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

MOZAMBIQUE

Period: 2020-2025

REPUBLIC OF MOZAMBIQUE | MINISTRY OF LAND AND ENVIRONMENT

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of Climate Change of the Ministry of Land and Environment of Mozambique This document is made available by the National Directorate

TRANSLATION AND EDITION

Caos Lda. and CEAGRE

FINANCIAMENTO

Climate Promise

REFERENCE

Climate Change Directorate. Ministry of Land and the Environment **Contribution of Mozambique** Government of Mozambique. Updated First National Determined

DATASHEET

105 pp.

GRAPHIC DESIGN AND PAGINATION

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SUBMITTED

on November the 1st 2021

PHOTOGRAPHIC CREDITS



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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 CH4 Methane CN National Communication

ABBREVIATIONS AND ACRONYMS

COV National Communication CO2 Carbon dioxide CO2eq 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

INE National Institute of Statistics

and Navigation **GEE** Greenhouse Gases **ENH** National Hydrocarbon Company and Mitigation Strategy **ENAMMC** National Climate Change Adaptation iNDC intended Nationally Determined Contribution **INAHINA** National Institute of Hydrography **IIAM** Institute of Agricultural Research of Mozambique **ICAT** Transparency Initiative for Climate Action HCB Hidroeléctrica de Cahora Bassa, SA **GIIMC** Inter-Institutional Group for Climate Change **Gg** Gigagram **FUNAE** National Energy Fund **FUNAB** National Environment Fund FREL Forest Reference Level FOLU Forest and Other Land Use **FNDS** National Sustainable Development Fund FAO United Nations Food and Agriculture Organization **ETF** Enhanced Transparency Framework **EDM** Mozambique Electricity **INATTER** National Institute of Land Transport **INAM** National Institute of Meteorology **IGEE** Greenhouse Gas Inventory EBAC Low Carbon Development Strategy

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MGC Matola Gas Company **MEF** Ministry of Economy and Finance **kTOE** Thousand tons of oil equivalent **MW** Mega Watts MTC Ministry of Transport and Communication and Water Resources **MOPHRH** Ministry of Public Works, Housing **MIT** Mitigation Scenario **MICOA** Ministry for Coordination of Environmental MADER Ministry of Agriculture and Rural Development M&A National Monitoring and Evaluation System LA Level Assessment (equivalent to thousands of tons of oil) MtCO₂ Millions of tons of carbon dioxide **MTA** Ministry of Land and Environment MRV Measurement, Reporting and Verification **MISAU** Ministry of Health **MIREME** Ministry of Mineral Resources and Energy Action **LEAP** Long-range Energy Alternatives Planning System LDC Least Developed Countries **INP** National Petroleum Institute **INGD** National Institute of Disaster Management **IPPU** Industrial Processes and Product Use **IPCC** Intergovernmental Panel on Climate Change

SEN National Statistical System **RIN** National Inventory Report to Climate Change of the National Strategy for Mitigation and Adaptation of the Determined National Contribution and forest Degradation **NDC** Nationally Determined Contribution NAMA Nationally Appropriate Mitigation Action on Climate Change **UEM** Eduardo Mondlane University TA Trend Assessment **RI-ENAMMC** Report on the Implementation **RI-AAMMC** Report on the Implementation **REF** Reference scenario **REDD**+ Reducing Emissions from Deforestation **QNFTM** National Strengthened Transparency Framework PQG Government's Five-Year Plan **PODA** Agrarian Development Plan **POCA** Agricultural Marketing Plan **PETROMOC** Mozambique National Petroleum Company **PBUR** Mozambique's First Biennial Update Report **ODS** Sustainable Development Goal N20 Nitrous oxide **UNFCCC** United Nations Framework Convention **UNEP** United Nations Environment Programme

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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

matic 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 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 ZZM in 2022 to 64,805.9 million ZZM in 2024¹.

> 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 meticais.

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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.



Annual Deficit

Accumulated (since 2016)

-Annual Need

—Annual Cost

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 billion².

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.

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

> 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 tCO2eq 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 (*qfforestation*) 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 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.

6 tCO2eq and 7 tCO2 eq when accounting for total GHG routes to achieve temperature rise of up to 1.5°C and 2°C. approximate per capita emissions scenarios for mitigation ductions per capita and comparison of what would be the emissions per capita with LULUCF. Figure 03 below, graph sions per capita without LULUCF). Globally these values are respectively 16 tCO2eq and 12 tCO2eq (total GHG emisthe UNFCCC) in the base year (1990) and in 2019 were emissions of developed countries (listed in Annex I of LULUCF). Just for comparison purposes the per capita in 1990 and about 2 tCO2eq today (total emissions with emissions per capita which were respectively 0.6 tCO2eq evant figure when compared to Mozambique's total GHC effort of about 1.2 tCO2 eq per capita by 2025, a very rel visual comparison between emissions and emissions reically presents such values presented above to facilitate mitigation contribution would represent a mitigation The emission reductions proposed in Mozambique's



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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



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 20224. 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.

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TO ADAPTATION CONTRIBUTION

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

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

Figure 4

OF MOZAMBIQUE VULNERABILITY

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

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



Source: data from DeSinventar and reports from INGD

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

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

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

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

Source: reports on the rainy seasons from INGD

	20	20	×	20	Se	FRC
)19-20	018-19	017-18)16-17	eason)M 2016
Total	Heavy rains, strong winds, lightning and floods	Drought, rain and strong winds, sometimes accompanied by lightning, and Desmond, Idai and Kenneth Kenneth	Heavy rains and winds, strong winds, rains with lightning and gales	I	Event	TO 2020 AT HUN
4,257,819	195,449	2,855,417	152,246	1,054,707	Affected People	MAN LEVEL
862,718	40,892	574,361	31,146	216,319	Affected Families	
2,370	68	1,872	ন	379	Injured	
905	57	714	ठ	73	Deaths	
263,099	11,864	153,274	14,461	83,500	Destro Hous Partially	
203,797	6,221	146,482	7,313	43,781	oyed ses Totally	
173,111	44 <u>,</u> 809	30,125	660'6	89,078	Flooded Houses	
1,303	68	1,144	4	26	Worship Locations	
272	ω	138	18	108	Health Units	
2,750	I	1,801	463	486	Dest Class ^{Partially}	
5,723	1	3,109	201	2,413	royed rooms Totally	
1,434	1	69	42	693	Affected Schools	
639,999	1	445,404	10,088	184,507	Affected Students	

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Table 1

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

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.

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,

 Reduction of areas available for agriculture in green or low-lying areas; saline water intrusion and desertification;

 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.



Image: Instance Notice (A VII A		
energy energy energy energy energy energy end prove and prove a		
and levends (4 Ad.3) Expansion of the existing did and ingrovement of power quality to ratike grantian entryrise and incover giv instantian in the ix agricultural development our rise	Increasing the resilience of agriculture	Availability of appropriate technologies and inputs to climate change 4.6.1.3.1.2
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Image: Interconduction and conservation in playment in or due Viction Pain for Swel Production and Conservation and Promotion of Low Cost Casin and Swel Storage Systems contained Image: Interconduction Pain Conservation of Induction and Conservation and Promotion of Low Cost Casin and Swel Storage Systems contained Systems Image: Interconduction Pain Conservation of Induction of Low Cost Pain and Pain Pain Cost Pain Cost Pain Cost Pain Pain Pain Pain Pain Pain Pain Pain		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
Imprecisive presention of nangeness and Implementation of protective measures for seaved and seagens, cords and other breeling and leading areas for fish 46.13.22 Development of indeviews 46.3.3.1 Regeneration of adaptation into the planning and badgeting process in Italexie - ave Promotion of conservation significations (in the planning and badgeting process in Italexie - ave Promotion of the conservation significations (in the planning and badgeting process in Italexie - ave provide a final sector of the transmitter of the integrated agreforestip systems to recear process in gradead by ability cultivation 46.23.12. Implementation of the Conservation Systems Values Promotion of transmitter of the use of integrated agreforestip systems to recear processing systems 46.23.12 Importing of our our out-off-delering gradead and for gradead by ability cultivation 45.23.12. Implementation of the Conservation Systems 46.23.12 Importing of receasible energy use for religation views for energy production improved low emission free production systems 46.23.12 Importing of receasible energy use for religation views for energy production improved low emission free production systems 46.23.12 Importing of receasible energy use for religation views religation views of production systems 46.23.13 Importing of receasible energy use for religation views religation views religation views religation views of production systems 46.23.13 Importing of receasible energy use for religation views religatin views relinore views views views views views views views views		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.
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Update of the First NDC Construction of agro-hydraulic infrastructure on major surface watercourses 4.6.1.2.6	MOZAMBIQUE 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
Reducing people's vulnerability	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
to climate change disease vectors 4.6.1.5.1	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.
	BIODIVERSITY
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)
	FORESTS
Reducing the rate of deforestation	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
burning 4.6.2.3.2	Rehabilitation of degraded ecosystems and grasslands through landscape rehabilitation (REDD+, MozFIP) - new

SOCIAL SECURITY
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
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
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
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Update of the First NDC	MOZAMBIC
	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

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Update
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Table 3 INFORMATION TO FACILITATE CLARITY, TRANSPARENCY AND UNDERSTANDING (ICTU)

in contribution of this updated type is the removals and emissions from the commercial-score tree pre- emissions and any emission reductions achieved by the activities of this component will be accounte by this paragraph in the future, including to adjust the information contained in item 1b) above.
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Update of the First NDC -

(a) General description of the target;		b) Whether it is a one-year target or a multi- year target, as appropriate.	(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);		f) Information on the circumstances in which the Party may update the benchmarksa)						used to quantify the benchmarks;	e) Information on the data sources
The emission reduction target preser by about 40 MtCO2eq between 2020 from international climate finance, tl to be around USD 7.586 billion (from		Cumulative targets considering annua actions and the emissions of the BAU	The reference period for operationali		The BAU scenario values may be adju as well as different national circumst	As fontes para os dados acima são: PSOE	Crescimento de PIB.	PIB Nominal (milhões de meticais)	Annual population growth	Population	Year of the last GHG inventory	DATA
nted by Mozambique is divided into cumulative annual efforts between the years 2020 and 2025, whereby the country commits to reduce its emissions and 2025. The country expects to reduce these emissions in comparison to the BAU of the specific actions and, should Mozambique benefit he total investment required to generate these reductions and the other actions foreseen in this updated NDC 1 is estimated 2020 to 2025).	3. SCOPE AND COVERAGE:	al reductions but accounted for a single year in 2025. As indicated in 2a) above, they imply comparisons between the emissions of the proposed mitigation scenarios of the specific actions.	ization is from 2020 to 2025, so the mitigation results should be achieved by the year 2025.	2. DEADLINES AND / OR PERIODS OF APPLICATION:	sted in the future, considering possible improvements in GHG emissions calculations covering sectors and gases, and evolutions in inventory techniques, ances and methods of defining baselines for actions included as part of the NDC.	2022 e o documento "CAEP Support: Mozambique's Long-term low greenhouse gas emissions development strategy (LT-LEDS) INTERIM REPORT" ⁷	Taxa de Crescimento Real del.5% (2021) e 2,8% (para 2022) com taxa de inflação média anual de 5,5%.	2020: 974,649; 2021: 1,037,665; 2022: 1,124,306	2.8% for the 2 periods (2020-2025).	27.9 million inhabitants ⁶ 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.	2016	VALUE

titute for Cooperation 3 the roadmap silient development ich it intended to support ligning them	AFollowing the ratification of the Paris Agreement by Parliament in 2017, the then Ministry of Land, Environment and Rural Development submitted to Camões Institu and Language of Portugal the project "Roadmap for the Implementation of Mozambique's Nationally Determined Contribution - NDCMoz "with the aim of designing th 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 resilit 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 the Government to prioritize the operationalization of Mozambique's NDC targets in the sectors of: agriculture, energy, water, transport and early warning system, align	(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:
	4. PLANNING PROCESSES:	
	Mozambique has not yet conducted mitigation co-benefit assessments for economic diversification plans.	(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.
	The sectors covered are those that cover the mitigation actions listed in item 1.b.	(c) How the Party has taken into account paragraph 31 (c) and (d) ⁸ of decision 1 / CP.21; (indicating how the Party is striving to include all sources and sinks and why all categories were excluded)
	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. Gases: CO2, CH ₄ , N2O	(b)) Sectors, gases, categories and sinks covered by the nationally determined contribution, including, as applicable, consistency with Intergovernmental Panel on Climate Change (IPCC) guidelines;
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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. 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, 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 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, with government policies and priorities.

These do Mozambi On the ol It is in th its NDC t impleme support; NDC acti of referei Other ini of the Str	ccuments 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 sique NDC Operationalization Plan 2020 - 2025 lacked relevant information for the process of measuring/monitoring, reporting and verifying both the actions and the support. ther 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. This context that Mozambique has submitted in the two calls made by the NDC Partnership - Climate Action Enhancement Package (CAEP 1 and II), requests for assistance to adjust 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 entation is conditioned to international climate support and those that are not conditioned; formulate project ideas for priority actions conditioned to international climate (formulate Mozambique's Long Term Low Carbon Development Strategy 2020 - 2050; update energy sector statistics; integrate NDC budget and budgeting processes; detail ions; formulate National Adaptation Plan for the Health Sector; develop Local Adaptation Plans; strengthen gender sensitivity in Mozambique's NDC actions; and, design terms ince for developing emissions factors for the energy and waste sectors.
Domestic institutional arrangements, Since the blic participation and engagement with including :al communities and indigenous peoples climate c a gender sensitive manner; promotin 2. To proport other ins 3. Dissem 3. Dissem 4. To coort Environm Consider Inter-Inst climate r education The mem • Represe • To tech • To tech	e approval of the EXAMMC, the Government has been strengthening the institutional framework in order to improve the coordination and implementation of climate change actions g 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 change, relevant to the implementation of the NUC: more and coordinate the implementation of the commitment staregies and plans conducive to reducing vulnerability, building resilience and adaptive capacity to climate change, as well as reg low carbon development and mitigation of greenhouse gas emissions in the context of sustainable development; mote and coordinate the implementation of the commitment sasumed in the scope of the UNFCCC and Agreements, with emphasis on the Nationally Determined Contribution and struments that the country ratifies in the context of climate change; minate climate change issues with an emphasis on financial, technological and capacity building opportunities or overse and evaluate climate change adaptation and mitigation actions including support received and report on the status of implementation of the Cross curting nature of climate change and the need for the involvement of state and neoptrate received and report on the status of inplementation and signed Agreements; ring becarst on climate Change vase stabilisted, composed of representatives from the public and private sectors in both the formulation and regular indiang of the NUC. the rituitorial Group on Climate Change vase stabilisted, composed of representatives from the public and private sectors in both the formulation and regular indiang advantion and scalar indiang advantion and ste relation and mitigation and low carbon development actions including trons curting actions (capacity building, technology development and transfer, financing, avareness raising on the implementation of climate change actions in the sectors/areas they represent including change actions an

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• Update of the First NDC

	It is important to m	nention that for the elaborat g their vulnerability and ide	on of Local Adaptation Plans, multi-sectoral teams have been created at provincial and district level that support local communities in the tifving and prioritising adaptation measures including the identification of potential local development partners.
	On the other hand, among others, shar dissemination and and the second Coi	the Ministry of Land and E e information, experiences. discussion of issues relevan ference will take place in 20	vironment has established the holding of a National Climate Change Conference every two years as a forum open to public participation to, nd good practices in the area of climate change; promote education and public awareness on issues related to climate change; and, promote the to climate change. The First National Conference took place this year with the participation of actors from central, provincial and district levels 23, the year in which the country will be preparing its First Biennial Transparency Report.
i) Contextual issues, including,	The Republic of Mo	ozambique is a country loca	ed in the southern hemisphere, on the southeast coast of the African continent. It has an area of 801,590 km²2 of land and about 13,000 km²
nter alia, as appropriate:	of internal waters.	The eastern part of the cou	try is bathed by the Indian Ocean and has a coastline of approximately 2,700 km². Administratively, the country is divided into 11 Provinces.
	The provinces are	currently divided into 154 d	stricts which, in turn, are subdivided into 419 local administrative districts called Postos Administrativos. In addition to these subdivisions,
) National circumstances, such as	there are 53 munic	ipal autarquias, located in t	re main cities and towns throughout the country. Along the coast there are numerous islands, such as the archipelago of Quirimbas in the
eography, climate, economy, sustainable	province of Cabo D	elgado, the Island of Mozar	bique and the islands Goa and Sena in the province of Nampula, the archipelago of Bazaruto in Inhambane, the islands of Inhaca, Portuguese
evelopment and poverty eradication;	and Xefina in the p	rovince of Maputo.	
	Data from the Anu	ário Estatístico 2015, estim	tes that Mozambique had about 25.7 million inhabitants, with about 52% being women and 48% men. According to the results of the last
) Best practices and experience related	population census	conducted by the National	nstitute of Statistics in 2017 indicate that the Mozambican population was 27.9 million, and the percentage of women and men remained
o the preparation of the nationally	the same. INE pop	ulation projections indicate	that by 2025 Mozambique will have about 34.1 million inhabitants, thus projecting a net population expansion of over 6 million inhabitants.
etermined contribution;	With regard to the	distribution of the populat	on 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 througho	ut the period in the popula	ion aged 15 - 64 years old as well as a growth in the population aged 65 years old and over.
) Other contextual aspirations and	AGE GROUP	2017 2020 2025	
riorities recognised when joining the	0 - 14	45% 46% 43%	
aris Agreement	15 - 64	52% 51% 53%	
	65 +	3% 3% 3%	
	The average life exp	pectancy is 54 years, being 5	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 na	tional territory.	
	Agriculture is the 1	nainstay of the Mozambica	economy, employing more than 80% of the country's economically active population (PEDSA, 2011). Furthermore, it is the sector with
	the highest average	e share in GDP, with more t	an 20% of the total. Manufacturing is the second sector with the highest contribution to GDP (13%), followed by trade and transport and
	communications so	ervices 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 basi	s for creating a competitive	dvantage in various productive sectors. For example, ICF International (2012) and Biggs (2012) have documented that Mozambique has one
	of the world's large	st reserves of natural gas (e	timated at 250 trillion cubic feet) and coal (estimated at 25 billion tons). Other natural resources include forests, grasslands, inland waters,

conjunctural factors. 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 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 national economy is another challenge for more stable, comprehensive and sustainable growth. After several years of growth of around 7%, the national economy experienced 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

(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;	(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, as the Global Stocktake did not occur.	Not applicable.	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 alitude-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 800 mm to 1200 mm. In the centre and south, they are comparatively lower compared to the north and vary from the to 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 is energy needs because it lives in trual 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 the 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 29.6 will be 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 solar resources, followed by hydroelectric sources with 9

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of the Nationally Determined Contribution (RI-AAMMC) and Adaptation Communication (AC) (Figure below). 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

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). 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

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Burnt areas	Share of renewable energy in total energy consumption (SDG7)	Avoided GHG emissions	Allocated financial resources	INDICATOR
ha/year	%	MtCO2eq	Million USD	UNIT
MADER & MTA	MIREME	MTA	MTA	RESPONSIBLE INSTITUTION
Specific	Specific	Soma das emissões de GEE evitadas pela implementação de acções de mitigação	Specific	CALCULATION METHODOLOGY
14,810,076	To be defined	0	0	INDICATOR VALUE IN THE BASE YEAR (2020)
40% reduction in the prevalence of uncontrolled fires	To be defined	8	USD 7,586 thousand million	TARGET 2025
The purpose of this indicator is to monitor the reduction in the area burnt per year	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	This indicator is the total cumulative reduction of GHG emissions	This is the sum of all resources allocated to NDC actions	COMMENTS

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	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 n In the first p actions and Considering under the C	najor challenges for the o hase, technicians from ti support received and req the need for continuous pacity Building Initiatiw	perationalisation ne central and pro uired. capacity building e for Transparenc	of the QNTFM and ovincial levels will 1 g of technicians and g (CBIT) to be subm	I the MRV System will b oe trained on: use of the I to cover the provincia itted later this year.	e the strengthening of tec 2006 IPCC Guidelines fo l level including institutio	hnical-institutional cap r National GHG Inventor nal capacity building, th	acities of the different entities at various levels. ies; tracking of NDC adaptation and mitigation 2 country is formulating the project proposal
(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) abo Transparenc	ve. Mozambique will alsc y Report or National Co	o apply specific p mmunication.	rinciples and meth	odologies, where releva	ınt, in accounting for vari	ous policies and measu	es in its Updated Biennial Report, Biennial
(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 ⁹ , of the Paris Agreement, as appropriate;	As part of th for National To estimate of 100 years.	e PBURM formulation, tl Greenhouse Gas Invento the total emissions, the u	he country prepa ries (IPCC 2006), nits of the other.	red its third nation Good Practice Gui gases were convert	al greenhouse gas inver delines on Land Use an ed into CO2equivalent (itory covering the period 2 d Land Cover Change (IPC Gg CO2eq.), correspondin	0000 to 2016. This was p C 2003) as well as the re: g to the global warming	repared following the 2006 IPCC Guidelines spective software. potential of carbon dioxide in a period
(d) IPCC methodologies and metrics used	GÁS		SYMBO		GLOBAL WARMIN	G POTENTIAL (Gg CO2ee	-	
to estimate anthropogenic greenhouse	Carbon diox	ide	C02		1			
gas emissions and removals;	Methane		CH4		28			
u u	Nitrous oxid	le	N20		265			
	Hydrofluoro	carbons (HFC-134a)	HFC		1.300			
	Sulphur hex	afluoride	SF ₆		23.500			

Source: IPCC AR5: Chapter 8: Anthropogenic and natural radiative forcing: https://www.ipcc.ch/site/assets/uploads/2018/02/WG1AR5_Chapter08_FINAL.pdf

8.900

Octafluoropropane

C₃F₈

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e) Sector, category or activity specific ssumptions, methodologies and pproaches consistent with IPCC guidance, s appropriate, including as applicable:	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.
 Approach to address emissions nd subsequent removals from natural listurbances on managed lands; Approach used to account for emissions nd removals of harvested wood products; Approach used to address the effects of ge class structure in forests; 	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 I. The emission reductions included in the updated NDC I are estimates with a significant level of uncertainty and will be updated with the BUR results to be available in 2022.
 f) Other assumptions and methodological pproaches used to understand the ationally determined contribution and, f applicable, estimate the corresponding missions and removals, including; h) How the reference indicators, baseline(s) nd/or reference level(s), including, where pplicable, sector, category or activity- pecific reference levels, are constructed, ncluding, for example, key parameters, ssumptions, definitions, methodologies, lata sources and models used; 	Refer to items Ib), Sa), Sb), Sd) and Se) above.

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(ii) For Parties with nationally	Not applicable.
determined contributions that contain non-greenhouse gas components,	
information on assumptions a nd methodological approaches used in relation to those components, as applicable;	
(iii) 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).
(iv) Additional technical information, as necessary;	Not applicable.
(g) The intention to use voluntary cooperation under Article 6 of the Paris Agreement, if applicable.	 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. In the medium and long term it intends to plan and use the carbon market or new market mechanisms. Mozambique supports the use of market mechanisms including pre-2020 mitigation outcomes such as: Certified Emission Reductions (CERs) generated by CDM projects and programmes; Carbon market efforts, so as to make actions economically viable within the specific contexts of least developed countries, developing countries; and 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.
6. HOW THE	PARTY CONSIDERS ITS NATIONALLY DETERMINED CONTRIBUTION TO BE FAIR AND AMBITIOUS IN LIGHT OF ITS NATIONAL CIRCUMSTANCES:
(a) (a) How the Party considers its nationally determined contribution to be fair and ambitions in light	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
to be fair and ambitious in light of its national circumstances; (b) Justice considerations, including	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%).
reflection on equity; (c) How the Party has addressed Article 4,	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%.

paragraph 3, of the Paris Agreement;

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

	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 commonities on the international market that may boost economic growth in the country. Linis 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 ZZM in 2022 to 64,805.9 million ZZM 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 recovery19. 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 2eq by 2025. The emission reductions proposed in the mitigation contribution of Mozambique would represent a mitigation effort of about 1.2 tCO ₂ 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 2eq in 1990 and about 2 tCO2 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 2eq and 12 tCO2 eq (total GHG emissions per capita without LULUCF). Overall these values are 6 tCO 2eq and 7 tCO2 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 ¹⁰ .
(d) How the Party addressed Article 4, paragraph 4 ¹¹ , 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 ¹² , 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 I	ATIONALLY 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	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.
Article 2; (b) The way in which the nationally	well as capacity building. 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
determined contribution contributes in relation to Article 2, paragraph 1 (a) ¹³ ,	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.
and Article 4, paragraph 1** , of the Paris Agreement.	Within this framework, Mozambique expects to prepare and submit, on time, national communications, biennial update reports, biennial transparency reports and update the NJC.

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				Improving access to renewable energy 4.6.2.2.1	ACÇÂO DE MITIGAÇÃO
Implementation of the Technological Action Plan for Regular-Scale Photovoltaic Power Plants - TNA	Promotion of the use of renewable energy sources - Photovoltaic 4.6.2.2.1.3	Promotion of the use of renewable energy sources - wind 4.6.2.2.1.2	Technology Action Plan for Regular Hydro Turbine Technology	Promotion of the use of renewable energy sources - hydro 4.6.2.2.1.1	MEDIDA
	Metoro (40MW) Vilanculos (10 MW) Dondo (30 MW) Nacala (30 MW) Boane (30 MW) Balama (10 MW) Changanie (30 MW) Checua - Maputo (60KW) Alto Changanie - Gaza (100Kw) Chiloane - Sofala (0.06MW) Chiloane - Sofala (0.06MW) Chiloane - Sofala (0.04 MW) Chiloane - Sofala (0.04 MW) Chicule - Manica (0/07) Mpego - Manica (0/07) Mpego - Manica (0.04 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)	Namaacha (120MW) Manhiça (120MW)		New capacity of Tsate (50 MW) Moamba Major (15 MW) Luaice 0.5MW Majaua 595Kw Berua 1900Kw	META/LOCAL

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Promotion of low carbon urbanisation 4.6.2.1.4						nousenour appuances	Promotion of the use of efficient	programmes for micro-energy generation in commercial and residential buildings - Increase energy efficiency 4.6.2.1.2	Development of projects and	Promoting the expansion of the national grid or the creation of energy distribution micro-grids	ACÇÃO DE MITIGAÇÃO
Repair of 150 NG buses for public transport	 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 	Massification of Natural Gas Use: o Construction of ten (10) Compressed Natural Gas Supply Stations,	Massification of LPG - Increasing the number of people with access to cooking gas to around 309.02% compared to today	Construction of 450 MW thermal power plant based on natural gas: Technological Action Plan for Combined Cycle Natural Gas Technology	Productive use of energy - construction of 8 centres for fish conservation	Replacement of 2,500,000 incandescent lamps with efficient lamps in all domestic consumers in the country	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)	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	Installation of 50 000 photovoltaic or wind turbine lighting systems	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).	MEDIDA
Марито		Maputo, Gaza and Inhambane Province	Cabo Delgado/Pemba, Zambézia/Mocuba, Nampula e Tete	Inhambane/Temane	Cabo Delgado	Residences in all provinces of Maputo	Residences in areas isolated from the national electricity grid (SIE).	Areas isolated from the grid (SIE) or mixed (SILE/SIE)	Mozambique, in areas isolated from the national electricity grid (SIE)	Urban areas, in districts - nationwide	META/LOCAL

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			Reducing GHG emissions	Increased efficiency in the production and use of biomass fuels	Enhance and expand conservation agro-livestock farming techniques	0	Managing and recovering waste 4.6.2.4.1	Increased energy efficiency in travel	ACÇÂO DE MITIGAÇÃO
Promotion of projects and programs of microgeneration of energy in the industrial sector	Encouraging investors to evaluate GHG emissions in investment projects	Creation of Industrial Research and Development Centers	Installation of solid waste recycling industries under PRONAL	Application and dissemination of production techniques and improved use of firewood and charcoal sustainability.	Application and expansion of agricultural production techniques of a conservationist and soil protection nature, such as the use of direct planting.	Implementation of the Technological Action Plan and Project Ideas for Solid Urban Waste Management and Treatment	Promotion of sustainable waste management in Mozambique (NAMA Waste)	Expansion of Metrobus to the country's main capitals	MEDIDA
Not identified	Not identified	Not identified	Not identified	Whole country	Whole country		Whole country	Maputo, Beira e Nampula	META/LOCAL

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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.CD21ocations-MZ
3 Such values are 0.5 and 0.7 tCO₂ 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 PESOEs 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.
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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 of anthropogenic emissions or removals

FOOTNOTES

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

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.

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 'I. 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."