These competences are attached to the National Directorate of Climate Change which has in its structure the departments of adaptation and mitigation in the Ministry of Land and Environment.

Considering the cross-cutting nature of climate change and the need for the involvement of state and non-state actors in both the formulation of national climate change response instruments and their implementation, including biennial reporting and review commitments, monitoring to support the production of national communication and regular updating of the NDC, the Inter-Institutional Group on Climate Change was established, composed of representatives from the public and private sectors and civil society relevant to the implementation of adaptation and climate risk reduction and mitigation and low carbon development actions including cross-cutting actions (capacity building, technology development and transfer, financing, awareness raising education, etc.).

The members of the GIIMC have the responsibility to:

- Represent the sector in the national climate change coordination body ensuring harmonization of national climate change actions and their sectoral integration
- Report on the implementation of climate change actions in the sectors/areas they represent including challenges and needs encountered and
- To technically approve the instruments, reports and other documents formulated in the context of climate change.

It is important to mention that for the elaboration of Local Adaptation Plans, multi-sectoral teams have been created at provincial and district level that support local communities in the process of assessing their vulnerability and identifying and prioritising adaptation measures including the identification of potential local development partners.

On the other hand, the Ministry of Land and Environment has established the holding of a National Climate Change Conference every two years as a forum open to public participation to, among others, share information, experiences and good practices in the area of climate change; promote education and public awareness on issues related to climate change; and, promote the dissemination and discussion of issues relevant to climate change. The First National Conference took place this year with the participation of actors from central, provincial and district levels and the second Conference will take place in 2023, the year in which the country will be preparing its First Biennial Transparency Report.

(ii) Contextual issues, including, inter alia, as appropriate:

a) National circumstances, such as geography, climate, economy, sustainable development and poverty eradication;

b) Best practices and experience related to the preparation of the nationally determined contribution;

c) Other contextual aspirations and priorities recognised when joining the Paris Agreement

The Republic of Mozambique is a country located in the southern hemisphere, on the southeast coast of the African continent. It has an area of 801,590 km<sup>2</sup> of land and about 13,000 km<sup>2</sup> of internal waters. The eastern part of the country is bathed by the Indian Ocean and has a coastline of approximately 2,700 km<sup>2</sup>. Administratively, the country is divided into 11 Provinces. The provinces are currently divided into 154 districts which, in turn, are subdivided into 419 local administrative districts called Postos Administrativos. In addition to these subdivisions, there are 53 municipal autarquias, located in the main cities and towns throughout the country. Along the coast there are numerous islands, such as the archipelago of Quirimbas in the province of Cabo Delgado, the Island of Mozambique and the islands Goa and Sena in the province of Nampula, the archipelago of Bazaruto in Inhambane, the islands of Inhaca, Portugueses and Xefina in the province of Maputo.

Data from the Anuário Estatístico 2015, estimates that Mozambique had about 25.7 million inhabitants, with about 52% being women and 48% men. According to the results of the last population census conducted by the National Institute of Statistics in 2017 indicate that the Mozambican population was 27.9 million, and the percentage of women and men remained the same. INE population projections indicate that by 2025 Mozambique will have about 34.1 million inhabitants, thus projecting a net population expansion of over 6 million inhabitants. With regard to the distribution of the population by age group (table below), particularly between 2017 and 2025, there is a decrease in the population aged between zero and 14 years old; a growth throughout the period in the population aged 15 - 64 years old as well as a growth in the population aged 65 years old and over.

AGE GROUP	2017	2020	2025
0 - 14	45%	46%	43%
15 - 64	52%	51%	53%
65+	3%	3%	3%

The average life expectancy is 54 years, being 51 years for men and 56.5 years for women. Portuguese is the official language of the country, however, there are more than 40 languages spoken throughout the national territory.

Agriculture is the mainstay of the Mozambican economy, employing more than 80% of the country's economically active population (PEDSA, 2011). Furthermore, it is the sector with the highest average share in GDP, with more than 20% of the total. Manufacturing is the second sector with the highest contribution to GDP (13%), followed by trade and transport and communications services with an average of 10% each. The national economy has considerable potential in the primary sector due to the existence of various natural resources capable of serving as a basis for creating a competitive advantage in various productive sectors. For example, ICF International (2012) and Biggs (2012) have documented that Mozambique has one of the world's largest reserves of natural gas (estimated at 250 trillion cubic feet) and coal (estimated at 25 billion tons). Other natural resources include forests, grasslands, inland waters, 2,400 kilometres of coastline and minerals (FAO, 2006). The main challenge is the development of industries that enable their sustainable exploitation and transformation. Diversification of the national economy is another challenge for more stable, comprehensive and sustainable growth. After several years of growth of around 7%, the national economy experienced a slowdown in 2016, growing by only 3.8%, down from 6.6% and 7.4% in 2015 and 2014, respectively. This decline was mainly due to the drought registered in the central and southern areas of the country, and the floods in the central and northern regions, having negatively affected the agriculture sector and electricity production, among other international and national conjunctural factors.

The climate of Mozambique is diverse. Due to its location in the inter-tropical zone, manifestations of the humid tropical, dry tropical, semi-arid tropical as well as altitude-modified climate can be found throughout the country. Of these, The most predominant climate is the humid tropical with some pockets of the semi-arid tropical, characterised by having two very distinct seasons, one hot and rainy from October to April and the other cold and dry from May to September (Gelcer et al., 2018). Average rainfall is variable from south to north. The north receives the highest averages, ranging from 800 mm to 1200 mm. In the centre and south, they are comparatively lower compared to the north and vary from the coast to the interior. The annual averages in the two regions range from 1000 mm to 600 mm and 800 mm to 300 mm, respectively.

In Mozambique, the energy sector is experiencing a remarkable growth in the last two decades, both in terms of production and consumption of electricity and natural gas. However, despite this increase, the majority of the population (77%) continues to depend on forest biomass, such as firewood and charcoal, to meet its energy needs because it lives in rural areas and the electrification of the country, which is estimated at around 34%, is still below expectations. However, the government has been making efforts to reverse the current scenario through rural electrification, which is estimated to average 120 000 new connections per year over the last 15 years (MTA, 2021).

Currently, the national electricity generating capacity is estimated at 2905 MW. Of these, 1045 MW are for domestic consumption and 1,860 MW are for export to neighbouring countries, indicating that the country produces more than it needs for its consumption. The vast majority of the energy generated in the country is from hydroelectric sources (90%) and the remaining 10% is from natural gas. Among the hydroelectric plants, HCB stands out the most with an installed generating capacity of 2075 MW, equivalent to 79.4% of the capacity of the other plants and 71.4% of national generation. Recent studies conducted in the country, indicate a huge potential for renewable energy production (Renewable Energy Atlas, 2014), with an estimated capacity of about 23,000 GW of solar resources, followed by hydroelectric sources with 19 GW, wind potential with 5 GW and biomass resources with 2 GW. Of this potential, the government has prioritized the production of 5,645 MW from hydropower sources, 600 MW solar, 1,146 MW wind, 128 MW biomass and 20 MW geothermal energy as a way to accelerate universal access of energy services by the population, climate change mitigation as well as for sustainable use of biomass resources (MTA, 2021).

**(b)** Specific information applicable to Parties, including regional economic integration organizations and their member States, which have reached an agreement to act jointly under Article 4, paragraph 2, of the Paris Agreement, including the Parties that have agreed to act jointly and the terms of the agreement, in accordance with Article 4, paragraphs 16-18, of the Paris Agreement;

Not applicable.

**(c)** How the Party's preparation of its nationally determined contribution was informed by the results of the global stocktaking, in accordance with Article 4, paragraph 9, of the Paris Agreement;

Not applicable, as the Global Stocktake did not occur.

**(d)** Each Party with a nationally determined contribution under Article 4 of the Paris Agreement consisting of adaptation actions and/or economic diversification plans resulting in mitigation co-benefits consistent with Article 4, paragraph 7, of the Paris Agreement to submit information on:

**(i)** How the economic and social consequences of response measures have been considered in developing the nationally determined contribution;

To date, Mozambique has not undertaken such assessments of how the economic and social consequences of response measures have been considered in the development of the NDC.

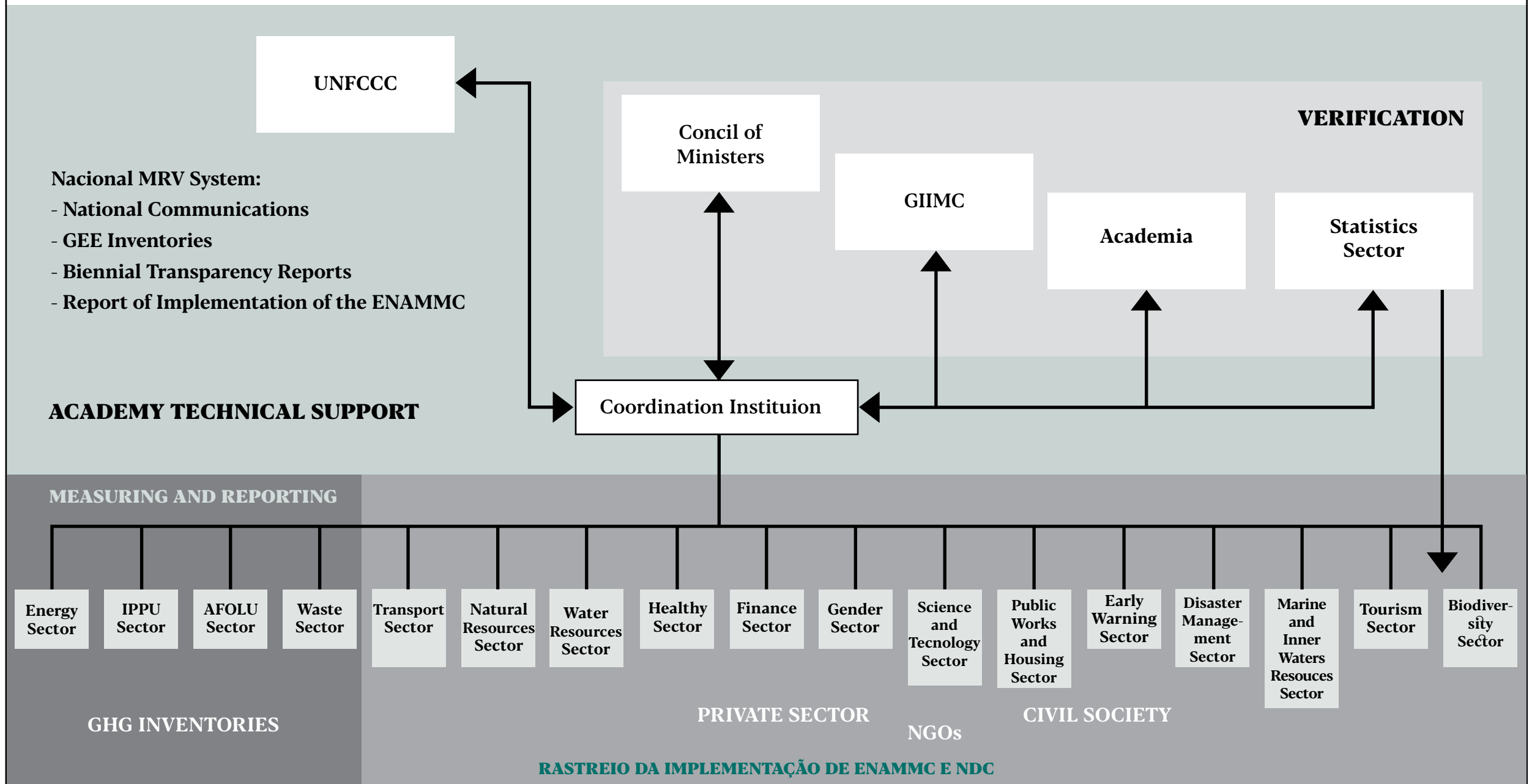
**(ii)** Specific projects, measures and activities to be implemented to contribute to mitigation co-benefits, including information on adaptation plans that also generate mitigation co-benefits, which may cover, but are not limited to, key sectors such as energy, resources, water resources, coastal resources, human settlements and urban planning, agriculture and forestry and economic diversification actions, which may cover, but are not limited to, sectors such as manufacturing and industry, energy and mining, transport and communication, construction, tourism, real estate, agriculture and fisheries

To date, Mozambique has only conducted preliminary assessments of the mitigation co-benefits of adaptation actions, supported by UNICEF for Resilient Water Supply and Sanitation Systems and Water Resources with funding from Green Funds for the time horizon 2022 to 2024. These activities propose to exchange diesel power generators for photovoltaic panels. Preliminary calculations show that an emissions reduction of about 180 ktCO<sub>2</sub>eq annually.

**5. METHODOLOGICAL ASSUMPTIONS AND APPROACHES, INCLUDING THOSE FOR ESTIMATING AND ACCOUNTING FOR ANTHROPOGENIC GREENHOUSE GAS EMISSIONS AND, AS APPROPRIATE, REMOVALS:**

(a) Assumptions and methodological approaches used to account for anthropogenic greenhouse gas emissions and removals corresponding to the Party's nationally determined contribution, in accordance with decision 1 /CP .21, paragraph 31, and the accounting guidance adopted by the CMA;

Under the Initiative for Transparency for Climate Action - ICAT Mozambique formulated in 2018, in Phase 1 of ICAT, the Roadmap for establishing a Strengthened Transparency Framework in Mozambique. This Roadmap came to be implemented in 2020 and resulted in the formulation and approval of the Mozambique National Strengthened Transparency Framework (QNFTM). The process of formulating the NTSF was participatory involving public and private sectors and entities, civil society and academia through consultations to, among others, review and validate the monitoring elements of the NDC; present and validate the objectives of the institutional arrangements for the National MRV System; present the proposed Enhanced Transparency Framework; present the model reports on climate change adaptation and mitigation actions; undertake group work to review the proposed Enhanced Transparency Framework and model reports, and achieve consensus on the documents under formulation in plenary discussions for validation. Thus, the QNTFM was developed to systematically produce the following reports: Biennial Transparency Report (BTR), National Communication (CN) and the Implementation Report





of the National Strategy for Mitigation and Adaptation to Climate Change (RI-ENAMMC), including the following interim reports, the National Inventory Report (RIN), Implementation Report of the Nationally Determined Contribution (RI-AAMMC) and Adaptation Communication (AC) (Figure below).

The QNTFM has the following systems: Measuring and Reporting System, Verification System and the Academy's Technical Support. In turn, the Measurement and Reporting System is sub-divided into two, one to Measure and Report GHG emissions and removals in the energy sectors including transport, IPPU, AFOLU and Waste - GHG Inventory and the second to Monitor and Report (track) adaptation and risk reduction, mitigation and low carbon development actions and the support received and required contained in the ENAMMC, NAP, NDC and LTS (the latter in formulation).

ON	INDICATOR	UNIT	RESPONSIBLE INSTITUTION	CALCULATION METHODOLOGY	INDICATOR VALUE IN THE BASE YEAR (2020)	TARGET 2025	COMMENTS
1	Allocated financial resources	Million USD	MTA	Specific	0	USD 7,586 thousand million	This is the sum of all resources allocated to NDC actions
2	Avoided GHG emissions	MtCO <sub>2</sub> eq	MTA	Soma das emissões de GEE evitadas pela implementação de acções de mitigação	0	40	This indicator is the total cumulative reduction of GHG emissions
3	Share of renewable energy in total energy consumption (SDG7)	%	MIREME	Specific	To be defined	To be defined	This indicator is not related to a single action, it is the result of combined actions and MIREME should develop specific method to calculate this indicator
5	Burnt areas	ha/year	MADER & MTA	Specific	14,810,076	40% reduction in the prevalence of uncontrolled fires	The purpose of this indicator is to monitor the reduction in the area burnt per year

6	Restored area of mangroves	ha	MIMAIP	Specific	1,110	5,000	
7	Losses due to climatic disasters by number of people in affected areas	Million USD per capita	MTA, INGC & INAM	Specific	To be defined	To be defined	This indicator is the result of combined actions by INAM, INGC, MADER and MOPHRH and can only be calculated by the MTA. The consistent methodology should be created with a description sheet

One of the major challenges for the operationalisation of the QNTFM and the MRV System will be the strengthening of technical-institutional capacities of the different entities at various levels. In the first phase, technicians from the central and provincial levels will be trained on: use of the 2006 IPCC Guidelines for National GHG Inventories; tracking of NDC adaptation and mitigation actions and support received and required.

Considering the need for continuous capacity building of technicians and to cover the provincial level including institutional capacity building, the country is formulating the project proposal under the Capacity Building Initiative for Transparency (CBIT) to be submitted later this year.

(b) Assumptions and methodological approaches used to account for the implementation of policies and measures or strategies in the nationally determined contribution;

See 5 (a) above. Mozambique will also apply specific principles and methodologies, where relevant, in accounting for various policies and measures in its Updated Biennial Report, Biennial Transparency Report or National Communication.

(c) If applicable, information on how the Party will take into account existing methods and guidance under the Convention to account for anthropogenic emissions and removals, in accordance with Article 4, paragraph 14<sup>9</sup>, of the Paris Agreement, as appropriate;

As part of the PBURM formulation, the country prepared its third national greenhouse gas inventory covering the period 2000 to 2016. This was prepared following the 2006 IPCC Guidelines for National Greenhouse Gas Inventories (IPCC 2006), Good Practice Guidelines on Land Use and Land Cover Change (IPCC 2003) as well as the respective software.

To estimate the total emissions, the units of the other gases were converted into CO<sub>2</sub>equivalent (Gg CO<sub>2</sub>eq.), corresponding to the global warming potential of carbon dioxide in a period of 100 years.

(d) IPCC methodologies and metrics used to estimate anthropogenic greenhouse gas emissions and removals;

GÁS	SYMBOL	GLOBAL WARMING POTENTIAL (Gg CO <sub>2</sub> eq.)
Carbon dioxide	CO <sub>2</sub>	1
Methane	CH <sub>4</sub>	28
Nitrous oxide	N <sub>2</sub> O	265
Hydrofluorocarbons (HFC-134a)	HFC	1.300
Sulphur hexafluoride	SF <sub>6</sub>	23.500
Octafluoropropane	C <sub>3</sub> F <sub>8</sub>	8.900

Source: IPCC AR5: Chapter 8: Anthropogenic and natural radiative forcing: [https://www.ipcc.ch/site/assets/uploads/2018/02/WGIAR5\\_Chapter08\\_FINAL.pdf](https://www.ipcc.ch/site/assets/uploads/2018/02/WGIAR5_Chapter08_FINAL.pdf)

<p>(e) Sector, category or activity specific assumptions, methodologies and approaches consistent with IPCC guidance, as appropriate, including as applicable:</p>	<p>The process of developing emissions scenarios was done using a combination of tools, including GACMO (Greenhouse gas Abatement Cost MOdel) (Heaps, 2016), the IPCC (2006) software for estimation of greenhouse gas emissions, and e-sheets developed in the African region for assessment of mitigation actions. The original structure of the e-sheets was modified to suit the mitigation actions considered a priority in Mozambique, according to the procedure described above. The tools used allow projecting energy production and use and, in other sectors, industrial production (in IPPU), expansion of agricultural and livestock areas, land use changes (in AFOLU) and waste production (in the Waste sector) based on economic-social growth assumptions. Adaptation has also been done to accommodate the mitigation actions considered.</p>
<p>(i) Approach to address emissions and subsequent removals from natural disturbances on managed lands;</p> <p>(ii) Approach used to account for emissions and removals of harvested wood products;</p> <p>(iii) Approach used to address the effects of age class structure in forests;</p>	<p>Emissions and removals from the Forestry/afforestation component (see item 1b), 5a), 5 b) and 5e and in the specific section on the topic in chapter 1) above) have not been included as part of the mitigation target in this updated NDC 1. The emission reductions included in the updated NDC 1 are estimates with a significant level of uncertainty and will be updated with the BUR results to be available in 2022.</p>
<p>(f) Other assumptions and methodological approaches used to understand the nationally determined contribution and, if applicable, estimate the corresponding emissions and removals, including:</p> <p>(i) How the reference indicators, baseline(s) and/or reference level(s), including, where applicable, sector, category or activity-specific reference levels, are constructed, including, for example, key parameters, assumptions, definitions, methodologies, data sources and models used;</p>	<p>Refer to items 1b), 5a), 5b), 5d) and 5e) above.</p>

<b>(ii)</b> For Parties with nationally determined contributions that contain non-greenhouse gas components, information on assumptions and methodological approaches used in relation to those components, as applicable;	Not applicable.
<b>(iii)</b> For climate forcings included in nationally determined contributions not covered by IPCC guidelines, information on how climate forcings are estimated;	Not applicable. Mozambique NDC Includes only forcings covered by IPCC 2006 Guidelines (see Section 3 b).
<b>(iv)</b> Additional technical information, as necessary;	Not applicable.
<b>(g)</b> The intention to use voluntary cooperation under Article 6 of the Paris Agreement, if applicable.	<p>Mozambique recognises the experience gained from implementing the Clean Development Mechanism and wishes to be supported by market mechanisms with high environmental integrity that contribute to sustainable development and establish strong incentives to harness the strength of the private sector.</p> <p>In the medium and long term it intends to plan and use the carbon market or new market mechanisms.</p> <p>Mozambique supports the use of market mechanisms including pre-2020 mitigation outcomes such as:</p> <ul style="list-style-type: none"> <li>• Certified Emission Reductions (CERs) generated by CDM projects and programmes;</li> <li>• Carbon market efforts, so as to make actions economically viable within the specific contexts of least developed countries, developing countries; and</li> <li>• The further development of accounting rules within the United Nations Framework Convention on Climate Change (UNFCCC) to ensure the environmental integrity of market mechanisms and avoid double counting.</li> </ul>
<b>6. HOW THE PARTY CONSIDERS ITS NATIONALLY DETERMINED CONTRIBUTION TO BE FAIR AND AMBITIOUS IN LIGHT OF ITS NATIONAL CIRCUMSTANCES:</b>	
<p><b>(a)</b> (a) How the Party considers its nationally determined contribution to be fair and ambitious in light of its national circumstances;</p> <p><b>(b)</b> Justice considerations, including reflection on equity;</p> <p><b>(c)</b> How the Party has addressed Article 4, paragraph 3, of the Paris Agreement;</p>	<p>Considering Mozambique's historical emissions, which are insignificant in the global calculation, the effort that the country needs to make to build adaptive capacity and the national challenges of poverty reduction including the most vulnerable, we consider our contribution fair and appropriate in order to pursue the ultimate objective of the Convention. This NDC has been prepared in an environment of uncertainty due to the measures imposed by the emergence of new waves of infections from COVID-19, natural calamities and military instability in some localities in the centre and north of the country. The country recorded negative real growth of 1.2% in 2020, this reflects the negative effects of COVID-19 on economic activity during the second quarter, with the sectors that were most affected being hotel and restaurant services (-35.8%), extractive industries (-25.6%), trade (-5.7%), manufacturing (-5.3%), transport and communications (-4.7%).</p> <p>The spread of COVID-19, combined with the climatic shocks that affected the south of the country at the beginning of 2021 and the military insecurity in some regions of the Centre and North of the country, associated with weak global demand, led to a downward revision of the economic outlook initially outlined for 2021, with the growth rate falling from 2.1% to 1.5%.</p> <p>In this way, reflecting the progress of vaccination and the extension of fiscal support in the major economies, with repercussions associated with the global economy and the maintenance</p>

of monetary policies, a growth of the global economy of around 4.9% is forecast for the year 2022 and that the Mozambican economy will recover slightly, growing at a rate of 2.8% conditioned by the prices of the main commodities on the international market that may boost economic growth in the country. This scenario is based on continuing to respond to Public Health Emergencies as part of the response to the negative impact of COVID 19, with the implementation of the COVID-19 Response Plan through vaccination of 80% of the target population by 2022, providing health assistance to displaced populations and strengthening the Health Emergency Operational Centre.

However, the need to incur expenses to mitigate adverse climatic shocks and the COVID-19 pandemic, makes it necessary for external credit to increase for investment projects. It is estimated by the growing trend of current external resources that these will increase from 39,904.0 million ZMZ in 2022 to 64,805.9 million ZMZ in 2024.

It is recognised that the pursuit of resilient, low-carbon development can be a driver for poverty reduction, reduced inequities for the most vulnerable and post-COVID green economic recovery<sup>19</sup>. Thus, the implementation of the NDC will take into account the most vulnerable groups in communities, promoting climate-proof and inclusive development with increased access to efficient technologies and clean energy, prioritising environmental integrity, human health and the creation of green jobs.

Thus, Mozambique's NDC is fair in that it responds to the country's vulnerability to the impacts of climate change, post-pandemic challenges of COVID19 and puts on the table its contribution as a developing country.

It is also ambitious because it presents a reduction target to be achieved by the years 2020 and 2025, that is, an expected reduction of about 40 million tCO<sub>2</sub> eq by 2025. The emission reductions proposed in the mitigation contribution of Mozambique would represent a mitigation effort of about 1.2 tCO<sub>2</sub> eq per capita by 2025, a very relevant figure when compared to the total GHG emissions per capita in Mozambique which were respectively 0.6 tCO<sub>2</sub> eq in 1990 and about 2 tCO<sub>2</sub> eq today (total emissions with LULUCF). Just for comparison purposes the per capita emissions of developed countries (listed in Annex I of the UNFCCC) in the base year (1990) and in 2019 were respectively 16 tCO<sub>2</sub> eq and 12 tCO<sub>2</sub> eq (total GHG emissions per capita without LULUCF). Overall these values are 6 tCO<sub>2</sub> eq and 7 tCO<sub>2</sub> eq when accounting for total GHG emissions per capita with LULUCF. Figure 03 presented in this updated NDC 1, graphically presents such values presented above to facilitate visual comparison between per capita emissions and emissions reductions and comparison of what would be the approximate per capita emissions scenarios for mitigation pathways to achieve temperature rise of up to 1,5°C e 2°C<sup>10</sup>.

**(d) How the Party addressed Article 4, paragraph 4<sup>11</sup>, of the Paris Agreement (e)** The evolution of Mozambique's emissions is insignificant compared to the global emission and in terms of emissions linked to the electricity sector it has the highest amount of generation from renewable sources until 2015 and continues to be an electricity exporting country. Therefore, in practice its historical and current contribution to global emissions is very small.

**(e) How the Party has addressed Article 4, paragraph 6<sup>12</sup>, of the Paris Agreement** Mozambique reserves the right to apply this paragraph in the future, including to adjust the information contained in item 1b) above.

**7. HOW THE NATIONALLY DETERMINED CONTRIBUTION CONTRIBUTES TO ACHIEVING THE OBJECTIVE OF THE CONVENTION AS SET OUT IN ITS ARTICLE 2**

**(a) How the nationally determined contribution contributes to achieving the objective of the Convention as set out in its Article 2;** Mozambique as a least developed country has no obligation under the Paris Agreement to undertake NDC actions that are not conditional, particularly considering that due to the nature of its development and land management, it has not historically contributed to relevant GHG emissions. Thus, part of Mozambique's contributions in the mitigation area are conditioned to international climate financial, technological and capacity building support to be received from abroad, as well as capacity building.

**(b) The way in which the nationally determined contribution contributes in relation to Article 2, paragraph 1 (a) <sup>13</sup>, and Article 4, paragraph 1<sup>14</sup>, of the Paris Agreement.** Meanwhile, in the spirit of increased ambition and in order to demonstrate Mozambique's commitment to fighting global warming, the country has developed, with the support of the Climate Action Transparency Initiative - ICAT implemented by UNEP-DTU the national framework for strengthened transparency - the MRV System that will help the country measure, report and verify actions and support received and requested. Within this framework, Mozambique expects to prepare and submit, on time, national communications, biennial update reports, biennial transparency reports and update the NDC.

Table 4

**SUMMARY OF MEASURES PRESENTED:  
MITIGATION AND LOW CARBON DEVELOPMENT**

ACÇÃO DE MITIGAÇÃO	MEDIDA	META/LOCAL
Improving access to renewable energy 4.6.2.2.1	Promotion of the use of renewable energy sources - hydro 4.6.2.2.1.1	New capacity of Tsate (50 MW) Moamba Major (15 MW) Luaice 0.5MW Majaua 595Kw Berua 1900Kw
	Technology Action Plan for Regular Hydro Turbine Technology	
	Promotion of the use of renewable energy sources - wind 4.6.2.2.1.2	Namaacha (120MW) Manhiça (120MW)
	Promotion of the use of renewable energy sources - Photovoltaic 4.6.2.2.1.3	Metoro (40MW) Vilanculos (10 MW) Dondo (30 MW) Nacala (30 MW) Boane (30 MW) Cuamba (30 MW) Balama (10 MW) Checua – Maputo (60KW) Alto Changane – Gaza (100Kw) Changanine – Gaza (0.06MW) Zimane – Inhambane (0.06) MW Chiloane – Sofala (0.04 MW) Inhamuchindo - Sofala (0.060 MW) Chissinguana – Sofala (0.01 MW) Chicule – Manica (0/07) Mpego - Manica (40 MW) Garagua Manica (0.04 MW) Fortuna – Tete (20 MW) Mazogo Lualesse (0.04 MW) Chissimbi – Niassa (0.020 MW) Matchedje – Niassa (0.223MW) Ninga - Cabo Delgado (18MW) Ngapa - Cabo Delgado (0,200MW)
	Implementation of the Technological Action Plan for Regular-Scale Photovoltaic Power Plants - TNA	

ACÇÃO DE MITIGAÇÃO	MEDIDA	META/LOCAL
Promoting the expansion of the national grid or the creation of energy distribution micro-grids	Expansion of the urban network, making new connections; promoting 100% coverage in the connection of domestic consumers in suburban areas, in the districts and interconnected to the national grid (SILE).	Urban areas, in districts - nationwide
Development of projects and programmes for micro-energy generation in commercial and residential buildings - Increase energy efficiency 4.6.2.1.2	Installation of 50 000 photovoltaic or wind turbine lighting systems	Mozambique, in areas isolated from the national electricity grid (SIE)
	Installation of 5000 solar PV systems for pumping water for domestic, community or public use in isolated (SIE) or mixed (SILE/SIE) areas, including agricultural irrigation and livestock watering	Areas isolated from the grid (SIE) or mixed (SILE/SIE)
Promotion of the use of efficient household appliances	Powering of 5000 glaciers for domestic use, through photovoltaic technology or with wind turbines, in homes in areas isolated from the national electricity grid (SIE)	Residences in areas isolated from the national electricity grid (SIE).
	Replacement of 2,500,000 incandescent lamps with efficient lamps in all domestic consumers in the country	Residences in all provinces of Maputo
	Productive use of energy - construction of 8 centres for fish conservation	Cabo Delgado
Promotion of low carbon urbanisation 4.6.2.1.4	Construction of 450 MW thermal power plant based on natural gas: Technological Action Plan for Combined Cycle Natural Gas Technology	Inhambane/Temane
	Massification of LPG - Increasing the number of people with access to cooking gas to around 309.02% compared to today	Cabo Delgado/Pemba, Zambézia/Mocuba, Nampula e Tete
	Massification of Natural Gas Use: o Construction of ten (10) Compressed Natural Gas Supply Stations,  • Importation of one hundred and fifty (150) CNG Buses • Import of one thousand (1000) kits and respective conversion Cylinders for Natural Gas. • Conversion of 1000 cars to NG	Maputo, Gaza and Inhambane Province
	Repair of 150 NG buses for public transport	Maputo

ACÇÃO DE MITIGAÇÃO	MEDIDA	META/LOCAL
Increased energy efficiency in travel	Expansion of Metrobus to the country's main capitals	Maputo, Beira e Nampula
Managing and recovering waste 4.6.2.4.1	Promotion of sustainable waste management in Mozambique (NAMA Waste)	Whole country
	Implementation of the Technological Action Plan and Project Ideas for Solid Urban Waste Management and Treatment	
Enhance and expand conservation agro-livestock farming techniques	Application and expansion of agricultural production techniques of a conservationist and soil protection nature, such as the use of direct planting.	Whole country
Increased efficiency in the production and use of biomass fuels	Application and dissemination of production techniques and improved use of firewood and charcoal sustainability.	Whole country
Reducing GHG emissions from Industry	Installation of solid waste recycling industries under PRONAL	Not identified
	Creation of Industrial Research and Development Centers	Not identified
	Encouraging investors to evaluate GHG emissions in investment projects	Not identified
	Promotion of projects and programs of microgeneration of energy in the industrial sector	Not identified



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## FOOTNOTES

**1** The expected average annual exchange rates for the year 2022 is 66 MZM/USD (Source: PSOE, 2021, the costs presented for external credit demand go beyond the calculated and prepared investment needs to operationalise the actions, measures and policies proposed in this updated NDC 1.

**2** Source: <https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?locations=MZ>

**3** Such values are 0.5 and 0.7 tCO<sub>2</sub> eq for the same periods (1990 and present) when total per capita emissions without LULUCF are accounted for. The current data refers to PBURM data.

**4** This information will be updated after the final approval of the PESOs 2022 and onwards and will be presented in future national communications under the FNCC and updated in the biennial reports.

**5** "Least developed countries and small island developing states can prepare and communicate strategies, plans and actions for low greenhouse gas emissions development, reflecting their special circumstances."

**6** INE - Population Census, 2017.

**7** Carbon Counts Company (UK) Ltd. October 2021

**8** "(c) Parties shall endeavour to include all categories of anthropogenic emissions or removals in their nationally determined contributions and, once a source, sink or activity is included, continue to include it;

(d) Parties shall provide an explanation of why any categories of anthropogenic emissions or removals are excluded;"

**9** "14. In the context of their nationally determined contributions, when recognizing and implementing mitigation actions with respect to anthropogenic emissions and removals, Parties shall take into account, as appropriate, existing methods and guidance under the Convention in light of the provisions of paragraph 13 of this Article."

**10** The bases used to calculate the per capita emissions figures for mitigation pathways to achieve temperature rises of up to 1.5°C and 2°C were derived from the UNFCCC secretariat technical paper FCCC/PA/CMA/2021/8 supported by global population growth projections published by the Worldometer platform.

**11** "4. developed country Parties should continue to take the lead by taking on absolute economy-wide emission reduction targets. Developing country Parties should continue to step up their mitigation efforts and are encouraged to move over time towards economy-wide emission reduction or limitation targets in light of different national circumstances."

**12** "6. Least developed countries and small island developing States may prepare and communicate strategies, plans and actions for low greenhouse gas emissions development, reflecting their special circumstances."

**13** "This Agreement, by enhancing the implementation of the Convention, including its objective, aims to strengthen the global response to the threat of climate change, in the context of sustainable development and efforts to eradicate poverty, including (a) Maintaining the increase in the global average temperature well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change;"

**14** "1. In order to achieve the long-term temperature goal set out in Article 2, the Parties aim to achieve the global peak in greenhouse gas emissions as soon as possible, recognizing that the peak will take longer for developing country Parties and to make rapid reductions thereafter in accordance with the best available science, so as to achieve a balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases in the second half of this century, on the basis of equity and in the context of sustainable development and poverty eradication efforts."