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ACRONYMS • ANDEGE: Friends of Nature and Development in Equatorial Guinea • CARPE: Central African Regional Environmental Programme • CC: Climate Change • CH₄: Methane • UNFCCC: United Nations Framework Convention on Climate Change • NDC: Nationally Determined Contributions • INDC: Intended Nationally Determined Contributions • CO: Carbon monoxide • CO₂eq: Carbon dioxide equivalent • CO₂: Carbon dioxide • COMIFAC: Central African Forest Commission • COP: Conference of the Parties to the UNFCCC • COVID-19: Coronavirus 2019 • FAO: Food and Agriculture Organisation of the United Nations • GHG: Greenhouse gases • Gg: Gigagrams • INCOMA: National Institute for Environmental Conservation • INDEFOR-AP: National Institute for Forest Development and Management of Protected Areas • INEGE: National Institute of Statistics of Equatorial Guinea • INGEl: National Greenhouse Gas Inventory • IPCC: Intergovernmental Panel on Climate Change (acronym) • MAGBMA: Ministry of Agriculture, Livestock, Forests and the Environment • NAMA: Nationally Appropriate Mitigation Action (NAMA) • N • N₂O: Nitrous Oxide • SDGs: Sustainable Development Goals • NGO: Non-Governmental Organisation • PANDER: National Action Plan for Renewable

Energy Development • PCNGE: Equatorial Guinea's First National Communication • GDP: Gross Domestic Product • PNAF: National Forestry Action Plan • PNCC: National Climate Change Programme • PNDES: National Economic and Social Development Plan

• PNI-REDD+: National Investment Plan for Reducing Emissions from Degradation and Deforestation, forest management, forest conservation and carbon stocks • UNDP: United Nations Development Programme • PPFVC: Green Climate Fund Country Programme • REDD+: Reducing Emissions from Deforestation and Forest Degradation, forest management, forest conservation and carbon stocks. • TCO₂: Tonnes of Carbon Dioxide • IUCN: International Union for Conservation of Nature • UNGE: National University of Equatorial Guinea • UTCUTS: Land use, land-use change and forestry

SUMMARY In 2015, the Republic of Equatorial Guinea drew up and submitted to the United Nations Framework Convention on Climate Change (UNFCCC) its First Nationally Determined Contribution (NDC). In 2018, it ratified the Paris Agreement, the main objective of which is to keep the rise in global average temperature below 2°C compared with pre-industrial levels and to pursue efforts to limit that temperature rise to 1.5°C. At COP25, which took place in Madrid, it was agreed that States Parties should urgently increase the ambition of their NDCs and sectoral targets. Within this framework, Equatorial Guinea has prepared this update to its NDCs since 2019, although the process was temporarily halted due to the COVID-19 pandemic; it was resumed in 2021 with nine consultancy sessions and validation meetings. The findings of the INGEI, compiled from April 2021 to March 2021, indicated a gradual increase in GHG emissions. Bearing in mind that Equatorial Guinea's in its first NDC was to reduce emissions by 20 per cent by 2030, with the aim of reaching 50 per cent by 2050, using 2010 as the baseline. Equatorial Guinea's ambition in its updated NDC has been raised and now aims to reduce emissions by 35 per cent by 2030, with the target of reaching 50 per cent by 2050, representing a total reduction of 379,291.54 Gg CO₂eq, using 2019 as the baseline (446,215.38 Gg CO₂eq). The next update will take place in 2027. To reduce these emissions, a series of adaptation measures, mitigation measures and cross-cutting measures has been selected, which are aligned with the Sustainable Development (SDGs), as well as the country's regional priority themes and the fight against climate change, the relevant sectors and the departments involved; estimates of the amounts required per action and potential sources of funding.

1.1. INTRODUCTION One of the requirements of the nineteenth Conference of the Parties (CoP-19) to the United Nations Framework Convention on Climate Change (UNFCCC), held in Warsaw (Poland) in 2013, was to invite country Parties to make efforts to begin and step up preparations for the drafting of the so-called Intended Nationally Determined Contributions (NDCs), with the sole aim of reaching a global commitment to minimise greenhouse gas (GHG) to the greatest extent possible, within a legally binding global agreement. COP17, held in Durban (South Africa), proposed the adoption at COP21 in Paris of a , which was the priority issue at COP20, held in Lima (Peru) in December 2014, with the adoption of Decision 1/COP20. A Among the achievements of COP 20 were also: i) the reinforcement of the call and the setting of a deadline for each Party to submit to the secretariat of the UNFCCC its intended nationally determined contributions (known as INDCs, an acronym which were subsequently converted into the first NDC upon the ratification of the Paris Agreement); (ii) an invitation to the Parties to consider including adaptation initiatives or components in their NDCs; (iii) an encouragement for each country to be more ambitious in formulating its national contributions; and (iv) a request to the UNFCCC Secretariat to prepare, by 1 November 2015 at the latest, a synthesis report setting out the aggregate effect of the NDCs submitted by the Parties up to 1 October 2015. To ensure the practical implementation of the above, the majority of countries that are Parties to the Convention are willing to participate in the collective fight against climate change. For this reason, the Republic of Equatorial Guinea, as a Party to the Convention, had to prepare and submit its first Nationally Determined Contribution; this reflected, at that time, the reality of the country and demonstrated the Government's political will to combat the effects of climate change. S ubsequently, during COP 21 and on the basis of the actions and negotiations carried out within the framework of the Lima–Paris Agenda, 195

nations unanimously adopted an to combat climate change and promote measures and investments for a low-carbon, resilient and sustainable future – the so-called Paris Agreement. The objectives of the Agreement are to keep the global average temperature rise below 2°C compared with pre-industrial levels and to continue efforts to limit that temperature rise to 1.5°C. In addition, the Agreement aims to increase the capacity to adapt to the adverse effects of climate change and to promote climate resilience and low-GHG-emission development, as well as to ensure that financial flows are consistent consistent with a pathway leading to such low-emission development.

2 COP21, held in 2015, was a pivotal moment in the negotiations and raised high hopes for the future of Mother Earth, with the adoption of the Paris Agreement on Global Climate Change . Since then, as an indicator of the political support of the parties, an initiative has been launched to implement the NDCs, prioritising their scope, definition, binding nature and transparency. T he Paris Agreement states that all Parties must undertake and communicate ambitious efforts related to their Nationally Determined Contributions (NDCs), which constitute the global response to climate change. Furthermore, it states that the Parties aim to ensure that global GHG emissions peak as soon as possible, taking into account that developing countries will take longer to achieve this, and that, from that point, GHG emissions should be reduced rapidly, in accordance with the best available scientific information, on the basis of equity and within the context of sustainable development and efforts to eradicate poverty. Accordingly, each Party shall increase the ambition of its nationally determined contributions in successive communications to the Convention, at five-year intervals, taking into account their common but differentiated responsibilities and their respective capabilities, in the light of differing national circumstances . On 16 July 2018, the Republic of Equatorial Guinea ratified the Paris Agreement . COP25 took place in Madrid between 2 and 15 December without incident and concluded with the adoption of an agreement containing the following provisions: • Multilateralism and science prevailed at COP25, and the agreement reaffirms that scientific knowledge must be the main guiding principle for decisions regarding climate change and the need for countries and sectors to raise their ambition levels. • The agreement calls for an increase in the ambition of commitments to combat climate change by 2020, in line with the timetable set out in the Paris Agreement, and emphasises the “urgent need” for these new national commitments to bridge the gap between current pledges and the Paris objective of limiting the temperature rise to no more than 1.5 degrees. • It commits to working on and further developing responses to the irreversible damage caused by climate change in the most vulnerable countries within the framework of the Loss and Damage Mechanism • Agrees on a new Gender Plan to address the disproportionate impact of climate change on women and girls • Countries commit to working on the design of market-based mechanisms at the next COP that prevent double counting, serve the ambition of the Paris Agreement and ensure the environmental integrity of the system • Finally, COP25 provides impetus and recognition for the actions of non-governmental actors from all sectors. COPs are no longer merely a forum for setting

3 guidelines. In this regard, the final decision recognises the importance of non-governmental actors in climate action, calls on them to step up their efforts in the fight against climate change, and to roll out climate-friendly strategies. A gainst this backdrop, the Republic of Equatorial Guinea has updated its Nationally Determined Contributions to present its new ambition to the UNFCCC. Through the update of its NDC, Equatorial Guinea reaffirms its commitment to the fight against climate change, which requires, now more than ever, action from all countries. Our world is facing a far-reaching civilisational crisis with various facets: the adverse effects of climate change, which manifest themselves in ecosystem imbalances exacerbated by a model of economic growth that has failed to take into account the limits of the environment and the planetary capacity of the systems that sustain life; a loss of biocultural diversity and the wealth of traditions that characterise our societies, where poverty is a heart-rending manifestation of an exclusionary and predatory growth model; as well as a health crisis which reminds us that the degradation of ecosystems caused by the excessive exploitation of wildlife and health problems are intrinsically linked, and that these can jeopardise the social and economic well-being of our common home. T he Government of the Republic of Equatorial Guinea has adopted the United Nations 2030 Agenda and its 17

Sustainable Development Goals (SDGs), as well as the African Union's Agenda 2063. All of this has been incorporated into the new National Economic and Social Development Plan towards 2035 (PNDES), drawn up in 2019, in which four thematic areas of national priority were established: Block 1 is the Eradication of Poverty, which focuses its analysis on the following specific SDGs: SDG 1, SDG 2, SDG 3, SDG 4, SDG 6, SDG 8 and SDG 17; Block 2 is Social Inclusion and Sustainable Peace, which focuses its analysis on the specific SDGs: SDG 5, SDG 10, SDG 16 and SDG 17; Block 3, which is Productivity and Industrialisation, focuses its analysis on the specific SDGs: SDG 8, SDG 9 and SDG 17; and Block 4, on Environmental Sustainability, which focuses on the specific SDGs: SDG 7, SDG 11, SDG 12, SDG 13, SDG 14, SDG 15 and SDG 17. Following this review of the PNDS 2035, the COVID-19 pandemic struck in 2020, forcing nations to rethink their development models. Against this backdrop, the update of our NDC within the framework of the Paris Agreement lays the foundations for progress towards a responsible and sustainable recovery. The Government of Equatorial Guinea recognises the close link between environmental protection and the well-being of the population as a necessary condition for achieving other aspects of well-being, such as health, food security and employment. During the COVID-19 pandemic, work began on the project to update the NDC and the INGEI (2014–2021), which made no progress in 2020 due to a lack of data collection and institutional arrangements. A

4 As the COVID-19 situation gradually improved, the data required for the update were gradually collected. By their nature, the nationally determined contributions in the Republic of Equatorial Guinea are structured around two main thematic areas: I. Adaptation to climate change, as a vulnerable country; including: a. Integration of climate change and climate variability issues into policies and planning processes at national, regional and local levels; b. Implementation of risk reduction strategies and adaptation measures at pilot sites; c. Strengthening technical capacity to integrate climate risks into the management of coastal zones; and d. Disseminating lessons learnt to key stakeholders II. The reduction of greenhouse gas (GHG) emissions into the atmosphere, taking into account the sectors with the greatest influence on national climate impact: a. Energy sector b. Industrial processes and product use sector c. Agriculture, forestry and land-use change sector d. Waste sector To this end, it is essential to secure both national and international funding in order to address the identified needs. The aim of the Contribution is to establish mechanisms for the long-term reduction of greenhouse gas (GHG) emissions; to chart countries' progress in the fight against climate change for the period 2030–2050, in line with the post-2050 trajectory, with the aim of limiting the rise in global temperature to below 2°C compared with pre-industrial levels. 2. PUBLIC PARTICIPATION PROCESS 2.1. Institutional Arrangements Previously, the idea of developing institutional arrangements had not been raised; in fact, in the INGEI carried out in 2013, very little data was collected at national level; rather, much of the data was gathered from international organisations. Consequently, there is still a lack of sectoral databases, with archives are disorganised, fragmented and produce inconsistent results; there is a lack of accreditation and of sectoral focal points; and there is no regulatory framework and/or strategy for data collection. The current data collection campaign for the 2021 INGEI was carried out in line with the priorities set out in the institutional framework drawn up by the MAGBMA in 2019. To this end, focal points were appointed in departments of the relevant sectors, who attended the training delivered by the

5 MAGBMA on 27 August 2021 regarding the requirements for collecting data and how to store it. All respondents consider that the current data collection framework for the INGEI is not delivering the expected results because coordination is taking place more on paper than in practice, and the various sectoral ministries continue to operate in parallel, highlighting that under the institutional collaboration agreement drawn up by the MAGBMA in 2019, only three ministries (Interior and Local Authorities, Health and Social Welfare and Fisheries and Water Resources) responded positively by appointing their focal points. The current system of institutional arrangements has sufficient human resources, but requires both logistical and financial support to carry out its remit effectively. The National Contribution of the Republic of Equatorial Guinea has been prepared under the supervision of the Ministry of Agriculture, Livestock, Forests and the Environment, through the Directorate-General General

Directorate of the Environment, in collaboration with the Expert Group of the National Climate Change Coordination Unit and with international technical assistance from the UNDP. The data included in the documentation are sourced from national and international databases (FAO and IPCC), using a participatory approach involving key stakeholders.

6 Figure 1 – How the institutional framework works

7 2.2. Involvement of key stakeholders in the CDN update process I n the CDN update process, work has been carried out with various key stakeholders: 1) institutional stakeholders in the collection of activity data for the 2021 INGEI update, 2) sectoral consultants, 3) stakeholders in the validation of the consultants' reports; these included representatives from the public sector, the private sector, civil society and international institutions. The organisations holding activity data are: the Ministry of Industry and Energy, the Ministry of Civil Aviation, the Ministry of Mines and Hydrocarbons, the Ministry of Post, Transport and Telecommunications, the Ministry of Agriculture, Livestock, Forests and the Environment, the Ministry of Public Works, Housing and Urban Planning, and the Ministry of the Interior and Local Authorities. During the nine workshops to validate the consultants' reports, the gender perspective was taken into account in terms of participation. Taking into account the principles of access to information and public participation, a participation and communications strategy was also implemented to inform and raise awareness among the public regarding climate change management in the country and the updating of the NDC through a consultancy project. To facilitate effective public participation, the communication materials were designed based on a segmentation of stakeholders, which enabled a multicultural and gender-sensitive approach as far as possible, and to tailor the messages to the level of knowledge and information needs of the target audiences. During the course of this update, an institutional assessment was carried out with the aim of identifying shortcomings or problems in the existing institutional arrangements and proposing viable and feasible solutions. To this end, the research methodology focused on a review of previous studies and interviews with the heads of organisations responsible for climate change issues at national level, including those in charge of sectoral departments prioritised in the INGEI carried out in 2013 and in accordance with the provisions of Articles 4 and 12 of the UNFCCC, which state: Article 4: All Parties, taking into account their common but differentiated responsibilities and the specific nature of their national and regional development priorities, their objectives and their circumstances, should: (a) Prepare, periodically update, publish and submit to the Conference of the Parties, in accordance with Article 12, national inventories of anthropogenic emissions from sources and removals by sinks of all greenhouse gases not 6- controlled by the Montreal Protocol, using comparable methodologies to be agreed by the Conference of the Parties. Article 12: Each Party shall submit to the Conference of the Parties, through the Secretariat, the following information: (a) A national inventory, to the extent possible, of anthropogenic emissions from sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol, using methodologies

8 comparable measures to be promoted and adopted by the Conference of the Parties; (b) a general description of the measures it has taken or intends to take to implement the Convention; and (c) Any other information which the Party considers relevant to the achievement of the Convention's objective and suitable for inclusion in its communication, including, where feasible, data relevant to the calculation of trends in global emissions. 3. COUNTRY CONTEXT Equatorial Guinea has a total area of 28,051 km² and is divided into two major regions: the mainland (26,000 km²) and the islands (2,017 km²). Notable bays and capes include Luba Bay, Cape San Juan and Annobón (located in the), as well as the islets of Corisco, Elobey Grande, Elobey Chico and Mbañé situated in the northern hemisphere. Key: CR = Continental Region and IR = Insular Region Figure 2. – Map of Equatorial Guinea. The country borders Cameroon to the north, Gabon to the east and south, and the Atlantic Ocean to the west. Equatorial Guinea is rich in arable land and mineral resources ranging from gold, oil and uranium to diamonds and columbite-tantalite. The country also has an Exclusive Economic Zone (maritime area) of 314,000 km², 11 times larger than the land area, with 600 km of coastline. The population of Equatorial Guinea stands at

1,225,377 (INEGE, 2015 Census), and it has a young population structure characterised by a high number of children and a small number of elderly people (Ministry of Planning and Economic Development, 2002). According to the master plan “Equatorial Guinea Horizon 2020” (2007), 76.8 per cent of the population lives below the poverty line, which increases their vulnerability to the ability to respond to the

9 rising temperatures, specifically drought and the increase in rainfall that leads to flooding. The economy relies heavily on the extraction of oil and liquefied natural gas, as well as the export of timber, cocoa and coffee. Equatorial Guinea’s climate is that of a ‘tropical rainforest’, with ‘tropical savannah’ characteristics in its easternmost part. The average annual temperature is around 25°C. Rainfall is abundant and regular, and usually exceeds 1,500–2,000 mm per year. The country’s main resources are agriculture – of a traditional and shifting nature – which flourished during the colonial era (cocoa, coffee, palm oil, coconuts). This form of agriculture has suffered the same decline as forestry, but has never recovered. Only 8 per cent of the country’s land area is devoted to agriculture. There are currently many projects aimed at boosting agriculture, such as model farms (pilot or experimental farms), which contribute to the emission of greenhouse gases (GHGs) into the atmosphere. Any extreme variability will bring about a profound change in agriculture, as it is small-scale. Timber production has declined sharply since independence (1968), and Any extreme variability will bring about a profound change in agriculture, as it is small-scale. Timber production experienced a sharp decline following independence (1968), before rebounding in the 1990s. Equatorial Guinea’s economy has relied on timber in previous decades; it now relies on oil. According to the FAO, the rate of deforestation is rising considerably, from 58.2 km²/year in 1990 to 150 km² per year between 1990 and 2005, driven by agricultural clearing and highly intensive logging. These figures correspond to a deforestation rate of 0.9 per cent (FAO, 2005, in Obiang, 2014). The latest Global Forest Resources Assessment 2010 (FRA) by the FAO estimates that Equatorial Guinea lost 12.6 per cent of its total forest cover between 1990 and 2010, corresponding to an annual deforestation rate of 0.65 per cent. Meanwhile, the GHG inventory study in the forestry sector carried out by Obiang (2014) has estimated a deforestation rate of 0.8%, corresponding to 9.4 Gg of CO₂ emissions, which effectively contribute to the greenhouse effect and consequently to climate variability in the country and globally. Oil production (barrels/year) in Equatorial Guinea began between 1992 and 1994, peaked in 2008, and is currently in decline. The flaring of gas produced at oil refineries increased every time oil production rose, leading to a corresponding increase in GHGs in the atmosphere, which thus contribute to the local and global greenhouse effect. Oil and gas have led to a spectacular and unprecedented increase in GDP, which stood at 83 thousand CFA in 1995 at the start of oil production, rising to 5,130 thousand CFA in 2007 (7.8 thousand euros). More than 90 per cent of the national GDP comes from oil resources. In 1994, GDP per capita stood at 201 dollars per person, whilst in 2008 GDP reached 7,400 dollars per person (CEMAC, 2008). This increase in GDP,

10 It assists the country in the construction of major civil infrastructure projects, which contribute to deforestation and, consequently, to GHG emissions into the atmosphere. With regard to biological diversity (fauna and flora), although no comprehensive studies have been carried out on the fauna of Equatorial Guinea, some studies indicate a great diversity of animal and plant species (Senterre 1999 and 2005). On Bioko, it is estimated that there are around 2,000 plant species, of which more than 40 are endemic. Small-scale ornithological studies also confirm a great diversity of birds. The island of Bioko is also home to some 65 species of mammals, 10 of which are primates, and among these, seven subspecies of monkeys are endemic. The seven subspecies of monkeys are threatened by hunting by the island’s inhabitants for the purpose of consuming animal protein. In the Mainland Region, as on the island of Bioko, there is a great diversity of mammals such as elephants (*Loxodonta africana*), gorillas (*Gorilla gorilla*), chimpanzees (*Pan troglodytes*), mandrills (*Mandrillus sphinx*), leopards (*Panthera pardus*) and numerous species of antelopes, amphibians, reptiles and birds. Hunting of these species is popular and consequently poses a very serious threat. Furthermore, evidence of a significant rise in temperature and changes in precipitation in the study areas suggests that this biodiversity is increasingly at risk of extinction. Among the 55

national legal frameworks analysed, it has been found that all are obsolete with regard to GHGs; that is to say, they do not contain articles or definitions relating to GHG emissions, with the exception of PANDER, PNI-REDD+ and the Civil Aviation Mitigation Plan. Although the other legal frameworks contain general provisions on environmental conservation that may contribute to the reduction of GHG emissions, 45 of them lack implementing regulations.

4. COUNTRY PROFILE IN THE CONTEXT OF CLIMATE CHANGE

4.1. Alignment of the updated NDC with the National Climate Change Policy (PNCC) and with relevant national planning instruments

As part of the update to the NDC, the aim is for projects to be funded to be aligned with the priorities and strategies of the national policies that contribute to climate change mitigation climate change, which aim to guide public and private decisions towards climate-resilient and low-carbon development pathways; at the same time, the aim is for the priorities and strategies focused on meeting national targets under the Paris Agreement, are aligned with the NDCs. A key pillar is the adoption of a territorial vision linked to sectoral initiatives, enabling a comprehensive approach to climate change management, as proposed by the various strategies set out in the Policy, which are listed below:

National Forest Action Programme (PNAF), adopted in 2000.

11 Strategy and Action Plan for Biodiversity Conservation in Equatorial Guinea (ENPADIB), adopted in 2005.

Implementation Programme for the “National Medium-Term Investment Plan for Agriculture and Rural Development” (PNIMP), adopted in 2005. National Programme for Food Security (PNSA), adopted in 2012.

National Adaptation Action Plan (PANA); the country drafted this document in 2013. Mainstreaming Strategy for the Sustainable Management of Soils and Forests (ETGSSB), prepared in 2013. National Action Programme to Combat Deforestation and Land Degradation in Equatorial Guinea (PAN/LCD); the country prepared and adopted this strategy in 2015.

Action Plan of the Republic of Equatorial Guinea for the Mitigation of CO₂ Emissions from International Aviation (PAMEGE), prepared and adopted in 2016. Horizon 2035. National REDD+ Strategy (EN-REDD+), adopted in 2018.

Action Plan for the Development of Renewable Energy in Equatorial Guinea 2018– 2025 (PAER); this plan was adopted in 2018. National REDD+ Investment Plan (PNI-REDD+), adopted in 2019.

Forest Emissions Reference Level, in 2019. Green Climate Fund Country Programme (PPFVC) in 2019. Furthermore, the alignment of all these plans with the National Plan for Economic and Social Development (PNDES), with a horizon of 2035, is considered important.

4.2. The most relevant programmes, plans and strategies for climate change in the Central African region and the country.

At the Central African regional level, there are the Economic Community of Central African States (ECCAS) and the Central African Forest Commission (COMIFAC). The most relevant action plans in the context of climate change are:

a) The Economic Community of Central African States (ECCAS) has a Disaster Risk Reduction Action Plan (DRR AP) 2015–2030, which forms part within its general policy on the environment and natural resource management , specifically under the following pillars: (Pillar 1) Combating land degradation, drought and desertification;

(Priority 4) Conservation and sustainable management of forest resources in Central Africa; and (Priority 5) Combating climate change in Central Africa.

b) Within the Central African Forest Commission (COMIFAC), there is a second Convergence Plan (CP) 2015–2025 towards a green economy. The purpose of this institution is to ensure that all signatory countries to the treaty implement joint actions at national level, guided by the Convergence Plan.

This Plan comprises six (6) thematic areas of intervention and three cross-cutting themes. The fourth area of intervention, ‘combating the effects of climate change and desertification’, sets out a series of expected outcomes for member states, which include: (1) Increased resilience to the effects of climate change, (2) Forest tracking and monitoring systems, (3) Mitigation strategies (REDD+, Climate Plan, NAMA), (4) Control of greenhouse gas emissions resulting from deforestation and

12 degradation relative to a baseline, (5) National action plans to combat desertification, and (6) Increase in reforested areas.

At the level of the Republic of Equatorial Guinea, the obligations under the UNFCCC among the States Parties to ECCAS and COMIFAC have been met through the preparation of the following national reports:

First National Greenhouse Gas Inventory (INGEI) in 2013 First National Communication (PCN) in 2019

First National Adaptation Plan of Action (PANA) in 2013 First Nationally Determined Contribution (NDC) in 2015

4.3. GHG emissions and removals According to the PPFVC (2019), the subsectors relevant to emissions in the country are: 1) Energy generation, 2) forestry and land-use change, 3) agriculture and livestock, 4) transport, 5) Waste, 6) Hydrocarbons, 7) Mining and 8) Energy use in infrastructure. Time series were harmonised as far as possible to produce data series covering the period from 2014 to 2019. The scope of the inventory was national. The sectors inventoried in accordance with the IPCC 2006 methodology were: 1. Energy 2. Industrial processes and product use 3. Agriculture, forestry and land-use change 4. Waste

4.4. GHG emissions in 2021 Gross emissions do not include GHG emissions and removals arising from 'Land use, land-use change and forestry' (LULUCF) are not included; they amounted to a total of 17,037.47 Gg CO₂ eq. (Table 1). CO₂ accounts for the largest share of emissions at 96.47 per cent, whilst CH₄ accounts for 3.07 per cent and N₂O accounts for just 0.46 per cent. Table 1. Gross GHG emissions by sector in Gg CO₂ eq. (Compiled by the author)

Sector	CO ₂	CH ₄	N ₂ O	TOTAL
ENERGY	10,370.19	26.48	30.45	10,427.12
INDUSTRIAL PROCESSES	6,046.99	292.07	NA	6,339.06
AGRICULTURE	NA	76.97	6.54	83.51
WASTE	18.77	127.60	41.41	187.78
NATIONAL TOTAL	16,435.95	523.11	78.40	17,037.47

13 Unlike gross emissions, the calculation of net emissions includes GHG emissions and removals from the 'Land use, land-use change and forestry' sector. In Equatorial Guinea, CO₂ removals resulting from biomass growth in forests exceed the emissions produced in these forests by timber harvesting and other causes. Net CO₂eq removals in Equatorial Guinea totalled -256,831.76 Gg CO₂eq (Table 2)

Sector	CO ₂ Emissions	CO ₂ Absorption	CH ₄	N ₂ O	TOTAL
ENERGY	10,370.19	26.48	30.45		
INDUSTRIAL PROCESSES	6,046.99	292.07	NA		
AGRICULTURE AND LIVESTOCK	NA	76.97	6.54		
FORESTRY AND LAND-USE CHANGES	51,317.40	-325,186.62	NA	NA	
WASTE	18.77	127.60	41.41		
NATIONAL TOTAL	67,753.35	-325,186.62	523.11	78.40	-257,433.27

4.5. Degree of vulnerability, losses and damage Temperature change is becoming increasingly pronounced in both the Insular and Continental Regions, as shown in the figure illustrating trends from 1951 to 2008. Figure 3. – Variation in monthly surface temperature values for the period 1951–2008. The red line represents a 12-point moving average. Source: Ministry of Fisheries and the Environment, 2013. PANA. Figure 12 on page 34. Equatorial Guinea, lacking meteorological stations for the measurement and assessment of climatic factors (agrometeorology, hydrometeorology, wind isobars, etc.), is limited

14 regarding climate change and its effects. Based on forecasts (MPMA, PANA, 2013), it is exposed to greater variability in rainfall (drought in general, heavier downpours and more sunny days), higher temperatures and a rise in sea level (along with more frequent storms and higher waves). The population is noting changes in weather patterns such as more frequent storms, flooding, the drying up of springs and, generally speaking, higher temperatures (MPMA, PANA, 2013). All of this explains its high vulnerability. According to data from the only two weather stations operated by ASEC NA (Agency for Air Navigation Safety in Africa and Madagascar) in Equatorial Guinea, located in Malabo and Bata respectively. In Malabo, all temperature categories (maximum, minimum and average) show statistically significant upward trends, in contrast to the temperature in Bata. This significant increase is particularly noticeable in the minimum temperature. In terms of precipitation, cumulative rainfall shows no statistically significant trends. However, the number of rainy days shows a progressively increasing trend. In Bata, precipitation shows slight upward trends, though not statistically significant, and a downward trend in the number of rainy days (Obiang, 2016). A Mann-Kendall trend test was used to determine whether or not there is a trend in the time-series data. It is a non-parametric test, which means that no underlying assumptions are made regarding the normality of the data. The hypotheses for the test are as follows: H₀ (null hypothesis): There is no trend present in the data. H₁ (alternative hypothesis): there is a trend in the data. (This could be a positive or negative trend) If the p-value of the test is less than a given significance level (common choices are 0.10, 0.05 and 0.01), then there is statistically significant evidence that a trend is present in the time series data. (Obiang, 2016). Figure 4. Comparison chart of trends from the Mann-Kendall statistical test for the

average temperature in Malabo over 26 years (Taken from OBIANG 2016).

15 Figure 5. Mann-Kendall trend plot for the average temperature in Bata (Source: OBIANG 2016) The sectors considered to be most vulnerable to the effects of climate change are: agriculture, fisheries, energy, housing, education, sanitation, drainage (flooding), health and the environment (heat and heavy rainfall) . Although the losses resulting from this damage are very significant, they are currently difficult to quantify in economic terms due to a lack of statistical records. 5. LEVEL OF AMBITION OF THE UPDATED NDC The Republic of Equatorial Guinea is a developing country whose economy depends exclusively on extractive industries and which faces a number of development challenges, such as poverty, education, health and road infrastructure. However, in terms of emissions, the Republic of Equatorial Guinea accounts for less than 0.1 per cent of global emissions, the trend in emissions from certain economic sectors is significant when forest carbon sinks are excluded; in particular, forestry 75.19 per cent, energy 15.26 per cent, industrial processes 9.28 per cent and, finally, waste at 0.27 per cent. In 2019, the Government adopted the third National Plan for Economic and Social Development (PNDES) up to 2035, which aligns perfectly with the Sustainable Development Goals and the ambitions for reducing CO₂ emissions, as it is committed to the diversification of the economy, with a focus on the green economy (tourism, forestry, business, productivity, etc.). Compared with all the years covered by the inventory, an improvement in data collection has been observed in 2018 and 2019, which provides a more accurate picture of current emissions, thanks to data from the industrial sector and the waste sector.

16 Improved data quality is also evident in the forestry sector, thanks to the up-to-date reports from the Ministry of Agriculture, Livestock, Forests and the Environment, in collaboration with the FAO, specifically the latest reports on deforestation and the forest emissions reference level study, which provided country-specific emission factors . From 2014 to 2017, the data were very poor, which is why emissions were low. The graph in Figure 6 shows an upward trend year on year from 2014 to 2019, with the same projections for the future. Figure 6. Upward trend line for emissions 2014–2019 (Author’s own work) Based on the above, Equatorial Guinea’s ambition in this update to its NDC is to reduce emissions by 35 per cent by 2030, with the aim of reaching 50 per cent by 2050. This is conditional upon support being favourable and predictable, and upon climate finance mechanisms being made viable and distortions in existing market mechanisms being corrected (i.e. facilitating access to finance mechanisms) . Favourable technical and financial support is required from both the national government and the international community. Establish national emissions reduction targets for each sector for the period 2022–2030 by 2023 at the latest The proposed sectoral reductions are set out in Table 3.

17 6. SCOPE OF APPLICATION OF THE UPDATED NDC The Government of the Republic of Equatorial Guinea, aware that climate change is a phenomenon of international significance, which constitutes a priority, and within the framework of its development policy, has set out actions based on very clear objectives and guidelines through state structures, local authorities, the private sector and civil society organisations. This approach is based on a series of adaptation and mitigation measures, which are set out below. The next review will take place in 2025

7. ADAPTATION AND MITIGATION ACTIONS, AS WELL AS THE COST ESTIMATES OF THE UPDATED NDC 7.1. For adaptation to climate change Table 4: Adaptation actions and their estimated costs (in millions of US\$) Measures Responsible body Estimated costs 2022–2030 2030–2050 1. Conducting periodic assessments of climate vulnerability at national level, in accordance with international standards MAGBOMA 12.3 14.5 2. Construction of weather stations throughout the country to ensure effective monitoring of climatic factors in each territorial administrative zone MAGBOMA 17.5 13.5 3. Installation of early warning systems for climate-related risks and other natural disasters MAGBOMA 15.2 28.7 4. Regular analysis of the resilience of all infrastructure projects, both completed and ongoing MAGBOMA 11.5 22.3 5. Installation of rain gauges at hydroelectric power stations to monitor changes in precipitation MAGBOMA 16.5 31.2 6. Establishment of mechanisms to achieve integrated management of river basins MPRH 12.7 25.3 7. Promotion of agricultural and livestock production systems with greater resilience to climate change MAGBOMA 13.5 17.3 8. Restoration of

various ecosystems at risk of losing their resilience MAGBOMA 15.3 18.5 Total 114.5 171.3 7.2. For the mitigation of GHG emissions Table 5: Mitigation sectors and their estimated costs (in millions of US\$)

18 Sectors/Actions	Performance indicators	Responsible body	Estimated costs 2022– 2030	2030– 2050
1. Energy sector: SDGs 7, 8, 9, 11 and 13	1.1. Drafting and adoption of an Energy Act and a National Strategy for the Regulation of Renewable Energy and Emissions Reduction	At least 2 pieces of legislation relating to the energy sector enacted	MIE 60,000	40,000
	1.2. Harnessing the hydroelectric potential of the River Wele for the electrification of the entire country's mainland region. A new hydroelectric power station installed on the River Wele with a renewable energy capacity of 205 MW, with a view to reaching 332,114 MW of renewable energy by 2030.		MIE 365,561.00	0 0
	1.3. Refurbishment and upgrading of the hydroelectric power stations at Musola and Riaba for the electrification of the entire island of Bioko. And Bioko, as well as the mainland region. To generate at least 4.3 MW of renewable energy from the hydroelectric power stations for the whole of the island of Bioko. And 3.2 MW for Bata.		MIE 20,000,000	0
	1.4. Commitment to wind, solar and/or tidal energy options for the country's remote islands (Annobón, Corisco and others) Generate at least 5 MW of renewable energy on the island of Annobón by 2030		MIE 10,000,000	0
	1.5. Adopt international standards for vehicle emission limits in vehicle inspections (ITV) and allow the import of vehicles less than 7 years old	A presidential decree enacted	MIE 50,000	0
	1.6. Create a carbon pricing mechanism: Assign a value to the combustion of one tonne of CO ₂ , resulting from the imposition of a tax levied on liquid fuels	A presidential decree issued by MAGBOMA	50,000	0
	1.7. Procurement and development of the use of buses and stations for urban and inter-city public transport to reduce emissions caused by the proliferation of private transport. To procure at least 100 electric buses nationwide	At least 8 battery charging stations and other facilities to be built	MTCT 40,000,000	24,770,578
	1.8. Implement energy efficiency and smart energy solutions across the country	By 2050, 100 per cent of LED lighting will have been installed in all administrative buildings, private company premises and street lighting throughout the country.	MIE 1,000,000	1,000,000
	1.9. Promote virtual meetings to avoid travel and the use of taxis and air travel	At least 500 virtual institutional meetings per year across all sectors	MAGBOMA	0 0
	1.10. Improved governance	At least 3 laws and 3 implementing decrees for MAV & MTCT	100,000	100,000

19 air, land and maritime transport, including the regulations necessary for the effective management of the sub-sector and taking into account the provisions of the MARPOL Convention the laws enacted by 2050, which include measures to reduce GHG emissions .

1.11. Continuation of the modernisation of airport infrastructure, road transport infrastructure and port infrastructure

Production of at least: 1 annual report on the plan to mitigate GHG emissions from civil aviation, 1 annual report on the plan to mitigate GHG emissions from land transport 1 annual report on the plan to mitigate GHG emissions from maritime transport

MAV & MTCT 2,600,000 2,000,000

1.12. Drafting of the Regulations for the Hydrocarbons Act and the Mining Act

2 sets of implementing regulations for the two Acts enacted, which incorporate the reduction of GHG emissions.

MMH 100,000 0

1.13. Promotion of integrated energy management for the hydrocarbons industry - At least one annual environmental sustainability report produced on a voluntary basis based on GHG measurement data from companies in the hydrocarbons sector - At least 1 database on production and exports for the calculation of GHG emissions from the hydrocarbons industry by the relevant environmental authorities to promote the centralisation of environmental information

MMH 500,000 500,000

1.14. Promote the use of natural gas and LPG in the country

At least 50 per cent of rural households will be encouraged to replace firewood with LPG by the year 2030

MMH 150,000 0

1.15 Energy efficiency management and increased processing to reduce the indicator of emissions intensity per unit of output for cement and adhesive mortar

To have the annual report on the production of cement and cementitious adhesives available up to the year 2050. To have the best technology meeting European standards for reducing emissions by the year 2030

MIE 8,000 10,000

1.16. Use of energy from renewable sources in manufacturing industries

By 2050, 100 per cent of industries will use energy from renewable sources

MIE 0 0

1.17. Require importers of refrigerators to import models that are energy-efficient with LED lighting and others that use R-600a as - By 2030 at the latest,

80 per cent of imported refrigerators will be energy-efficient and energy-saving. - At the very least, customs authorities will have access to annual data on quantities by type of refrigerator MIE 50,000 0

20 refrigerant 1.18. Establish sectoral focal points and their corresponding databases to collect information in the electricity sector By 2030, the following sectoral focal points will be in place: • 1 Directorate-General for Energy • 1 SEGESA • 1 Civil Aviation • 1 Road traffic • 1 Maritime transport MIE 100,000 100,000 2. Industrial sector and product use: SDGs 7, 11, 12 and 13 Responsible Indicators 2.1. Sustainable management of domestic refrigerators at the end of their useful life By 2030, there will be 2 treatment facilities for domestic refrigerators at the end of their useful life MIE 100,000 0 2.2. Use of lubricants such as engine oils, and use of solvents in accordance with international regulations - By 2030, the country will have adopted regulations governing the use of engine oils and solvents to prevent environmental degradation and GHG emissions - At the very least, customs authorities will have access to annual data on imports into the country of the types of oils and solvents, as well as their characteristics. MIE 100,000 0 2.3. Draw up regulations on the use of ozone-depleting substances to ensure the implementation of the Montreal Protocol with regard to HFCs - By 2030, the country will have adopted the regulations on the use of products that deplete the ozone layer - At the very least, customs authorities will have access to annual data on imports into the country of the types of products and substances that deplete the ozone layer. MIE & MAGBOMA 100,000 0 2.4. Establish sectoral focal points and their corresponding databases to collect information in the industrial sector By 2030, the following sectoral focal points will be in place: • 1 Directorate-General for Industry • 1 Bata Regional Office MIE 100,000 0 3. Forestry, Agriculture and Land-Use Change: SDGs 1, 2, 3, 5, 6, 8, 11, 12, 13 and 15 Indicators Responsible body 3.1. Development of appropriate legal frameworks, including GHG provisions in the regulations necessary for the effective management of the agricultural and livestock subsector By 2030, the country will have an agricultural law and a livestock law, together with their implementing regulations MAGBOMA 150,000 0 3.2. Review of appropriate legal frameworks including GHG provisions in the relevant regulations By 2030, the country will have a forestry action plan, a forestry act and its implementing regulations MAGBOMA 100,000 0

21 necessary for the effective management of the forestry sub-sector 3.3. Review of the legal framework on protected areas (PAs) and the related strategies and regulations to integrate the reduction of emissions and the increase in removals By 2030, the country will have a law on protected areas, a Biodiversity Conservation Strategy and a PAs strategy, as well as their implementing regulations, MAGBOMA 150,000 0 3.4. Promotion of a policy based on the management and classification of land, through land registers By 2030, the country will have implementing regulations on land-use planning MAGBOMA 100,000 0 3.5. Implementation of the Strategy for Reducing Emissions from Deforestation and Forest Degradation (REDD+) through funding from the PNI-REDD+ programme By 2050, current deforestation and forest degradation will have been reduced by 80 per cent MAGBOMA 4,100,000 2,200,000 3.6. To make Equatorial Guinea a leading country in the field of climate-smart agriculture for tropical areas with the objectives of ensuring food security, diversifying the national economy, limiting methane and nitrous oxide emissions, and promoting carbon sequestration - Reduction of agricultural land area by 50 per cent - By 2030, the country will have increased production by 100 per cent to avoid the need for exports. - By 2030, the country will have at least some processing plants for agricultural products - By 2050, the country will have intensive agroforestry systems - By 2050, the country will be using 50 per cent organic fertilisers to increase productivity - By 2030, a reduction in emissions of approximately 50 per cent is expected MAGBOMA 30,000,000 22,500,000 3.7. Construction of ecologically sustainable cities with new domestic energy systems, laid out with plenty of green spaces and an optimal approach to waste management - By 2050, the country will have 15,600 trees planted across 20 cities nationwide - By 2050, the country will absorb 138,000 tonnes of CO₂eq per year. MAGBOMA 5,000,000 4,838,106 3.8. Strengthening the National System of Protected Areas (SNAP) to promote eco-tourism - Increase the total area of terrestrial protected areas by 101,276 hectares - By 2030, at least two protected areas are expected to change category - By 2050, effective management is expected for at least 50

per cent of the country's total protected areas . MAGBOMA 13,407,648 16,759,560 3.9. Sustainable management of forests through the implementation of management plans for the - By 2050, some 1,307,692 ha of forest will be managed sustainably. - The forest will absorb 17,000,000 t of MAGBOMA 29,500,000 10,000,000

22 forest concessions CO₂eq per year. 3.10. Rehabilitation of cocoa and coffee plantations in agroforestry systems - By 2050, 70 per cent of plantations rehabilitated MAGBOMA 15,000,000 20,000,000 3.11. Monitoring of forestry activities to prevent deforestation and degradation - By 2030, the traceability system established - By 2030, illegal logging reduced by 80% MAGBOMA 1,500,000 500,000 3.12. Draw up sectoral development plans that form part of spatial planning - A Plan for Agroforestry Systems drawn up and implemented - An urban planning scheme for all cities drawn up and implemented - A tourism plan drawn up and implemented - A water resources plan drawn up and implemented - Etc. - All plans are technically and politically validated. MAGBOMA & SECTORS 500 500 3.13. Promote the blue economy and the protection of seas and coastlines, as well as the green economy - By 2030, the concepts of the blue and green economies will be integrated into the relevant legal frameworks - By 2030, at least one operational project in the blue and green economy - By 2050, 50 per cent of the coastline is protected MAGBOMA 5,000,000 5,000,000 3.14. Protection of mangrove ecosystems - By 2050, 1,300 ha will have been restored and 24,700 ha conserved, - By 2050, an annual absorption of 344,500 t of CO₂eq is expected MAGBOMA 5,995,000 4,000,000 3.15. Establish sectoral focal points and their corresponding databases to collect information in the agriculture, forestry and other land-use sectors By 2030, the following sectoral focal points will be in place: • 1 Directorate-General for Agriculture • 1 Directorate-General for Livestock • 1 Directorate-General for the forestry sector • 1 Directorate-General for Planning • 1 INDEFOR • 1 INPAGE • 1 INCOMA MAGBOMA 700 0 4. Waste sector: SDGs 6, 11, 12 and 13 Responsible Indicators 4.1. Drafting and implementation of a waste law and its implementing regulations in Equatorial Guinea, in line with GHG emissions By 2030, the country will have enacted a law and implementing regulations on waste. MICL 100,000 0 4.2. Promotion of the policy By 2050, the country will have 8 plants MICL 5,000,000 3,000,000

23 MAGBOMA: Ministry of Agriculture, Livestock, Forests and the Environment MIE: Ministry of Industry and Energy MPRH: Ministry of Fisheries and Water Resources MTCT: Ministry of Transport, Post and Technology MAC: Ministry of Civil Aviation MMH: Ministry of Mines and Hydrocarbons MICL: Ministry of the Interior and Local Authorities MSBS: Ministry of Health and Social Welfare 7.3. For other institutional needs and capacity-building requirements Table 6: Other needs and their estimated costs (in millions of US\$) Themes: SDGs 4 and 17 Estimated costs 2022–2030 2030–2050 Institutional needs 44.5 64.2 Information, awareness-raising and education on climate change 24.8 32.3 Training and research on climate change 83.7 123.7 Total 153.0 220.2 efficient waste treatment methods and construction of plants for the recycling and reuse of waste Waste treatment facilities for the remaining provincial capitals to be brought into operation 4.3. Construction of several hospital landfills for the disposal of hospital waste and its destruction By 2050, the country will have 10 operational hospital landfills MICL & MSBS 3,000,000 2,000,000 4.4. Construction of wastewater treatment systems and promotion of private investment in provincial capitals By 2050, the country will have 8 wastewater treatment plants and ensure their operation MICL 4,000,000 3,000,000 4.5. Promotion of integrated management of urban solid waste By 2030, all 19 districts nationwide will have a system for the integrated management of urban solid waste, with a database on production and collection MICL 13,575,000 13,575,000 4.6. Establish sectoral focal points and their corresponding databases to collect information in the industrial sector By 2030, the following sectoral focal points will be in place: • 1 National Waste Directorate • 1 Bata Regional Office MICL 100,000 0 Total 576,607.8 48 135,893.7 44

24 8. REQUIREMENTS FOR MEETING THE COMMITMENTS OF THE UPDATED NDC 8.1. Institutional requirements • Elevate the issue of climate change to the level of a State Secretariat; • The creation of a Committee on Economic Modelling of Climate Impacts and the Integration of Climate Change into the State Budget; • Establishment of a National Climate Change Committee; • Establishment of a service responsible for Environmental Impact Assessments and national Environmental Audits in accordance with international standards.

8.2. Information, awareness-raising and education on climate change • Development of information and awareness-raising programmes on the threats posed by climate change to reach an ever-wider section of the general public. • Development of formal and informal education modules on the importance and conservation of the environment; • Publication of magazines, leaflets, environmental calendars and other material to promote environmental awareness at national level. • Development of joint action plans on biodiversity conservation and the fight against desertification, to strengthen synergies between the three Rio Conventions and other conventions to which the country is a signatory.

8.3. Training and applied research on climate change • Development of specialised training modules on adaptation and mitigation techniques • Operationalisation and equipping of the National Institute for the Conservation of the Environment (INCOMA) for applied environmental research. • Promotion of scientific and technological research into adaptation and mitigation. • Provision of geographical information system (GIS) laboratories to the National University of Equatorial Guinea (UNGE) and to vocational colleges specialising in forestry and environmental studies, for climate modelling and the promotion of research practices, • Organisation of competitions and calls for research proposals in various formats within the field of climate change. • Operationalisation of the National Environment Fund (FONAMA) NDC drafting team

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25 against Climate Change. Pedro MALAVO NSENE, BSc, Climate Change Focal Point Rubén Darío NSO EDO ABEGUE, BSc (Eng), Project Manager at the National Coordination Office for Climate Change Document citation Ministry of Agriculture, Livestock, Forests and the Environment (MAGBMA). Nationally Determined Contributions . Malabo, March 2022. Supporting material: (I) Report on the 2021 National Greenhouse Gas Inventory, by the MAGBMA with financial support from UNDP; (II) National Action Plan for Adaptation to Climate Change (PANA), adopted in 2013 by the MAGBMA with financial support from GEF/UNDP; (III) Socio-Economic Development Programme: Horizon 2035, Ministry of Planning and Economic Development, 2019; (IV) First National Communication on Climate Change in Equatorial Guinea; (V) Project document ‘Sustainable Energy for All’ – PIMS 5143; (VI) Equatorial Guinea’s Country Programme for the Green Climate Fund, 2019; (VII) First Nationally Determined Contribution (NDC) of 2015; (VIII) Action Plan for the Development of Renewable Energy in Equatorial Guinea 2018– 2025 (PAER); this plan was adopted in 2018. (IX) National REDD+ Investment Plan (PNI-REDD+), adopted in 2019. (X) OBIANG, 2016. Climate Variability and Adaptation Measures in the Cities of Malabo and Bata in Equatorial Guinea

26 Annex 1. National Territorial Priorities and the Fight against Climate Change Prioritised issues in instruments for territorial planning and the fight against climate change Departments concerned. Low-emission transport Establishment of public transport companies for urban, inter-urban, maritime and air transport (ref. Transport Act), Promotion of eco-friendly transport, Ministry of Agriculture, Livestock, Forests and the Environment. Ministry of Public Works, Housing and Urban Planning; Ministry of Transport, Postal Services and Telecommunications. Conservation and restoration Strengthening the national system of protected areas, improving the condition of forests in communal reserves, and the propagation and conservation of native species of flora and fauna. Reforestation, ecological restoration, recovery and rehabilitation of vulnerable areas, protective areas for water catchment zones, environmental protection areas, fragile areas of ecological importance, and water catchment basins. Restoration of ecosystem goods and services. Biological corridors. Ministry of National Security, Ministry of Justice, Religious Affairs and Prisons, Ministry of Agriculture, Livestock, Forests and the Environment, Ministry of Finance, Economy and Planning, Ministry of Public Works , Housing and Urban Planning, Ministry of Education, Higher Education and Sport, Ministry of Labour, Employment Promotion and Social Security, Ministry of Mines and Hydrocarbons, Ministry of Fisheries and Water Resources , Ministry of Industry and Energy, Ministry of Social Affairs and Gender Equality, Ministry of Culture, Tourism and Promotion of Handicrafts

Management of strategic ecosystems Protection of fallow land, plateaus and wetlands. Promotion of civil society reserve areas. Implementation of Protected Area Management Plans incorporating adaptation and mitigation strategies. Ministry of Agriculture, Livestock, Forests and the Environment, Ministry of Finance, Economy and Planning, Ministry of Public Works , Housing and Urban Planning, National University of Equatorial Guinea (U.N.G.E), INDEFOR, INCOMA, NGO ANDEGE, COMIFAC, IUCN/CARPE, Marine and Coastal Management Conservation of marine and coastal ecosystems (mangroves, dunes, corals). Ministry of Fisheries and Water Resources, Ministry of Industry and Energy, REDD+ Creation of green spaces in cities, urban forestry, reduction of deforestation Ministry of Agriculture, Livestock, Forests and the Environment, Ministry of Finance,

27 in urban and rural areas. Economy and Planning, Ministry of Public Works, Housing and Urban Development, Ministry of Education, Higher Education and Sport, INCOMA Food Security Producing for local consumption, family vegetable gardens, municipal farms, processing agricultural products with due regard to raw materials. Ministry of Agriculture, Livestock, Forests and the Environment, Ministry of Finance, Economy and Planning, Ministry of Industry and Energy. Good agricultural and livestock practices Reducing the use of chemicals in agriculture; technical assistance to implement resilient production systems with low GHG emissions. Clean agricultural technologies adapted to climatic conditions. Intensive silvopastoral systems. Ministry of Agriculture, Livestock, Forests and the Environment, Ministry of Finance, Economy and Planning. Plantations Reforestation in areas for timber harvesting, production and marketing. Commercial forest plantations of native species. Ministry of Agriculture, Livestock, Forests and the Environment, Ministry of Finance, Economy and Planning, Ministry of Industry and Energy. Irrigation systems and efficient water use in the agricultural sector Use of rainwater for productive projects, Groundwater management and control, Water harvesting Ministry of Fisheries and Water Resources, Ministry of Agriculture, Livestock, Forests and Environment, Agroclimatic information for crop planning Implementation of agroclimatic systems in areas of special agricultural interest Ministry of Fisheries and Water Resources, Ministry of Agriculture, Livestock, Forests and the Environment, ASECNA, UNGE, INCOMA. Value chains promoting green growth Economic valuation of services and goods provided by urban and natural green spaces. Ministry of Fisheries and Water Resources, Ministry of Agriculture, Livestock, Forests and Environment, ASECNA, UNGE, INCOMA. Ministry of Finance, Economy and Planning. Value chains promoting the marketing of agricultural products.

28 Promoting the marketing chain for agricultural products (Producer–Consumer) Ministry of Agriculture, Livestock, Forests and the Environment, Chamber of Commerce. Ministry of Transport, Post and Telecommunications. Solid waste management and disposal Improve waste management; implement sanitary landfill sites. Ministry of Agriculture, Livestock, Forestry and the Environment; Chamber of Commerce. Ministry of Transport, Post and Telecommunications. Ministry of Finance, Economy and Planning. Infrastructure-Based Adaptation Housing, water supply systems and sewerage systems, incorporating adaptation and mitigation criteria. Reducing vulnerability in primary and secondary road infrastructure Ministry of Public Works, Housing and Urban Planning; Ministry of Transport, Post and Telecommunications. Sustainable construction Draft and implement a law on spatial planning (land use); improve the industrial use of timber Ministry of Public Works, Housing and Urban Planning, Ministry of Justice, Religious Affairs and Prison Services, Ministry of Agriculture, Livestock, Forests and the Environment. Restoration in urban areas Environmental remediation Ministry of Public Works, Housing and Urban Planning, Ministry of Agriculture, Livestock, Forests and the Environment. Ministry of Health and Welfare Efficient water use Management and administration of domestic and industrial water supplies. Ministry of Public Works, Housing and Urban Planning, Ministry of Agriculture, Livestock, Forestry and the Environment. Ministry of Health and Welfare Renewable and non-conventional energy Improving the electricity distribution system, Supporting alternative energy sources, Use of wind, solar and hydroelectric power Ministry of Public Works, Housing and Urban Planning; Ministry of Agriculture, Livestock, Forestry and the Environment; Ministry of Fisheries and Water Resources; Ministry of Industry and Energy CROSS-CUTTING PRIORITY

ACTIONS

29 Information, Science, Technology and Innovation To implement and improve the environmental education system at all levels; to build a laboratory for the timber sector. Ministry of Education, Higher Education and Ministry of Finance, Economy and Planning. Sport, UNGE, Management and Planning Studies on greenhouse gas emissions (carbon dioxide) Ministry of Agriculture, Livestock, Forests and the Environment. Ministry of Public Works, Housing and Urban Development, Ministry of Transport, Post and Telecommunications. Education on climate change Education for knowledge management on climate change. Capacity building for the community Ministry of Education and Higher Education and Ministry of Finance, Economy and Planning. Sport, UNGE,

30 Annex 2. Funds identified for the financing of climate programmes and projects applicable in Equatorial Guinea

Name	Fund Acronym(s)	Website (if available)	Ownership	Governance	Mode of Operation	Implementing Entity	Projects Funded	Applicability to Equatorial Guinea
Global Environment Facility (GEF)		https://www.thegef.org/	It is a fund under UNEP. Governed by a Committee comprising the Assembly, the Council, Focal Points and the Secretariat of the GEF	It provides grants to developing countries and countries with economies in transition for projects in the areas of biological , climate change, international waters, land degradation, ozone depletion and persistent organic pollutants.	UNDP, FAO Sustainable development, mitigation and adaptation to climate change	Applicable	Green Climate Fund (Green Climate Fund) GCF https://www.greenclimatefund/	The Board will comprise 24 members from developing and developed countries. The Green Climate Fund (GCF) has a mandate to help developing countries to mobilise and achieve their ambitions under Nationally (NDCs) through low-emission and climate-resilient pathways. UNDP, FAO Mitigation and Adaptation
Central African Forest CAFE		https://www.cafi.org/welcome	The Executive Board of CAFI (EB) is the governing body of CAFI and supports its six partner countries: Cameroon, the Republic FAO, UNDP REDD+, Mitigation and Applicable . PNI REDD+ drafted					

31 Initiative for decision-making responsible for policy dialogue and the administration of funds. Decisions are taken at its meetings or between sessions. Central African Republic, the Democratic Republic of the Congo, Equatorial Guinea, Gabon and the Republic of the Congo to implement the Paris Agreement on Climate Change , to combat poverty and develop in a sustainable manner, and to comply with the post-2020 biodiversity framework

Adaptation or Multilateral Fund for the Implementation of the Montreal Protocol FM PM www.multilateralfund.org/default.aspx Managed by an Executive Committee comprising 14 members, 7 from developing countries and 7 from developed countries. The Multilateral Fund for the Implementation of the Montreal Protocol is the body responsible for providing the funds and financing to assist developing countries in phase out the use of substances that deplete the ozone layer. The countries that are eligible for these funds are those listed under Article 5. UNDP Mitigation Applicable e. International Finance Corporation IFC (Acronym in English) <https://www.ifc.org> It forms part of the World Bank It focuses primarily on providing private sector companies and financial institutions with World Bank Sustainable Development Applicable with institutional arrangements

32 wide range of products and financing services. Forest Carbon Partnership Fund FCP F www.forestcarbonpartnership.org. Executive Committee 28 members It has two sub-funds, one for REDD+ preparation and the other for the implementation of measures adopted. UNDP Mitigation, REDD+ Currently not participating Equatorial Guinea (could be applicable with certain institutional arrangements) Clean Technology Fund CTF Implemented through the World Bank, Asian Development Bank, African Development Bank, European Bank for Reconstruction and Development and Inter-American Development Bank) To promote a greater scale of funding for the demonstration, deployment and transfer of low-carbon technologies with significant potential for long-term greenhouse gas emissions UNDP Mitigation, Energy Efficiency Applicable NAMA Fund FNA MA www.namafacility.org. Fund for Nationally Appropriate Mitigation Measures (United Kingdom, Germany, Denmark and the European Commission). The central decision-making body of the NAMA Facility is its Board. The Board includes

representatives from the Donors to the NAMA Facility. To provide financial support to developing countries and emerging economies that demonstrate leadership in the fight against climate change and wish to implement transformative NAMAs, nationally-led, within the global mitigation architecture at the local ministerial level with support Legal Entity as a partner Applicable NAMAs

33 short and medium term. International Carbon Conservation Fund (FCCI) <http://www.conserva.org/about/> Conservation International Supports the design and initial costs of early-stage forest restoration and conservation projects, and assists with the marketing of carbon credits through partnerships with the private sector. Public and Private Sectors REDD+ Conservation ? Programme for the Expansion of Utilisation of Renewable Energy Sources in Low-Income Countries (SREP) SREP (in English) World Bank (a) Annual electricity generation; (b) Improved access to energy for people, businesses and community services; (c) reduced / avoided GHG emissions (tonnes of CO₂ equivalent); (d) increased public and private investment in the selected sub-sectors (co-financing) Public and Private Sector Renewable energy? Forest Investment Programme (FIP) FIT World Bank Group The Forest Investment Programme supports the efforts of developing countries to reduce deforestation and forest degradation and promote sustainable forest management that leads to reduced emissions and increased forest carbon reserves Public and Private Sectors Adaptation, Mitigation ?

34 carbon (REDD+). Global Alliance on Climate Change GCHA (Acronyms in English <https://climateandhealthalliance.org/es/inicio/about/Committee>) The vision is a world where the impacts of climate change on health are kept to a minimum, and the co-benefits for health from climate change mitigation are maximised. Public/Private Mitigation? Global Fund for Energy and Renewable Energy Fund (GEEREF) GEEREF ? European Union The Global Energy Efficiency and Renewable Energy (GEEREF), proposed by the European Commission, will help to attract private investment for projects in energy efficiency and renewable energy. Private sector Mitigation ? BioCarbon Fund or <https://wbcarbonfinance.org/> World Bank Provides carbon financing for projects that sequester or conserve greenhouse gases in forests, agricultural and other ecosystems. Public and private organisations REDD+; Forestry; Land Management; LULUCF (Land Use, Land-Use Change and Forestry); Afforestation; Reforestation. Applicable to The UN REDD Programme <http://www.un-redd.org/> UN The UN REDD Programme (United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries) Public/Private REDD+, Mitigation, forestry, reforestation Applicable

35 Forest Fund for the Congo Basin (CBFF) CBF F Public Private REDD+, Mitigation, forestry, reforestation Applicable Partnership for Market Readiness (PMR) PMR <https://www.thepmr.org> Role of the World Bank: PMR Secretariat; Trustee; and Implementing Partner, through regional offices. The PMR is a global that provides funding and technical assistance to explore and develop market-based instruments that support the reduction of greenhouse gas emissions. Audience: Mitigation through carbon markets ?