

Beyond Rhetoric and Ambition

Assessing the Feasibility of
Climate Pledges by
West African Countries

• Ghana • Gambia • Nigeria



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About CJID

The Centre for Journalism Innovation and Development (CJID) is a media innovation and development think- (and do) tank founded in 2014, to strengthen the West African media to promote democratic accountability, in the service of inclusive and sustainable development. The Centre uses the tools of civic technology, investigative journalism, and research to deepen the discourse on sustainable development and tackle misinformation and disinformation in the media, and society.

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Towards a Climate Action Agenda for Africa

Presently, Nigeria is reeling from unprecedented flood events. More than 603 persons had died across the country as of 16 October. An estimated 82 thousand houses have been destroyed, 332 thousand hectares of farmland submerged, and over 1.3 million persons displaced, according to the official count. Yet, the Nigerian Meteorological Agency warns that the tally will continue to go up till November.

Nigeria's infrastructure, like those of many African countries, is ill prepared for the effects of climate change, including unusual rainfall patterns, sea level rise, droughts and heat waves. Agricultural production, the largest contributor to the region's GDP at around 25%, is threatened; port infrastructures that support trade are vulnerable to the effects of rising sea levels; hydropower generation is unreliable; and the list continues.

The floods have finally put climate action on the agenda. For years, Nigerian intellectuals and policy makers were wont to quip, "climate change is the problem of the Western world, not ours... our problem is poverty and electricity" or something along those lines. The myopia in this perspective is that it betrays an ignorance of how climate change worsens poverty and hydro-powered generation of electricity, while climate action may present the pathway to solving even those problems. While it remains true that Africa as a region contributes the least to global emissions, it is urgent that the continent is clear about the costs of losses and damages it suffers and is expected to suffer, which are directly attributable as externalities of global development, whose benefits are reaped elsewhere. Beyond the mitigation of emissions, which is critical, Africa needs to be clear about the cost of adapting its infrastructure due to the effects of climate change, especially in relation to the vulnerable half a billion people living in extreme poverty on the continent.



The Nationally Determined Contributions represent the climate action plans of each country, as committed to the United Nations under the Paris Agreement adopted by 195 country-signatories in 2015. Reading through the first Nationally Determined Contributions (NDC) of Nigeria, The Gambia, and Ghana, it is easy to observe that they appear similar, like they were drafted by the same consultants in a cut and paste manner, rather than rooted in a deep appreciation of local challenges and risks. Many countries have since revised their NDCs to be a lot more localised but still in many cases, the harsh realities of the local context — including the fiscal, cultural and infrastructural realities — make the NDCs seem more like pipe dreams, rather than well thought out strategies.

At the Centre for Journalism Innovation and Development (CJID), our mission is to deepen the development discourse in newsrooms around the subregion, with the hope that good journalism will in some way set the agenda and drive more effective policies, including those pertaining to climate action. In this report, our team of researchers and analysts led by Professor Chukwumerije Okereke have done a groundbreaking analysis of the NDCs of these three West African countries – Nigeria, The Gambia, and Ghana – and identified implementation risks.

Our hope is that this document motivates a debate about what a climate action agenda for Africa ought to be. Do the NDCs address critical adaptation, loss and damage needs of the millions of people displaced by unprecedented floods? Can the countries pay for the commitments made? Do the NDCs pave the way for creating greater shared prosperity, while tackling one of humanity's gravest challenges? Only in answering these questions do we stand a chance to gain the public acceptance that the plans need to be implementable.

Tobi Oluwatola (PhD)

Executive Director,

Centre for Journalism Innovation and Development (CJID).





Introduction To and Rationale for the Report

By Chukwumerije Okereke

Context

Climate change has remained the most serious challenge facing the countries of the world. The threat posed by this phenomenon has prompted world leaders and several organisations to declare it a global emergency. Africa is in a hard place regarding climate change. On the one hand, Africa's vulnerability to climate change suggests that ambitious climate action, globally and in the continent, is needed to increase the continent's resilience and adaptive capacity to climate change. On the other hand, however, Africa's economies are heavily dependent on natural resources, and therefore poorly thought-out climate action, globally and within countries, can compromise the prospects of economic growth and bind the continent to poverty.

Several African countries have made ambitious pledges on climate action through their Nationally Determined Contributions (NDCs), Long Term Visions and Strategies (LTV/LTS), and more recently by way of net-zero announcements at COP26 in Glasgow, UK. However, there is widespread apprehension about the feasibility of these pledges. There are concerns that the ambitious climate goals being set by African countries are not in alignment with the political and economic realities in these countries and that these may result in a huge implementation and credibility gap in

the coming years.

With a focus on three West African countries – Nigeria, Ghana, and The Gambia – this research explores the feasibility of the climate pledges made by West African countries. We seek to ascertain the forces that led to the setting of these targets, the likelihood that the targets will be met, the barriers that inhibit action, and some options for driving credible and context-sensitive climate action in West Africa.

Concepts and Framing

Extensive research has shown that the ability of countries to implement ambitious climate policies to drive the transformation towards low carbon economies depends on a number of specific dimensions of 'feasibility' and 'enabling conditions' which operate across multiple scales (IPCC 2022; Okereke et al., 2019; Turnheim and Nykvist, 2019)¹. These dimensions include:

- (i) Environmental and ecological aspects, such as the types of natural resources available.
- (ii) Economic factors, including the level of development and available financial resources.
- (iii) Socio-cultural aspects, including demographic conditions as well as social and cultural norms.
- (iv) Technological factors, including

¹ Turnheim, B., & Nykvist, B. (2019). Opening up the feasibility of sustainability transitions pathways (STPs): Representations, potentials, and conditions. *Research Policy*, 48(3), 775-788; Okereke, C., Coke, A., Geebreyesus, M., Ginbo, T., Wakeford, J. J., & Mulugetta, Y. (2019). Governing green industrialisation in Africa: Assessing key parameters for a sustainable socio-technical transition in the context of Ethiopia. *World Development*, 115, 279-290.

innovation needs and transitional dynamics associated with new and emergent technologies and associated systems; and

- (v) Institutional and political issues, including political acceptability, legal and administrative feasibility, and the capacity and governance requirements at different levels to deliver sustained mitigation in the wider context of sustainable development.

To date, these dimensions of feasibility and related enabling conditions have not been systematically applied to assessing the practicality of climate policy in Africa and the steps needed to enhance progress. Our research aims to fill this gap.

Structure and Contributions

Drawing from the above background and conceptual framework, the chapters have:

- (i) Provided a short overview of the key social, political, and economic facts of the case study countries.
- (ii) Provided a short history of climate policy in the case study countries, with emphasis on the events after the Paris Agreement – when NDCs were submitted, when they were revised, whether there are Long Term Strategies (LTS’).
- (iii) Outlined the key climate pledges in the case study countries.
- (iv) Crucially assessed the feasibility of climate pledges in the case study countries.

In assessing the feasibility of the climate pledges in the case study countries, we have focused on the political, economic, social, and institutional dimensions of the feasibilities.

For the political dimension, we are focused on the extent to which the political situation and processes in the country make it more or less likely that countries will fulfil their pledges. This include the alignment between the pledges and the election manifesto, whether the party that made the pledge is popular or the one currently in government, whether there is support by the opposition party for ambitious climate action, etc.

For financial feasibility we focus on the likelihood that countries have the financial resources to fulfil their pledges. With many African countries struggling with debt, more so after the economic downturn following the COVID-19 pandemic, there is need to carefully consider the financial implications of the climate pledges being made and the sources of finance for achieving them.

With respect to social dimensions of feasibility, the emphasis is the extent of climate change awareness in the case study countries and the degree of agitation and mobilisation for strong climate action by citizens and civil societies. Many literatures have found that civil society pressure is a key driver of climate ambition and action in several parts of the world. It is therefore necessary to consider how engaged and dynamic civil societies are in the case study countries, as these could provide some indication of the likelihood that these



countries will follow through on their pledges.

Lastly, we have considered the institutional feasibility that focuses on the nature and quality of institutional arrangements for climate action in the case study countries. This includes the presence and quality of the countries' environment and climate change ministries, the presence or otherwise of climate change laws to impel action, whether there are overarching bodies within the Presidency in these countries that are supervising climate action or whether there are systems for inter-ministerial coordination on climate action. Equally vital is whether there are dedicated public bodies supported by consultative mechanisms for implementation?

All the chapters end with subject assessments of the authors on how each case country ranks in the above measurement criteria – political, economic, social, and institutional feasibility – with scores ranging from low, medium to high. For each of the ranking, the authors provide justification for their assessment.

It is hoped that this publication will trigger the much-needed discussion and reflection on what West African countries are doing right, where they need to improve and what specific actions they need to take to increase the ability to implement their climate pledges.

Assessing the Ambition and Feasibility of Climate Policies and Pledges by West African Countries: Key Findings from the Chapters

By Akintunde Babatunde, Daniel Whyte, and Chukwumerije Okereke

Introduction

The three chapters engaged here have examined the feasibility of climate action in West Africa, with a special focus on Ghana, The Gambia, and Nigeria. The West African sub-region, which is one of the worst affected by climate change, has witnessed its dire consequences on lives and livelihoods. Already, the arid Sahel battles droughts, which are projected to increase due to temperature rise², while the coastal areas are prone to flooding due to extreme rainfall and sea-level rise. A 2017 World Bank report noted that West African coastal areas, which host about one-third of the sub-region's population and generate 56% of its GDP, lose about \$3.8 billion yearly due to coastal zone degradation.³ At the same time, climate change is negatively affecting agriculture, which accounts for 65% of employment and 35% of Gross Domestic Product.⁴ Other sectors of the West African economy, such as tourism, housing, water resources, energy, and transportation are suffering from the negative impacts of climate change.

Considering these challenges, ambitious actions are no doubt needed to ensure climate resilience and sustainable development in these countries and the sub-region in general. It is, therefore, a welcome development to see that African countries are making strong commitments and pledges to tackle climate change. However, it is equally important to ensure that countries do not only make commitments but also that they have the capacity to fulfil the pledges being made. If countries make pledges without serious intentions or enabling conditions to fulfil them, the result will be not just an implementation gap but also a credibility and legitimacy gap, which can damage trust in politics and action on climate change over time.

In the past, some have noted that the key policy documents of many African countries, such as their Nationally Determined Contributions, were designed by foreign consultants and enabled by international development partners. Equally worrisome is

2 Douville, H. K. et al., 'Water cycle changes', eds V. Masson-Delmotte and P. Zhai, *Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* (Cambridge University Press, 2021).

3 "West Africa's Coast: Losing Over \$3.8 Billion a Year to Erosion, Flooding and Pollution." World Bank. Link: <https://www.worldbank.org/en/region/afr/publication/west-africas-coast-losing-over-38-billion-a-year-to-erosion-flooding-and-pollution>

4 "Agriculture Development in West Africa: Improving Productivity through Research and Extension." World Bank. Link: worldbank.org/en/results/2013/03/28/agriculture-development-in-west-africa-improving-productivity-through-research-and-extension



the notion that some African countries may be making pledges solely designed to grab international deadlines and please donor countries, without real intentions to deliver on these commitments. The literature on the subject has also highlighted that African countries are coming under pressure from developed countries to make ambitious pledges on tackling climate change without corresponding support and without considering the extent to which climate action aligns with the broader development objectives of these countries.

The aim of this research is to contemplate the extent to which the ambitious climate goals being set by African countries are in alignment with the political-economic realities in these countries. Climate impacts are entwined with socio-economic and political conditions, such that poor socio-economic conditions lead to increased vulnerability and low adaptive ability to the climate crisis, as we have seen with the farmer-herder clashes in Nigeria.⁵ At the same time, weak governance or political instability affects adaptation and mitigation plans. More importantly, Africa's economies are heavily dependent on natural resources and, therefore, poorly thought-out climate action, globally, and within countries, can compromise economic growth prospects and bind the continent to poverty. We have therefore sought to ascertain the forces that led to the setting of these targets and the likelihood the targets will be met, the barriers that inhibit action and some options for driving credible and context-sensitive climate actions in West Africa.

Key Findings

In the three countries studied, existing dire socio-economic realities hamper the feasibility of lofty ambitions announced by the respective governments. For one, rising debts are a big challenge to raising the needed financial resources to support mitigation and adaptation plans. Secondly, the populations in these countries already battle poor living conditions, hence balancing economic growth and climate ambitions is a serious challenge for them.

The first chapter details Ghana's major climate pledges, in an effort to understand the goals that have been set, the justification for the goals, the likelihood that the goals will be met, and any obstacles that may stand in the way of fulfilling the climate commitments. To achieve this, the plans for renewable energy as well as the implementation of previous climate pledges from 2015 to 2021 were reviewed. The findings of this study demonstrate that, notwithstanding the high percentage of conditional policy actions, Ghana has performed admirably in the past with regard to its climate pledges and has largely created realistic climate pledges situated within the context of government policy. Social and institutional factors support Ghana's climate pledges, while economic and political forces pose a threat. Based on advancements made in the social and institutional variables, Ghana's new climate goals are largely realisable.

The second chapter explores The Gambia's national climate change policy documents as well as the country's climate policies and commitments. The results, however, demonstrate that The Gambia would have

5 "As The Desert Stretches, So Does Nigeria's Farmer-Herder Crisis." HumAngle. Link: <https://humanglemedia.com/as-the-desert-stretches-so-does-nigerias-farmer-herder-crisis/>

difficulties in implementing its ambitious NDC as a nation that is dealing with significant economic difficulties and is dependent on donor funding to carry out its development programme. The Gambia has been successful in creating national climate policies that would aid in the execution of her NDC; yet, the nation's economy is mainly dependent on agriculture.

According to the research, having ambitious climate policies without taking concrete action would have an impact on how well these NDCs are implemented in nations like The Gambia.

The third chapter highlights the viability of Nigeria's climate change policies and pledges, using the political, economic, social, and institutional context to examine the feasibility of reduction of co2 emission by 47% in 2030 in Nigeria's amended Nationally Determined Contribution (amended NDC), and achieve a net-zero carbon emission status by the year 2060. The research however gathered that the economic and social dimensions are weak, while the political and institutional dimensions perform moderately in terms of feasibility. This development casts severe doubt on the accomplishment of the pledges and their execution as the likelihood that Nigeria will be able to fulfil its climate commitments depends primarily on the availability of foreign funding, which is currently highly questionable.

Conclusion

This report is essential to providing quality information to the public and members of the climate community in order to mobilise and demand realistic and effective actions from the respective governments as we approach COP27 later this year. While it is important to raise the climate ambitions, when these ambitions are not backed by requisite action or where there is a lack of wherewithal to implement them, the ambitions become unfruitful.

The report is made up of three country chapters. Each chapter examines the feasibility of the climate pledges within the contexts of the political economy of the respective countries. They describe the evolution of climate policies in each country and their climate ambition targets; socio-economic realities and governance prospects; how well the country has performed previously; and an analysis of the economic, social, political and institutional dimensions of the feasibility of the climate pledges.

It is the aim that this report will lead to a deeper understanding of the climate situation in West Africa, the socio-economic and political contexts, and the implication of global action plans on local realities, while also engendering fruitful discussions on these issues among stakeholders.



Evidence from Ghana

By *Gideon Ofosu-Peasah*

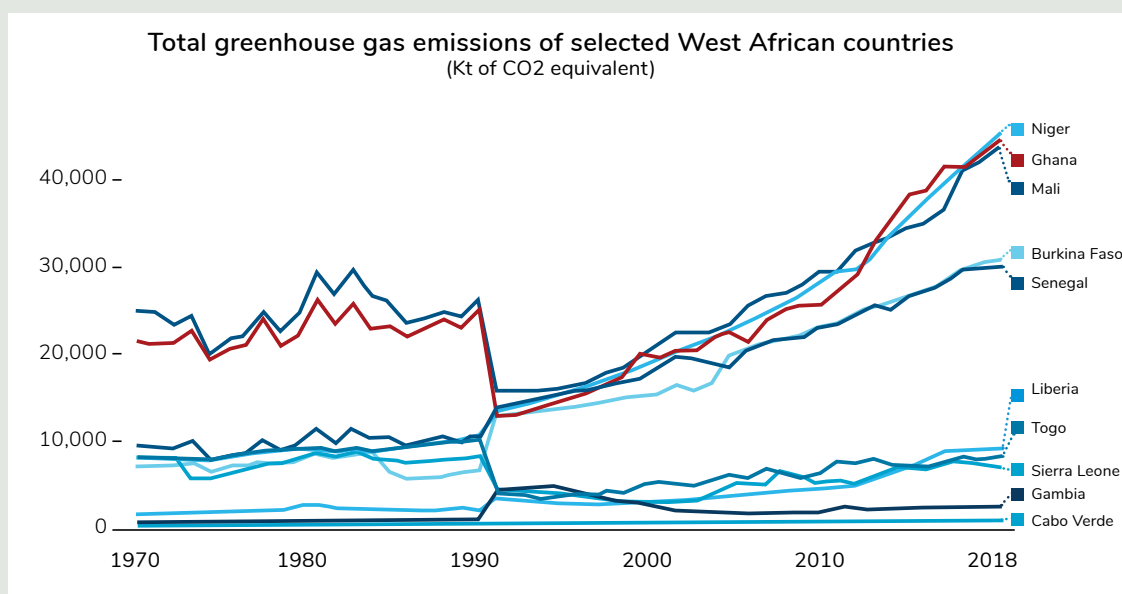
1. Introduction

In keeping with the overall aim of this report, the main objective of this chapter is to review Ghana's key climate pledges, to understand the nature of the targets that have been set, why the targets were set, the chances of meeting those targets, as well as the hurdles that are likely to impede the fulfilment of the climate pledges in Ghana. To show the country's level of commitment to climate pledges, I tracked the implementation of past climate pledges from 2015 to 2021, as contained in Ghana's Nationally Determined Contributions (NDCs)⁶ and other key national climate policy documents, such as Ghana's Fourth National Communication to the UNFCCC, NDC Implementation Plan-Financing Strategy Report, Multi-Sectoral Implementation Plan for Ghana's NDCs, to the Paris Climate Agreement, Ghana's energy statistics, and Ghana's renewable energy master plans. Second, a Political, Economic, Social and Institutional (PESI) analysis was adopted to examine how these factors have affected the implementation of past climate pledges and the likelihood of such factors impeding the implementation of current pledges. Additionally, PESI analysis aids in identifying opportunities for strengthening Ghana's ability to pursue ambitious climate action. I start by first providing a brief overview of Ghana's socio-economic situation, as relevant to climate change.

⁶ Ghana's intended nationally determined contribution (INDC) and accompanying explanatory note (unfccc.int)

1.2 Country Context

Ghana is the second-largest emitter of Greenhouse Gases (GHG) in West Africa after Nigeria and Niger. In the year 2018, Ghana emitted 44,500 kilotons (Kt) of CO₂ equivalent, compared to 45,050 kt and 311,450 kt of CO₂ equivalent for Niger and Nigeria respectively. In the same year, Ghana's CO₂ emissions per GDP at Purchasing Power Parity (PPP) was 0.099 kg (ranked 10th in West Africa), with Benin (0.212 kg) and Senegal (0.183 kg) being the top two in terms of carbon emission per GDP⁷. Ghana had a population of 30.8 million⁸ as at December 2021 and a per capita PPP of \$5,742⁹ in 2020. The country is rich in crude oil, natural gas, agricultural commodities and minerals. In 2019, gold, crude oil and cocoa beans were the top three export commodities (in monetary terms) of Ghana, constituting 24.09%, 14.52% and 5.17% of export trade respectively¹⁰. Linked to the trade in crude oil, one of the key conditional policy actions in the country's updated NDCs is to decarbonise oil and gas production by minimising flaring and fugitive methane in the country's three oil and gas fields. Historically, the transport subsector has been the lead emitter of carbon dioxide, compared to other subsectors. For instance, in 2020, the subsector emitted 7.9 million tons of CO₂, in comparison to the power subsector that emitted 4.4 million tons of CO₂ (the second highest).



Ghana's post-independence history has been marked by periods of junta rule and human rights abuses, until the promulgation of the 1992 constitution, which set the basis for multiparty democracy¹¹. Since 1992, the country has held eight successful presidential

7 Worldbank, "World Development Indicators," 2020.

8 Ghana Statistical Service, "Population and Housing Census: Provisional Results," Population and Housing Census: Provisional Results, no. September (2021): 1–7, [https://statsghana.gov.gh/gssmain/storage/img/infobank/2021 PHC Provisional Results Press Release.pdf](https://statsghana.gov.gh/gssmain/storage/img/infobank/2021_PHC_Provisional_Results_Press_Release.pdf); Worldbank, "World Development Indicators."

9 Worldbank, "World Development Indicators," 2020.

10 <https://atlas.cid.harvard.edu/>

11 Emmanuel Gyimah-Boadi, "Ghana's Fourth Republic: Championing the African Democratic Renaissance?," Ghana Center for Democratic Development (CDD-GHANA), vol. 8, 2008.

and parliamentary elections, with the ninth one scheduled for December 7, 2024. The periods after elections have seen to peaceful government transitions. To a large extent, the country has witnessed respect for human rights, a vibrant civil society, coupled with a free and autonomous media that demands accountability and transparency from duty bearers such as including governments and companies¹².

2. Climate Policy Landscape

Ghana's climate change policy was launched in 2013 by the country's Ministry of Environment, Science, Technology and Innovation (MESTI), in line with Ghana's development priorities¹³. The policy presents the national context, as of the time it was launched, its vision, objectives, programmes, and how the climate change agenda can be mainstreamed through yearly work plans. The vision of the policy is to have an economy that is climate resilient, while simultaneously achieving sustainable development through a low carbon economic growth. The climate change policy targets adaptation, mitigation and social development. To achieve these, seven strategic pillars are identified, which include: i. monitoring and reporting; ii. information, communication and education; iii. capacity building; iv. international cooperation; v. finance; vi. science technology and innovation; and vii. governance and coordination.

In addition, Ghana's climate policy prioritises

five areas, namely: agriculture and food security; disaster preparedness and response; natural resource management; equitable social development; energy, industrial and infrastructural development.

To facilitate the implementation of the National Climate Change Policy (NCCP), the Low Carbon Development Strategy was developed in 2015 on the basis of existing policies from other sectors, such as the Ghana Shared Growth Development Agenda I (put together in 2010), Energy Policy (developed in 2010), Forest and Wildlife Policy (put together in 2012), and Renewable Energy Policy (developed in 2011). Other key relevant policies include Ghana's Intended Nationally Determined Contributions (GH-INDCs) (put together in 2015) and the Ghana National Climate Change Master Plan (developed in 2015), to prescribe programmes and initiatives in detail for achieving the sectoral implementation of the NCCP between 2015 and 2020. The master plan has details of costing, financing arrangements, monitoring and evaluation, and mainstreaming strategies per sector¹⁴. Thereafter, the country ratified the Paris Agreement in 2016 and developed the National Action Plan in 2018, to mitigate short-lived pollutants¹⁵. Significant steps taken by Ghana were the submission of its fourth National Communication in 2020 and its updated NDCs in 2021 (Figure 3)¹⁶.

With regard to long term climate strategies,

12 Gideon Ofosu-Peasah and Gloria Hiadzi, "Are Duty Bearers Supporting the Fight against Galamsey? | Comprehensive Ghana Oil and Gas News, Information, Updates, Analysis," August 23, 2018, <http://www.reportingoilandgas.org/are-duty-bearers-supporting-the-fight-against-galamsey/>.

13 MESTI, "Ghana National Climate Change Policy" (Ghana, 2013), <https://www.unpage.org/files/public/ghanacclimatechangeopolicy.pdf>.

14 MESTI, "Ghana National Climate Change Master Plan Action Programmes for Implementation: 2015 – 2020," 2015, https://www.weadapt.org/sites/weadapt.org/files/2017/ghana_national_climate_change_master_plan_2015_2020.pdf.

15 MESTI & EPA, "National Action Plan to Mitigate Short-Lived Climate Pollutants," 2018, https://www.greengrowthknowledge.org/sites/default/files/downloads/policy-database/2018_National-Action-Plan-to-Mitigate-SLCPs_Ghana.pdf.

16 EPA, "Ghana's Fourth National Communication to the United Nations Framework Convention on Climate Change Project," 2020; EPA & MESTI, "Ghana Updated Nationally Determined Contribution under the Paris Agreement (2020 - 2030)," 2021.

although countries such as Nigeria¹⁷ and Benin¹⁸ have Long-term Strategies (LTS), many other West African countries like Ghana, Sierra Leone, Togo, Burkina Faso, Cape Verde and Gambia had either not developed or announced their LTS as at the time of putting this report together¹⁹.

Table 1: Key policies supporting the implementation of the national climate change policy

Key policies	Year released	Policy objectives
Nationally Determined Contributions	2015, 2021	Documenting climate pledges as contribution under the Paris Agreement 2030.
Renewable Energy Master Plan	2019	Increasing renewable energy within the national energy generation mix, reducing dependence on biomass, and promoting local content.
National Climate Plan to Mitigate Short Lived Pollutants	2018	Building on prevailing national efforts to improve local air quality and reduce GHG emissions.
Low Carbon Development Strategy	2015	Facilitating the operationalisation of the mitigation components of the National Climate Change Policy.
National Climate Change Master Plan	2015	Providing tasks, budgets and timelines for strategic focus areas, as contained in the National Climate Change Policy.
National Climate Change Policy	2013	Addressing climate change through a designed framework.
Forest and Wildlife Policy	2012	Conserving and sustaining the development of forest and wildlife resources, for the promotion of culture and sustainability.
Renewable Energy Policy	2011	Supporting the development, management, utilisation, sustainability and adequate supply of renewable energy.
Energy Policy	2010	Providing policy direction for dealing with energy sector challenges.
Ghana Shared Growth Development Agenda I	2010	Attaining economic stability, a minimum per capita of USD3,000 by 2020 and the MDGs.

Source: Author's construct based on policy documents

3 Understanding Ghana's Climate Pledges

Climate pledges are often nationally determined and outlined in documents known as Nationally Determined Contributions (NDCs). Notwithstanding, climate pledges are sometimes announced by government officials in speeches at the Conference of Parties (COP) on climate change and other policy documents like the national budget. Ghana's first NDC and updated NDCs were developed on the basis of the Sustainable Development Goals (SDGs). Specifically, the country's first NDC was guided by national frameworks such as the medium-

17 DCC, "2050 Long-Term Vision for Nigeria (LTV-2050)" (2019), <http://climatechange.gov.ng/about-us/>.

18 MLES, "Stratégie de Développement à Faible Intensité de Carbone et Résilient Aux Changements Climatiques 2016-2025" (2016).

19 https://www.climatewatchdata.org/countries/GHA?end_year=2018&start_year=1990

term development agenda (Ghana Shared Growth and Development Agenda II, implemented from 2014 to 2017) and a 40-year socio-economic transformational plan. The first NDC cut across six sectors, namely: waste management, forest management, energy, transportation, infrastructure, and agriculture.

The first NDC had 31 actions, 20 mitigation and 11 adaptation programmes. A total investment of US\$22.6 billion was required to fully implement the NDC. Out of this amount, US\$6.3 billion (representing 28%) was unconditional, while US\$16.3 billion (representing 72%) was conditional²⁰ (Table 3).

The policy actions in Ghana's first NDCs were to scale up renewable energy penetration by 10% by 2030; promote clean rural household lighting; expand the adoption of market-based cleaner cooking solutions; double energy efficiency improvement to 20% in power plants; double energy efficiency improvement to 20% in industrial facilities; and scale-up sustainable mass transportation, and promote sustainable utilisation of forest resources through REDD+. Other actions were to adopt alternative urban solid waste management; implement the green cooling Africa initiative; enhance agriculture resilience; building in climate-vulnerable landscapes; enhance value addition-based utilisation of forest resources; and promote city-wide resilient infrastructure planning, early warning and

disaster prevention. Also, to manage climate-induced health risks; boost integrated water resources management and resilience for gender and the vulnerable²¹.

On the other hand, Ghana's updated NDCs (See appendix, Table A1) span eight areas/themes/socio-economic outcomes, 19 policy actions, 10 priority areas and 47 programmes of action (34 and 13 mitigation and adaptation programmes respectively). The updated NDCs promise 38% (unconditional) and 62% (conditional)²² emission reductions by 2030, relative to emissions in 2019. The 38% and 62% emission reductions translate to 24.6 metric tonnes (unconditional) and 39.4 metric tonnes (conditional) of CO₂ equivalent (CO₂e) respectively²³. Out of the unconditional emission reduction of 24.6 metric tonnes of CO₂e, 8.5 metric tonnes of GHG reductions is expected by 2025. Similarly, out of the conditional emission reduction of 39.4 metric tonnes of CO₂e, 16.7 metric tonnes of GHG reductions is expected by 2025.

An amount of US\$9.4–15.5 billion is the total investment required. Out of the minimum amount of US\$9.25 billion, 68% of this is intended to meet mitigation needs and 32% for adaptation needs, while US\$3.9 billion is required for 16 unconditional actions²⁴. Also, 58% and 42% of the minimum amount are required for conditional and unconditional measures respectively (Table 3). The updated climate pledge is estimated to provide 997,561 job opportunities and benefit 54.19 million people.

20 GH. INDCs, "Ghana's Intended Nationally Determined Contribution (INDC) and Accompanying Explanatory Note," 2015.

21 Ibid.

22 Unconditional emission reductions are those actions that can be implemented by a country based on its internal resources to reduce greenhouse gas emissions without external support in terms for finance, capacity building and (or) technology transfer whiles conditional emission reductions is the inverse for unconditional emission reductions

23 Ibid.

24 EPA & MESTI, "Ghana Updated Nationally Determined Contribution under the Paris Agreement (2020 - 2030)."

In addition to the climate pledges in Table A1 (see appendix), the President of Ghana, Nana Akufo-Addo, made the following net-zero announcements²⁵ in Glasgow, UK during the 26th Conference of Parties: to plant a minimum of 20 million trees in 2022; reduce emissions by some 10 million tonnes of CO₂e equivalent in the cocoa-forest landscape by 2024; finalise the sustainable ocean plan by 2025; conduct an ocean governance study to improve ocean management and implement a closed fishing season annually. The pledge to plant 20 million trees was influenced by low hanging projects within the state's capacity to wholly provide resources (tree seedlings)²⁶, align with the country's quest of restoring degrading and deforested areas from human actions, such as irresponsible mining and logging²⁷, and take advantage of the opportunity to get emission reduction payments^{28, 29}.

Equally, the pledge to reduce emissions by some 10 million tonnes of CO₂ equivalent aligns with government developmental programmes such as planting for food

and jobs³⁰ and also restoring degrading and felled forests. The climate pledge on a sustainable ocean plan and related studies are influenced by Ghana's membership of the Ocean panel³¹, demand for marine research, death of marine mammals such as dolphins and fishes³², depleting fish stock from overfishing, incidents of pair trawling, sand winning³³, on-going petroleum upstream activities, maritime boundary disputes, the impact of increasing port activity on the sea³⁴, and incidents of pirate attacks³⁵. Lastly, the pledge to implement a closed fishing season annually is informed by illegal, unregulated and unreported fishing, overfishing, and its attendant decline in fish stocks³⁶, and plastic pollution.³⁷

4 Tracking past climate pledges

To assess the feasibility of Ghana's updated climate pledge, a quick assessment of the previous NDCs is important to extract useful information about the context and how the presence of certain factors may affect the current/updated NDCs.

Overall significant progress was made in

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- 25 <https://www.graphic.com.gh/news/politics/akufo-addo-at-cop26-we-ll-combat-climate-change-but-protect-ghana-s-development-as-well.html>
- 26 <https://mlnr.gov.gh/index.php/speech-delivered-by-hon-samuel-a-jinapor-minister-for-lands-and-natural-resources-at-the-green-ghana-day/>
- 27 See paragraph 195 of 2021 midyear budget. Available at https://mofep.gov.gh/sites/default/files/budget-statements/2021-Mid-Year-Review-Statement_v2.pdf
- 28 <https://www.worldbank.org/en/news/press-release/2019/07/09/ghana-signs-landmark-deal-with-world-bank-to-cut-carbon-emissions-and-reduce-deforestation>
- 29 <https://partnershipsforforests.com/wp-content/uploads/2020/10/Unlocking-carbon-finance-in-Ghana.pdf>. Also see section 4.2 of Ghana's updated NDCs. This will be achieved through a programme of action under that Ghana Cocoa Forest REDD+ Programme (GCFRP). This pledge is a conditional policy action
- 30 <https://mofa.gov.gh/site/publications/research-reports/317-planting-for-food-job-operational-performance>
- 31 <https://thebftonline.com/2021/07/30/presidency-launches-ocean-governance-study/>
- 32 <https://rmu.edu.gh/recent-mass-deaths-of-dolphins-and-other-fishes-washed-ashore-along-the-coast-of-ghana-a-call-for-capacity-building-for-marine-research-interview-of-professor-elvis-nyarko-vc-rmu-by-the-media/>
- 33 <https://www.ghanaweb.com/GhanaHomePage/business/85-of-sand-winning-activities-illegal-Parliamentary-report-550349>
- <https://www.modernghana.com/news/974948/sand-winning-threatens-coastal-tourism-in-central.html>
- 34 <https://newsghana.com.gh/ghana-ports-record-increase-in-transit-traffic/#:~:text=Ghana's%20Sea%20Ports%20recorded%20an,to%201.3%20million%20in%202019.>
- 35 <https://www.modernghana.com/news/1111185/39-pirate-attacks-recorded-in-ghana-between-januar.html> ; <https://www.ghanaiantimes.com.gh/ghana-spearheads-efforts-to-counter-piracy-armed-robberies-at-sea/>
- 36 <https://www.graphic.com.gh/news/general-news/end-illegal-transshipment-of-fish-on-ghanaiian-waters.html> ; <https://www.theguardian.com/environment/2020/nov/11/fishing-app-launched-to-tackle-trawling-in-ghana>
- 37 <https://www.soaghana.org/home/livelihoods-affected-income-truncated-as-catches-turn-plastics-in-ghana/#more-102>

the areas of city-wide resilient infrastructure planning, agriculture resilience building in climate-vulnerable landscapes, early warning and disaster prevention, resilience for gender and the vulnerable, scaling up renewable energy penetration, scaling up sustainable mass transportation, the Green Cooling Africa initiative and alternative urban waste management. I will mention some of the efforts made in the aforementioned areas.

To enhance robust infrastructure planning in cities, about 22.94 kilometres of coastline have been protected. Some completed projects in this regard include the GH¢269.2 million/US\$46.33 million (4-kilometre) New Takoradi (Elmina) coastal protection project; the GH¢180.5 million/US\$31.07 million (4.2-kilometre) Blekusu coastal protection project³⁸ and the GH¢229.1 million/US\$ 9.43 million (1.9-kilometre) Adjoa coastal protection project.

On waste management, the Ministry of Special Initiative completed a transfer station by Zoomlion at Teshie, and a second facility with a 1000-tonnes-per-day capacity at Achimota³⁹. In addition, the Accra Compost and Recycling Plant Limited has built a 600-tonnes-per-day capacity compost plant, and completed the feasibility study to expand this to 1,000 tonnes per day soon. On the Green Cooling Africa initiative, Ghana has implemented the ECOWAS Refrigerators and Air Conditioners Initiative

that grants salary earners zero-rate interest loans from selected banks to acquire energy-efficient and climate-friendly domestic refrigerators and room air conditioners.

To enhance sustainable mass transport in the country, the government of Ghana, through the Ministry of Railway Development, provided 200 buses and another 100 buses to the Metro Mass Transit Company Limited⁴⁰ and the State Transport Company (STC) respectively⁴¹. Further to this, two state-of-the-art multipurpose bus rapid terminals have been completed in Adenta and Tudu, both in Accra⁴². Also, in order to achieve the policy action of ensuring a 20% energy efficiency improvement in power plants and to replace light crude oil for electricity generation with natural gas, 98.6% of thermal plants in the country now run on natural gas⁴³. This has contributed to a GHG reduction of over 109.9 kilotons of carbon a year, on the average⁴⁴.

To increase renewable energy penetration by 10% by 2030, the country adopted the Renewable Energy Master Plan (REMP) in 2019, the National Gas Master Plan in 2016, the Mini-grid Electrification Policy (2015, and revised in 2017), the National LPG Promotion Policy (2017) and the Integrated Power System Master Plan in 2019⁴⁵.

To contribute to clean cooking, the government distributed 1.2 million improved cookstoves to households and an additional 1,000 institutional stoves, as a way of

38 <https://www.gna.org.gh/1.21252722>

Conversion is done using an World bank Official exchange rate (LCU per US\$, 2021 period average) of GH¢5.81 to 1 dollar

39 <https://www.myjoyonline.com/accra-gets-second-waste-transfer-station/>

40 <https://siga.gov.gh/siga/govt-prioritizes-acquisition-of-new-buses-for-metro-mass-in-2022-budget/>

41 <https://www.graphic.com.gh/news/general-news/president-akufo-addo-hands-over-100-new-buses-to-stc.html>

42 <https://www.mot.gov.gh/10/16/42/newly-constructed-ultra-modern-bus-terminal-at-tudu-accra-handed-over-to-officials-of-ministry-of-transport-on-tuesday-july-3-2019>

43 Ghana Energy Commission, "Ghana Wholesale Electricity Market Bulletin," 2021.

44 EPA, "Ghana's Fourth National Communication to the United Nations Framework Convention on Climate Change Project."

45 Revised Ghana's Climate Priority Climate Action (Updated Nationally Determined Contribution)

increasing access to the use of cleaner cooking solutions, in relation to a target of distributing two million efficient cookstoves by 2030. Additionally, 18,000 inefficient 250W streetlights have been replaced with 150W Light Emitting Diode (LED) lights and 32,893 automatic timer switches have been installed. Currently, the Ministry of Energy is leading the distribution of 12 million LED lamps to some state institutions. Forty-six capacitor banks have equally been installed in public buildings and more will be done to reach 1,000 commercial and industrial facilities⁴⁶. Also, about US\$26.39 billion have been invested in natural gas production and the development of related infrastructure in the country's oil-producing fields, to contribute to the scaling up of natural gas use in electricity generation.⁴⁷

On gender issues, a gender working group, comprising representatives from priority sectors of the NDCs, has been constituted to incorporate gender issues into climate actions⁴⁸. Further to this, a manual has been developed to guide gender-mainstreaming actions⁴⁹. To contribute to scaling up the penetration of climate-smart technologies to increase the productivity of livestock and fisheries by 10%, the fishing closed seasons

were implemented for all fleets, including canoes, from 2016 to 2021, except for 2020 due to COVID-19⁵⁰. In August 2021, the World Bank approved a US\$103.4 million facility to reverse the degradation of three million hectares of landscapes in coastal forest and northern savannah zones⁵¹. Also, the government built 426 dams under the One Village, One Dam initiative, aimed at providing water for livestock, dry season farming and domestic activities.⁵²

As of 2019, there were 44 functional synoptic and 15 manual weather stations⁵³ in Ghana, while 10 new automatic weather stations were installed in the same year, in addition to the already existing 22 synoptic weather stations (out of which seven were manual)⁵⁴. On disaster prevention, 69 steel bridges across the feeder roads network have been completed, while 20 bridges are being revamped on trunk roads networks. In similar manner, Spanish bridges and seven northern bridges have been built in Kulungugu, Garu 1, Garu 2, Doninga, Sisili and Ambalara⁵⁵.

In relation to climate-induced health risks, an electronic system for early detection has been established, as a measure for implementing a national epidemic response

46 EPA, "Ghana's Fourth National Communication to the United Nations Framework Convention on Climate Change Project.

47 EPA, "Ghana's Fourth National Communication to the United Nations Framework Convention on Climate Change Project."

48 Sabia Kpekata, "Mainstreaming Gender into Climate Change: Ghana's Experience," 2017, <https://www.undp.org/content/dam/LECB/events/2017/20170926-regional-africa-ndc-dialogue-rabat-morocco/presentations-day-2/undp-lecb-africa-regional-dialogue-mainstream-gender-equality-womens-empower-ndc-process-ghana-sabia-aku-kpekata-20170927.pdf>.

49 https://info.undp.org/docs/pdc/Documents/GHA/NDCs%20Gender%20Mainstreaming%20Toolkit_GH.pdf

50 <https://ghenvironment.org/ghana-announces-the-closure-of-the-2021-Fishing-Season#:~:text=According%20to%20the%20Ministry%2C%20artisanal,1st%20to%20August%2031%2C%202021>.

51 <https://www.myjoyonline.com/world-bank-approves-over-100-million-to-reverse-ghanas-land-degradation/>

52 <https://www.graphic.com.gh/news/general-news/426-dams-built-under-one-village-one-dam-initiative-hawa-koomson.html>

53 <https://www.graphic.com.gh/news/general-news/ghana-meteorological-agency-gets-10-automatic-weather-stations.html>

54 <https://www.meteorologicaltechnologyinternational.com/news/automated-weather-stations/automatic-weather-stations-to-boost-ghanaian-meteorological-capabilities.html>

55 <https://www.myjoyonline.com/120-bridges-to-be-built-out-of-200-programmed-roads-minister/>

system⁵⁶. Also, a national health adaptation strategy has been developed⁵⁷.

5. Assessing the ambition and feasibility of climate pledges: PESI Analysis

The section below presents an analysis of NDCs/pledges from the political, economic, social and institutional dimensions.

5.1 The political dimension of updated climate pledges

Ghana's updated NDCs were influenced by international, regional and national goals, frameworks and policies, with the Sustainable Development Goals (SDGs) as some of its major influences. Ghana's net-zero announcements at COP26⁵⁸, including the planting of at least 20 million trees in 2022 (amongst other local factors⁵⁹), were influenced by the opportunity to secure external emission reduction payments⁶⁰. Also, the climate pledge at COP26 to finalise a sustainable ocean plan by 2025 and conduct a ocean governance study, amongst other local factors⁶² are influenced by Ghana's membership of the Ocean panel⁶³.

Other regional goals influencing the country's climate pledges, include the AU Agenda 2063, particularly its Aspiration One, which highlights the need to build Africa on the basis of inclusive growth and sustainable development. Furthermore, climate risks and natural disasters are identified as some of the eight key risk threats to the continent⁶⁴.

To add to this, Ghana's updated NDCs are shaped by national policies and medium-term frameworks. These comprise the Coordinated Programme of Economic and Social Development Policy (to be implemented from 2017 to 2024), Medium-Term Development Policy Framework (to be implemented between 2018 and 2021), Ghana Beyond Aid Charter Strategy Document⁶⁵ and the COVID-19 Alleviation and Revitalisation of Enterprises Support⁶⁶. The aforementioned policies and frameworks were developed by the ruling New Patriotic Party (NPP) government to realise some key promises in its party manifesto⁶⁷. The NPP-led administration has been in government since 2016, and the updated NDCs have a good number of Plan of Actions (PoAs) relating to agriculture, waste and sustainable transportation, which

56 NPP, "2020 manifesto" (Accra, p62) https://media.peacefmonline.com/docs/202008/519056491_291669.pdf

57 GoG, "Ghana's Adaptation Communication to the United Nations Framework Convention on Climate Change" (Accra, 2021), [http://www.epa.gov.gh/epa/sites/default/files/downloads/publications/Ghana_AdCom to the UNFCCC_November 2021.pdf](http://www.epa.gov.gh/epa/sites/default/files/downloads/publications/Ghana_AdCom%20to%20the%20UNFCCC_November%202021.pdf).

58 <https://www.graphic.com.gh/news/politics/akufo-addo-at-cop26-we-ll-combat-climate-change-but-protect-ghana-s-development-as-well.html>

59 Other local factors are low hanging projects within the State's capacity to wholly provide tree seedlings, alignment with the country's quest to restore degraded and deforested forests

60 <https://www.worldbank.org/en/news/press-release/2019/07/09/ghana-signs-landmark-deal-with-world-bank-to-cut-carbon-emissions-and-reduce-deforestation>

61 <https://partnershipsforforests.com/wp-content/uploads/2020/10/Unlocking-carbon-finance-in-Ghana.pdf> . Also see section 4.2 of Ghana's updated NDCs. This will be achieved through a programme of action under that Ghana Cocoa Forest REDD+ Programme (GCFRP). This pledge is a conditional policy action

62 Other local factors are depleting fish stock from overfishing, ongoing petroleum upstream activities, maritime boundary dispute

63 <https://thebftonline.com/2021/07/30/presidency-launches-ocean-governance-study/>

64 https://au.int/sites/default/files/documents/33126-doc-01_background_note.pdf

65 http://osm.gov.gh/assets/downloads/ghana_beyond_aid_charter.pdf

66 <https://mofep.gov.gh/sites/default/files/news/care-program.pdf>

67 https://media.peacefmonline.com/docs/202008/519056491_291669.pdf

are found in the 2020 party manifesto⁶⁸. Examples include government's flagship projects, such as planting for export and rural development, one village one dam (1V1D), rearing for food and jobs, one district one warehouse (1D1W), railway revitalisation and expansion, improving waste management via three key engineered landfill sites, amongst others. Interestingly, similar interventions are captured in the 2020 manifesto⁶⁹ of the major opposition party (the National Democratic Congress-NDC), albeit with a different scope and approach. For instance, under the "big push initiative", the NDC promises to invest US\$10 billion over five years in social and economic infrastructure and also to create one million jobs. The NDC equally promises to align appropriate infrastructure to facilitate these activities, including private-public partnership models for irrigation and networked warehousing system (an alternative to the NPPs 1V1D), as well as a "poultry/farm to table programme" (an alternative to the NPPs rearing for food and jobs and 1D1W).

The history of policy and programme abolition during changes in political regimes reveals threats to the early achievement of climate pledges, since a new government is likely to make political capital by changing the approach, scope and description of PoAs to achieve manifesto promises. In a most recent

example of policy abolition, the Ghana @ 100 Framework and the accompanying National Infrastructure Plan (long-term development plan) documents were developed on the basis of a draft development plan by the previous government in August 2015. The plan lacked the political buy-in of the largest opposition group in Ghana. This 40-year plan was rejected by the NPP-led government in 2017^{70 71}. Similarly, Ghana's vision 2020 that was developed in 1993 by the NDC-led government was suspended in 2000 by the NPP-led government⁷².

Currently, the Ghana Beyond Aid strategy, long-term development plans and other national policy documents, have no multi-partisan buy-in⁷³. This lack of multi-partisan support, at least from the major opposition party, is a threat to the expeditious realisation of some PoAs, should there be a change in government, due to historic antecedents arising from regime change.

5.2 The economic dimension of updated climate pledges

At COP26 in Glasgow, the President of the Republic indicated that in as much as Ghana will contribute to combating climate change, yet climate actions must seek a balance between favourable environmental outcomes and socio-economic development⁷⁴. In addition, the development of a climate finance strategy in November 2021⁷⁵ is an appreciation of the challenges

68 See NPP manifesto. https://media.peacefmonline.com/docs/202008/519056491_291669.pdf

69 https://media.peacefmonline.com/docs/202009/664943581_319331.pdf

70 Abubakari, Mohammed & Asamoah, Paul & Agyemang, Festus, "Ghana and Sustainable Development: The 40-Year National Development Plan in Retrospective" (Journal of Human Resource and Sustainability Studies, 2018), 10.4236/jhrss.2018.61024.

71 <https://citifmonline.com/2017/01/we-dont-need-a-40-year-national-development-plan-osafo-maafa/>

72 <https://journals.co.za/doi/pdf/10.10520/EJC17417>

73 Solomon Ananpansah, "An Examination of the Sustainability of the Ghana Beyond Aid Agenda: Challenges and Prospects" (University of Ghana, 2019), <http://ugspace.ug.edu.gh>.

74 <https://www.graphic.com.gh/news/politics/akufo-addo-at-cop26-we-ll-combat-climate-change-but-protect-ghana-s-development-as-well.html>

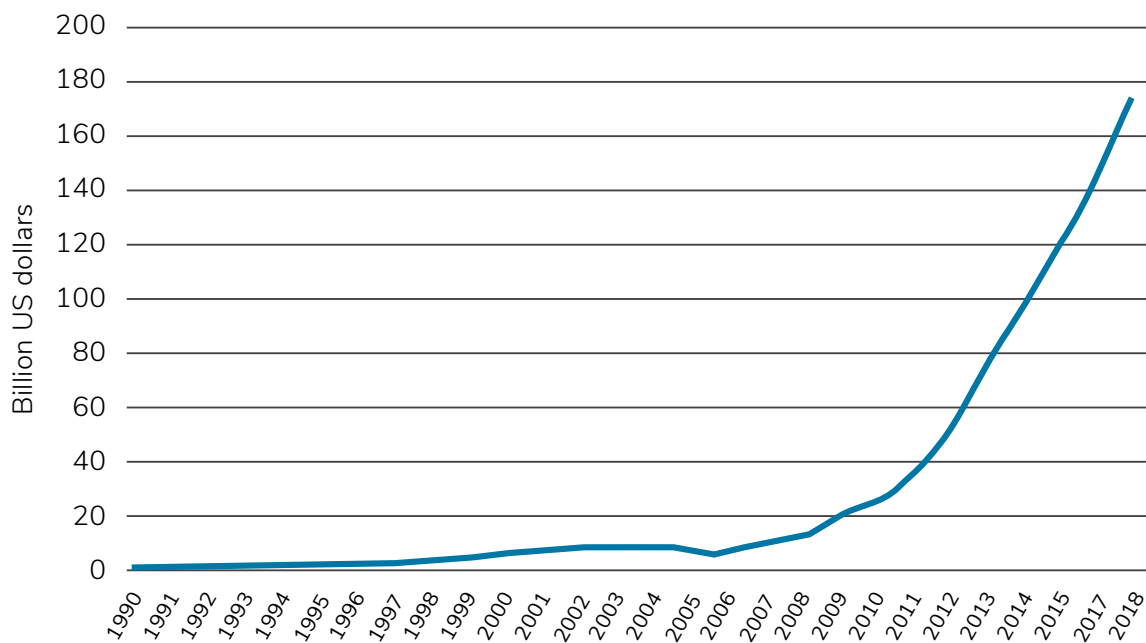
75 Nationally Determined Implementation Plan: Financing Strategy Report

the global and domestic climate finance markets face due to the ravaging effects of COVID-19. Domestically, the country is debt distressed, has low fiscal revenue and rising fiscal expenditure⁷⁶.

Ghana's national debt and interest payment have been on the ascendance since 2000. The gross public debt has increased from \$4.9 billion in 2000 to \$178.23 billion in 2018 (figure 8, table 5).

Source: WEO, 2020

Figure 2: Gross national debt of Ghana



76 <https://www.myjoyonline.com/full-speech-finance-ministers-statement-on-mitigating-measures-to-fix-economy/>

Table 2: Key fiscal ratios

Year	2016	2017	2018	2019	2020
Interest payment-fiscal revenue	33%	34%	34%	38%	46%
Compensation-fiscal revenue	44%	42%	42%	42%	52%
Fiscal revenue-total debt	27%	28%	27%	24%	18%
Interest payments (GH¢ Million)	10,770.44	13,572.12	15,821.82	19,769.26	24,599.26
Total Public Debt (GH¢ Million)	122,263	142,616	173,069	218,229	291,631

Source: Authors construct based on Bank of Ghana data

In the five years from 2016 to 2020, the country's fiscal revenue accounted, averagely, for 25% of its total public debt. On the average, 45% of the fiscal revenue was expended on the compensation of employees, while an average of 37% of was spent on debt servicing, specifically interest payment on debt (Table 1). What this means is that a total of 82% of the fiscal revenue was expended on compensation and interest payments, leaving less fiscal space for other expenditures, such as earmarked funds (i.e. student's loans, transfers to the Minerals Development Fund, Mineral Income Investment Fund, etc., grants to key government units – such as sub-national governments, social benefits – such as electricity lifeline fees), capital expenditure and unconditional climate pledges. The climate pledges that might be implemented are likely to be selected in such a way that they will align with the government's priorities and programmes, in terms of the ruling party's manifesto.

The government's quest to secure concessional loans⁷⁷, while providing counterpart funding to the tune of US\$ 2 billion via the Sinohydro deal⁷⁸ to finance roads and interchanges, has not been without challenges⁷⁹. This may affect the rate of progress of inter-and-intra-city transportation expansion (a conditional policy action under transportation). About 65 civil society groups⁸⁰ have opposed the commercial exploitation of bauxite in fragile forest⁸¹ reserves in exchange for the loan,⁸² although minor parts of the project have been implemented. Also, the Agyapa Royalties deal, which was to secure an initial \$500 million and upfront concessional finance,⁸³ is in limbo.

5.2.1 The economic barrier to past climate pledges

Despite the feats listed in section four on renewable energy and the waste sub-sectors, the progress made in achieving Ghana's renewable energy target has been slow due to inadequate funding and difficulty in accessing data on solar PV installations not commissioned by the government. To reach the 10% renewable energy target by the year 2030, the Renewable Energy Master Plan set a target of 35.41 MWp of renewable technology to be added to existing off- and on-grid capacity by 2020. However, data from the Energy

77 <http://ir.parliament.gh/handle/123456789/1417>

78 <https://constructionreviewonline.com/news/ghana/china-approves-funding-for-sinohydro-projects-in-ghana/>

79 <https://www.ghanaweb.com/GhanaHomePage/NewsArchive/dossier.php?ID=1232>

80 <https://www.ghanaweb.com/GhanaHomePage/business/65-Civil-Society-Organisations-oppose-China-s-US-15bn-bauxite-development-plan-in-Ghana-683540>

81 <https://www.modernghana.com/news/937152/to-mine-bauxite-in-atewa-or-to-preserve-reliving.html>

82 <https://www.theafricareport.com/150152/ghana-post-cop26-action-not-words-will-make-the-difference-say-environmental-groups/>

83 https://resourcegovernance.org/sites/default/files/documents/nrgi_impact_demystifying_ghanas_agyapa_royalties_deal.pdf

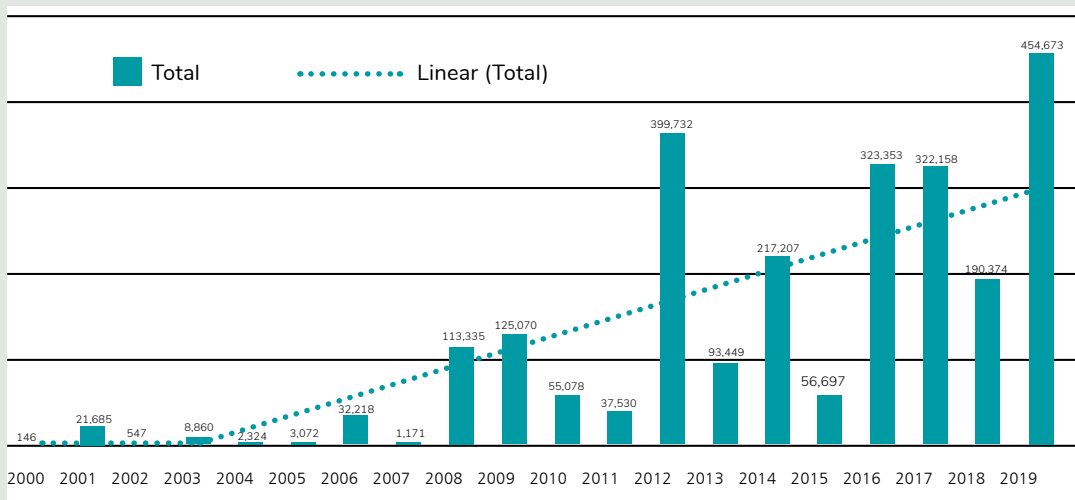
Commission indicates that 29.8 MWp was added by 2020, indicating a gap in reaching the renewable energy target. Although the adoption of the Renewable Energy Master Plan led to the preparation of a net metering code and renewable energy sub-codes for transmission and distribution systems, the net metering code has faced implementation challenges due to the fear of the State Utility Distribution Company (Electricity Company of Ghana) losing business⁸⁴.

Similarly, in the waste sub-sector, specific PoAs, such as the installation of 200 institutional biogas facilities in senior high schools and prisons nationwide, have not been fully realised. By 2020, 50 biogas facilities had been installed. The policy action is set as “conditional” in the updated NDCs because funds were not secured at the time of publishing the updated NDC. High upfront cost and non-existing public capital incentives are some challenges confronting biogas development in Ghana⁸⁵

5.2.2 Climate finance

External climate finance has witnessed a steady increase from 2008, albeit through irregular flows (figure 3). From the year 2008, Ghana has received annual external climate finance support in the form of either concessional or non-concessional terms from development assistance committee members, private donors, multilateral development banks, other development funds and global climate funds. Of the US\$2.419 billion received over the period till 2019, 56% of the inflows were grants (figure 3). More than two-and-a-half times of climate funds received in the last nineteen years are needed to finance conditional policy actions in the current/updated NDCs (Table 2).

From Table 2, it can be observed that the conditional policy actions and total investment reduced in the current NDCs, in comparison to the first one. This may be attributed to lessons learnt from the implementation of the first NDC, which may include overestimation of the investment requirements and/or appreciation of the challenges regarding climate financing.



Source: OECD DAC External Development Finance Statistics, Authors Analysis

Figure 3: Trends in climate-related development finance - commitment in current US\$ thousand (2000-2019)

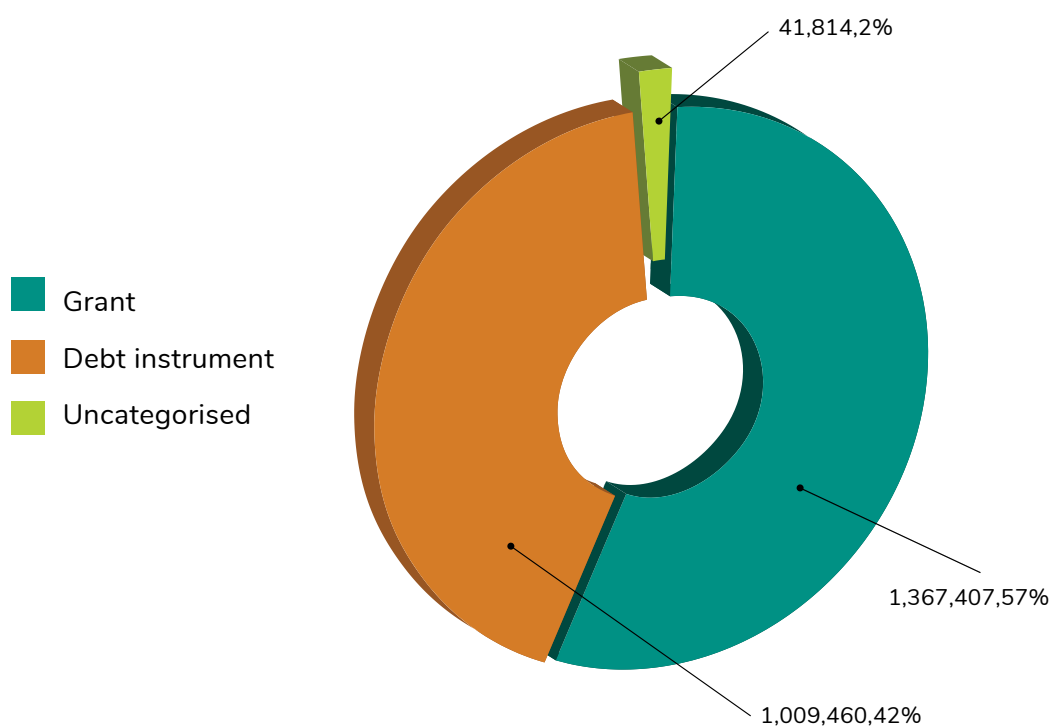
84 <https://thebftonline.com/2020/08/25/as-more-companies-go-solar-energy-ministry-worries-about-ecgs-viability/>

85 Revised Ghana's Climate Priority Climate Action (Updated Nationally Determined Contribution)

Table 3: Comparison of the financial requirement for NDC implementation and climate-related development finance – Commitment received from 2000 to 2019

First NDC	Ghana National Climate Change Master Plan	Updated NDC	Climate-related development finance – commitment received - (2000-2019)
It has 31 actions, 20 mitigation programmes and 11 adaptation programmes.		It has 19 policy actions in 10 priority areas, 34 and 13 mitigation and adaptation programmes respectively.	
A total investment of US\$22.6 billion is required to fully implement the NDC till 2030.	Approximately US\$ 9.3 billion utilised over the period 2015-2020	An amount of US\$9.4 - US\$15.5 billion investment is required.	US\$ 2.419 billion.
US\$16.3 billion (72%) was conditional; US\$6.3 billion (28%) was conditional		US\$5.5-US\$11.6 billion is required for 16 conditional	
Total GHG reduction pledge of 33 metric tonnes CO ₂ e expected by the year 2030, relative to emissions in the year 2010.		Total GHG reduction pledge of 64 metric tonnes of CO ₂ equivalent expected by the year 2030, relative to emissions in the year 2019.	

Source: Author's analysis based on OECD DAC External Development Finance Statistics, Ghana's First NDC and Updated, Ghana National Climate Change Master Plan Action Programmes for Implementation: 2015–2020



Source: OECD DAC External Development Finance Statistics, Authors Analysis
Figure 3: Climate-related development finance per financial instrument - commitment current US\$ thousand (2000 to 2019)

5.2.3 Potential funding sources

Ghana has developed a climate financing strategy⁸⁶. The strategy recognises that climate financing must constitute a prudent blend of several sources. Considering the debt level of the country, the impact of COVID-19 on economies, inadequate external climate finance support, efforts have been made by the national climate committee to explore internal climate finance sources, such as private-public partnerships (like the Ghana Green Climate Fund, climate trust fund, SDG delivery fund and green fund), fiscal sources (such as the carbon tax, sanitation and pollution levy⁸⁷) and funding from capital markets (such as green bonds). These are in addition to already explored external climate finance inflows, like international finance sources (e.g. global environment facilities and green climate fund), donor support and loans⁸⁸.

Apart from the slow progress made since initiating the Ghana green bond⁸⁹ and SDG delivery fund⁹⁰, the introduction of internal climate finance sources will need extensive stakeholder consultations and subsequently the development of legal and regulatory frameworks to initiate them.

5.2.4 The political economy issues in oil and gas extraction and the energy transition

Political leaders are concerned about the imminent impact of the energy transition on the extraction and exploitation of hydrocarbons. Due to this, Ghana is developing a draft energy transition plan. While at it, a strong signal has been given to harness the country's natural gas resources – the Liquefied Petroleum Gas and Compressed Natural Gas – for electricity generation. As indicated by the Vice President of Ghana, Dr Mahamudu Bawumia:

...We all have to be aware that this transition is going to take place over the next 30 years, but the costs of that transition are being felt today. There is less and less funding available for oil exploration and exploitation.... For starters, Ghana must seek to increase its natural gas-based electricity generation. We shall increase the share of modern renewable energy in the national energy mix. Government shall also take steps to promote clean energy sources, including biofuels, Compressed Natural Gas (CNG), Electric, Hydrogen fuels,⁹¹ Draft National Energy Transition Plan Forum, February 22, 2022).

Regarding how to finance the extraction of oil and natural gas, apart from seeking foreign investment⁹², one of the key strategies has been to invest in the National Oil Company (NOC).

86 Nationally Determined Implementation Plan: Financing Strategy Report

87 [https://atugubaassociates.com/file/Energy%20Sector%20Levies%20\(Amendment\)%20Act.pdf](https://atugubaassociates.com/file/Energy%20Sector%20Levies%20(Amendment)%20Act.pdf).

88 <https://www.myjoyonline.com/governments-e20m-renewable-energy-fund-to-boost-ghanas-energy-transition/>

89 <https://www.mfw4a.org/news/ghana-launch-dedicated-green-bond-exchange>

90 <https://www.ghanaweb.com/GhanaHomePage/business/Ghana-needs-US-54-billion-annually-to-finance-SDGs-Prof-Gyan-Baffour-1424791>

91 <https://www.presidency.gov.gh/index.php/briefing-room/news-style-2/2145-plan-for-transition-to-renewables-vp-bawumia-to-stakeholders>

92 <https://african.business/2022/03/apo-newsfeed/ghanas-energy-minister-to-present-policy-reforms-and-investment-opportunities-required-to-boost-africas-hydrocarbon-sector-at-african-energy-week-2022/?fbclid=IwAR1ekFKQoZ0RjRftar9L8Yptil84sNHj9S84wHGp20cAL-5mJ8SJDbb1qk>

In 2019, Ghana's NOC was awarded a block in the country's first oil block licensing round⁹³. In addition, the NOC has invested in liquefied natural gas storage, regasification, and delivery facilities⁹⁴ and has procured 7% extra commercial interest worth US\$199 million in two oil fields (Jubilee and TEN), after Occidental Petroleum sold its share in the two fields⁹⁵.

The evidence above indicates that Ghana is preparing for the energy transition, while simultaneously preparing to realise value from its hydrocarbon assets.

5.3 The Social dimension of updated climate pledges

Climate awareness⁹⁶ is gradually increasing in Southern Ghana, especially amongst farmers⁹⁷ and youths⁹⁸. This is largely due to the work of several youth groups working on climate issues⁹⁹. Further to this, although specific pledges were not made concerning awareness creation on climate change, the Environment Protection Agency, National Council for Curriculum and Assessment, and Ghana Education Service, have mainstreamed lessons on climate change

at the pre-tertiary¹⁰⁰ and tertiary levels¹⁰¹. A new university¹⁰² has been established to train graduates in environment and climate issues. Several others, such as the University of Energy and Natural Resources, have introduced programmes on climate change and sustainable development¹⁰³.

Journalists are building capacity on climate issues¹⁰⁴ and sometimes incorporating climate perspectives in news reportage. Also, due to the unemployment situation in Ghana, several development partners have instituted competitions in which young people pitch ideas relating to green jobs¹⁰⁵. The updated NDCs estimate that there would be 997,561 job prospects¹⁰⁶. The renewable energy master plan estimates 220,000 job prospects, including farming, by 2030, if the plan is implemented successfully¹⁰⁷. Thus, a good number of young people are gaining knowledge about climate issues, which has created an enabling atmosphere for ambitious implementation.

5.4 Institutional dimension of updated climate pledges

The implementation of the Ghana Climate

93 <https://www.petrocom.gov.gh/govt-allocates-2-oil-blocks/>

94 <https://www.energyforgrowth.org/memo/first-of-its-kind-for-sub-saharan-africa-what-remains-for-ghana-to-successfully-launch-tema-lng/>

95 <https://www.gnpcghana.com/press55.html>

96 <https://www.vanguardngr.com/2019/09/ghanaian-schoolchildren-join-global-climate-strike/>

97 Antwi-Agyei, P. Nyantakyi-Frimpong, H. Evidence of Climate Change Coping and Adaptation Practices by Smallholder Farmers in Northern Ghana. *Sustainability* 2021, 13, 1308. <https://doi.org/10.3390/su13031308>

98 See Precious Agbeko Dzorgbe Mattah, Godfred Futagbi, Memuna Mawusi Mattah, "Awareness of Environmental Change, Climate Variability, and Their Role in Prevalence of Mosquitoes among Urban Dwellers in Southern Ghana", *Journal of Environmental and Public Health*, vol. 2018, Article ID 5342624, 9 pages, 2018. <https://doi.org/10.1155/2018/5342624>

99 See Kasa Ghana, Green Africa Youth Organisation, Strategic Youth Network for Development, Ghana Youth Environmental Movement

100 <https://nacca.gov.gh/wp-content/uploads/2019/04/SCIENCE-UPPER-PRIMARY-B4-B6.pdf> and <https://nacca.gov.gh/wp-content/uploads/2019/04/National-Pre-tertiary-Education-Curriculum-Framework-final.pdf>

101 <https://sonr.uenr.edu.gh/3cgs/>

102 <https://uesd.edu.gh/site/wp-content/uploads/2021/02/UESD-ACT-898.pdf>

103 <https://uenr.edu.gh/uenr-collaborates-with-aims-ghana-to-introduce-a-postgraduate-programme-in-climate-change-and-atmospheric-physics/>

104 <https://allafrica.com/stories/201908120374.html> and <https://www.modernghana.com/news/866487/journalists-trained-on-climate-change-and-green.html>

105 <https://thebftonline.com/2021/10/05/over-20-smes-pitch-for-e200000-green-innovation-grant/> ; <https://snv.org/project/green-boosting-green-employment-and-enterprise-opportunities-ghana>

106 EPA & MESTI, "Ghana Updated Nationally Determined Contribution under the Paris Agreement (2020 - 2030)."

107 MoE, "Ghana Renewable Energy Master Plan," Ghana Renewable Energy Master Plan, 2019, 1–83.

Ambitious Reporting Programme (G-CARP) since 2013 has ensured that reporting on climate change and the execution of programmes are mainstreamed in periodic reporting to the Ministry of Environment Science and Technology through the Environmental Protection Agency (EPA)¹⁰⁸. The G-CARP has working groups comprising institutions with specific tasks, for instance the project steering committee (Energy Commission and the EPA) works on emission modelling and reporting; Ghana Meteorological Agency is responsible for climate scenarios; Institute of Statistical, Social and Economic Research (ISSER) reports on the national circumstance, while the project supervisory committee, consisting of thirteen senior representatives drawn from civil society, government institutions and tertiary institutions, provide oversight and meets bi-annually to measure work progress and take policy decisions.

Several institutions are involved in the reporting programme, including line ministries (such as the Ministry for Environment and Science, Technology and Innovation (MESTI), Ministry of Finance, and Ministry of Food and Agriculture), governmental agencies (such as public universities, Tema Oil Refinery, Ghana Meteorological Agency, Ghana Statistical Service), and the private sector, comprising business associations and Zoomlion Ghana Limited. The reporting programme has encouraged the mainstreaming of climate

commitments into subnational plans, and has equally supported policy implementation, monitoring and evaluation¹⁰⁹. A major output of these institutions are the periodic production of reports such as Ghana's National Communication to the United Nations¹¹⁰, inventory GHG reports¹¹¹ and SDG budget reports¹¹². Despite the above-mentioned institutional arrangements, sometimes the timelines and deliverables set in a memorandum of understanding amongst the stakeholders are missed. In addition, officers who prepare reports do not prioritise tasks because their time committed is not included in the work plans or staff appraisals.

5.4.1 Legal and regulatory frameworks for implementing climate pledges

Ghana has ratified some international agreements, such as the Kigali Amendment to the Montreal Protocol¹¹³. Nationally, the country has legal and regulatory frameworks for implementing climate pledges. Some of these are the Renewable Energy Master Plan¹¹⁴, National Gas Master Plan¹¹⁵, Efficiency Standards and Labelling Regulations (e.g. LI 2353)¹¹⁶ and the customs amendment bill 2020¹¹⁷ (banning the importation of over-aged vehicles).

Moreover, the country has developed a sustainable financing framework to screen projects to be funded by the SDG Delivery Fund and the Green Fund. Such expenditures

108 EPA, "Ghana's Fourth National Communication to the United Nations Framework Convention on Climate Change Project."

109 https://api.knack.com/v1/applications/5b23f04fd240aa37e01fa362/download/asset/5c9392f835b40809afcf94e0/2013ongoingclimaterreporting_ghana.pdf

110 EPA, "Ghana's Fourth National Communication to the United Nations Framework Convention on Climate Change Project."

111 https://unfccc.int/sites/default/files/resource/gh_nir4_rev_0.pdf

112 https://mofep.gov.gh/sites/default/files/reports/economic/2020_SDGs_Budget_Report.pdf

113 <https://iea.uoregon.edu/members/8856> and <https://iea.uoregon.edu/country-members/Ghana>

114 <http://www.energycom.gov.gh/files/Renewable-Energy-Masterplan-February-2019.pdf>

115 https://uploads-ssl.webflow.com/5a92987328c28c00011db053/5bbf7dca7a04d6da6a45aa82_GMP-Final-Jun16.pdf

116 <https://www.energycom.gov.gh/files/Efficiency%20Standards%20LI%202353.pdf>

117 http://ir.parliament.gh/bitstream/handle/123456789/1634/2020_03_09_09_37_51.pdf?sequence=1&isAllowed=y

are to align with any of the 17 SDGs. Some excluded projects are those related to nuclear energy, fossil fuels, tobacco, ammunition support, alcoholic beverages, etc. The framework mandates an inter-ministerial committee comprising ministries such as Energy, Gender, Foreign Affairs, Education and representation from institutions such as Ghana Statistical Service and National Development Planning Commission to screen projects for compliance with the frameworks, upon which recommendations are made to the finance ministry for financial support¹¹⁸. Policies such as the health sector policy on health and climate change, electro-mobility policy and the implementation framework¹¹⁹ are in the offing.

5.4.2 Data, monitoring and evaluation

The role of institutions in data collection, monitoring and evaluation is vital in ensuring the success of climate initiatives, plans and actions. The Energy Commission of Ghana tracks all grid and mini-grid renewable energy installations and the performance of all SDG 7 components through its annual National Energy Statistics¹²⁰. Through the leadership of the Ministry of Environment, Science and Technology, the National Communication to the United Nations Framework Convention on Climate Change¹²¹ is developed. The communication provides updates on the national GHG inventory, alongside the achievements and progress made on NDCs. Other data repositories managed by the Forestry Commission and Environmental Protection Agency are the Ghana REDD+

Datahub¹²², national adaptation data portal¹²³ and climate change database¹²⁴. Despite these efforts, there are gaps in data collection on climate efforts in Ghana. For example, the National Energy Statistics do not track energy mitigation projects that do not go through the Ministry of Finance. As such, interventions by development partners and households on solar projects are not accounted for as contributions to reaching the 10% renewable energy goal by 2030.

5.4.3 Institutional barrier to past climate pledges

Ghana's past and updated climate pledge promises the adoption of alternative urban solid waste management strategies. A major hindrance to realising this policy action has been the non-existence of a waste market, waste regulation and fees structure. International good practice requires the establishment of a waste market, while regulation and a fees structure can improve the effectiveness of urban solid collection to engineered landfills sites.

Also, despite the accomplishments in the area of value addition-based utilisation of forest resources, not much has been done in the governance reforms of forest resources for sustainable energy utilisation, biodiversity, handling the fragile nature of ecologically and culturally sensitive sites in some 22 administrative districts, as indicated in policy actions in the past climate pledge. Although potentials exist in rattan and bamboo value additions for energy, furniture, watershed protection and carbon

118 <https://mofep.gov.gh/sites/default/files/news/Ghana-Sustainable-Financing-Framework.pdf>

119 <https://www.graphic.com.gh/news/general-news/energy-ministry-seeks-tax-waiver-on-electric-vehicles.html>

120 Ghana Energy Commission, National Energy, National Energy Statistics, vol. 27, 2020, <https://doi.org/10.1088/0031-9112/27/9/008>.

121 EPA, "Ghana's Fourth National Communication to the United Nations Framework Convention on Climate Change Project."

122 <http://www.ghanaredddatahub.org>

123 <https://napgh.com/>

124 <https://climatedatahub.com>

sequestration¹²⁵, however not much have been done in this regard.

6. Discussion

This section summarises the feasibility of climate pledges by Ghana and observations made from this chapter.

The feasibility of Ghana's climate pledges is threatened by inadequate external climate funds (what is required to implement the climate pledges is over two-and-a-half times the previous external climate fund inflows from 2000 to 2019), high debt levels and low fiscal space. As a result of this, the government will face financial constraints in implementing components of the policy actions that require high investment. The meagre fiscal space (averaging about 18%) after interest payment on debt and employee compensation makes budget allocation an unattractive option for financing climate pledges. Closely linked to this, the seemingly innovative finance options, such as the US\$2 billion Sinohydro and Agyapa royalty deals, have received stiff opposition from civil society. From a political perspective, the lack of consensus-building on national development priorities by political parties, will lead either to the redevelopment of programme of actions, delay or stall ongoing PoAs, should a new government assume office. This may lead to cost overruns in the case of physical infrastructure.

On the other hand, increasing climate knowledge, especially amongst farmers, students, journalists and youth groups, is a significant enabler of the feasibility of climate pledges. Climate change has been mainstreamed in the curriculum at

the pre-tertiary and tertiary levels. Also, new universities have been established to train graduates on the environment and climate issues. In addition, the prospects of green jobs promise to be high. At the institutional level, the implementation of the G-CARP has ensured that reporting on climate change and the implementation of programmes are mainstreamed in periodic reporting to MESTI, through EPA and other oversight institutions. More so, there are a number of international and national legal and regulatory frameworks that Ghana has either signed or developed to aid the implementation of climate pledges. A summary of the feasibility of Ghana's climate pledges is presented in Table 4.

125 Paul Osei-tutu, Ernest Acheampong, and Michael Kwaku, "Bamboo for Charcoal Production in Africa : Experiences from Ghana," n.d., https://www.inbar.int/wp-content/uploads/2021/07/July2021_Ernest_Bamboo-for-charcoal-production-in-Africa-experiences-from-Ghana.pdf. ; <https://www.myjoyonline.com/government-urged-to-pay-attention-to-bamboo-and-its-economic-benefits/>

Table 4: Summary: feasibility of climate pledges by Ghana.

Positive impact on the feasibility of climate pledge

Impact Factor	Low	Medium	High	Justification
Political				The history of the abolition of government policies and programmes during changes in political regimes threatens the expeditious achievement of climate pledges.
Economic				Inadequate external climate funds, high domestic debt and a low fiscal space create difficulty in finding money to pursue expenditures, including climate pledges.
Social				Increasing climate knowledge, especially amongst farmers, students, journalists and youth groups. In addition, there are high prospects of green jobs.
Institutional				The implementation of the G-CARP has ensured regular reporting on climate change by MESTI through EPA and other oversight institutions. Furthermore, Ghana is a party to key international agreements, such as the Kigali Amendment to the Montreal Protocol and has developed national legal and regulatory frameworks for implementing climate pledges e.g., the sustainable financing framework.

Legend

- Significant threat to the feasibility of climate pledges. Needs urgent attention.
- Moderate threat to the feasibility of climate pledges. Needs attention.
- Significant enabler to the feasibility of climate pledges. Needs continuous improvement.

As illustrated in section four, Ghana has made significant efforts toward implementing its climate pledges. Not only are the actions contributing to climate efforts but, more importantly, they are bridging infrastructure and developmental gaps, especially in the road, railway development and energy sub-sectors. Also, it has been pointed out that the development of Ghana’s climate pledges are influenced by the SDGs, AU Agenda 2063, and national medium-term policy frameworks such as Ghana Beyond Aid and the COVID-19 alleviation support programme. Also, the kinds of projects/programmes considered under the PoAs are influenced by the ruling government’s developmental programmes. Moreover, Ghana’s membership of international bodies working on sustainability issues, such as the Ocean Panel, and the opportunity to get emission reduction payments, are some factors that have influenced the development of Ghana’s climate pledges. These factors have not only presented opportunities for the making of context-sensitive climate pledges that align with

international and regional frameworks but also revealed political threats to the speedy feasibility of the climate pledges. Although significant progress has been made in most programme areas, climate pledges under renewable energy, waste and value addition-based utilisation of forest resources need attention.

7. Conclusion and recommendations

The primary aim of this study has been to assess the ambition and feasibility of climate pledges in Ghana from the political, economic, social and institutional points-of-view. Overall, Ghana has performed well in its past climate pledges and to a large extent in developing realistic climate pledges situated within the context of government policy, despite the high proportion of conditional policy actions. Generally, the feasibility of Ghana's climate pledges is enabled by social and institutional factors but threatened by economic and political factors in the short- and medium-terms respectively. To conclude, Ghana's updated climate pledges are largely feasible on the basis of progress made under social and institutional factors.

To resolve the economic threat to realising the climate pledges, policymakers must improve Ghana's debt sustainability profile, while considering the committal of a portion of natural resource revenues (especially from the exploitation of critical minerals), informed by extensive stakeholder consultation, to the implementation of climate pledges. Subsequently, future climate pledges should be premised on medium- and long-term strategies that have multi-partisan support, rather than being anchored on political party manifestoes. Consideration can be given to the creation of a legal framework that compels successive governments to stick to medium- and long-term policies, while equally mandating them to complete PoAs

commenced, by the previous government.

More so, oversight ministries need to improve the effectiveness of urban solid waste collection, value addition-based utilisation of forest resources and the monitoring of climate pledges. These would be done by establishing a waste market, waste regulation and fees structure; improving governance reforms for forest resources for sustainable energy utilisation, biodiversity, and management of fragile ecology and culturally sensitive sites. Also, by promoting value addition-based utilisation of forest resources, particularly rattan and bamboo for energy, furniture, watershed protection and carbon sequestration, while improving monitoring and evaluation by developing mechanisms to track adaptation and mitigation projects by development partners and individuals, which are not routed through the Ministry of Finance or government.

The most obvious policy proposal from this study is that low emitting West African countries should develop a climate pledge that aligns with their national development goals and ensure that there is enough buy-in from stakeholders, including political parties in opposition, on what these national priorities should be in the medium to long term. In addition, West African countries should also consider domestic climate finance for conditional climate pledges, since external support may be inadequate. Further to the financial support from the private sector, resource-rich West African countries can use a portion of their natural resource revenues or arrange with state-owned enterprises, such as national mining companies, to adopt the implementation of some PoAs.

Appendix

Table A 1: Overview of Updated NDCs

Nationally determined contribution policy actions	Climate Objective	Outcomes	Job Prospect Numbers	Funding (US\$/ m)	Emissions Reduction (WHAT UNIT OF MEASUREMENT OF CARBON?)	Short-lived climate pollutants mitigation
Enhance climate services for efficient weather information management, from 44 synoptic stations to 309 synoptic stations by 2030.	Adaptation.	Early warning and disaster risk management.	50	10		
Upgrade, strengthen and expand emergency operation centres nationwide by enhancing 21 existing emergency operation centres.	Adaptation.	Early warning and disaster risk management.	40	15		
Promote gender-responsive sustainable forest management.	Mitigation/ adaptation.	Food and landscape restoration.	712,168	392.5	23,565	High.
Build resilience and promote livelihood opportunities for the youth and women in climate-vulnerable agriculture landscapes and food systems: Scale-up deployment of climate-smart technologies to increase livestock and fisheries productivity by 10%; promote community-based climate-smart agriculture adopted in all districts of Ghana; promote innovations in post-harvest storage and food processing, and forest products in all districts of the country.	Adaptation.	Food and landscape restoration/ building resilience	210,000	1,855		High.
Promote city-wide resilient infrastructure planning by establishing a policy and regulatory framework for green and resilient infrastructure; prepare and implement a drainage master plan for all MMDAs.	Adaptation.	Resilience building.	1,025	827		

Integrated water resources management.	Adaptation.	Resilience Building/social inclusion.	20	108		
Sustainable production in industry.	Mitigation.	Responsible production.	15,000	7.4	1,480.70	Low.
Promote sustainable charcoal production, including youth and women entrepreneurs.	Mitigation.	Responsible production.	1,200	292.1	1,542.99	High. 31% reduction in black carbon emissions from charcoal production.
Adopt alternative urban solid waste management by building and operating three engineered landfills with 50% methane recovery in Kumasi, Nsawam and Kpone; double the current waste-to-compost capacity of 1,000 tonnes/day to 4,800tonnes/day by 2030.	Mitigation.	Smart communities.	820	60.4	21,313.00	High.
Expand inter-and-intra-city transportation modes: Awaso to Nyinahini – 58 kilometres; Accra–Kumasi, with a branchline from Bososu to Atiwa through Kyebi; Mpakadan to Ouagadougou; Kumasi to Tamale. Introduce 400 euro new buses in 2021; revamp MMT by scaling it up to about 1200 buses (based on NPP manifesto).	Mitigation.	Smart communities/sustainable mobility.	5,500	1,890.50	109.9	High.
Enhance the climate resilience of women and the vulnerable. Conduct gender-sensitive climate change capacity-building for institutions that deal directly with women and other vulnerable groups by 2030.	Adaptation.	Social inclusion.	500	2.2		

Manage climate-induced and gender-related health risks by strengthening climate-related disease surveillance in vulnerable communities in three districts; incorporate climate change into the health information system by 2030; mainstream climate-responsive health planning.	Adaptation.	Social inclusion/early warning and disaster risk management.	130	117		Low.
Promote clean rural households lighting by providing 932,500 units of solar lanterns.	Mitigation.	Social inclusion/smart communities.	1,000	35.7	175.14	High.
Promote energy efficiency in homes, industries and commerce by replacing 400,000 inefficient bulbs with efficient ones and also reducing electricity demand by 20%, through the mobilisation of investments at scale in energy efficiency measures in 15 steel factories that make up 90% of Ghana's steel industry.	Mitigation.	Sustainable energy transition.	4,608	786.94	1,899.30	Low.
Promote the use of 17,673 energy-efficient air conditioners through enforcement of energy efficiency standards/regulations; promote the use of 1,357,531 and 324,194 energy-efficient fridges and freezers through enforcement of energy efficiency standards/regulations.	Mitigation.	Sustainable energy transition.	2,700	3.2	3,874.20	High.
Generate low carbon electricity: 100% of installed operational thermal plant capacity run on gas as primary fuel; 220MW of converted single cycle thermal plants to combine cycle.	Mitigation.	Sustainable energy transition.	70	141.4	4,439.40	Low.
Scale-up renewable energy penetration by 10% by 2030.	Mitigation.	Sustainable energy transition.	18,700	2,296.90	1,338.42	Low.

Scale-up adoption of LPG use from 5.5% to 50% in peri-urban and rural households up to 2030.	Mitigation.	Social inclusion/ sustainable energy transition/ smart communities.	24,000	386.4	4,214.20	High -2,617 tonnes black carbon avoided in 2030.
Decarbonisation of oil and gas production.	Mitigation.	Sustainable energy transition.	30	31.5	74.6	High reduction in fugitive methane from oil and gas infrastructure.



Evidence from The Gambia

By Fatou Jeng

1. Introduction: The Gambia

This chapter explores the social, economic and political feasibility of climate policies and pledges in The Gambia. This includes the Nationally Determined Contribution (NDC), the National Adaptation Programmes of Actions (NAPA), the National Climate Policy, the National Capacity Self-Assessment (NCSA), the Nationally Appropriate Mitigation Actions (NAMA) and other key national climate change policy documents. The emphasis is to assess the extent to which Gambia is able to effectively implement the policies and pledges it makes to tackle climate change. As part of the assessment, the chapter offers some recommendations on steps that can be taken to ensure the effective implementation of climate policies in the country and Africa more broadly.

1.2 The Gambia - an overview

The Gambia is situated in West Africa, surrounded by Senegal, except for the 60-kilometre Atlantic Oceanfront. It stretches 450 kilometres along the River Gambia and has a population of 2.1 million people. The country is one of the most densely populated in Africa, with 176 people per square kilometre¹²⁶ and with 57% of the population condensed around the urban and peri-urban areas.

¹²⁶ The World Bank, 2021. The Gambia: An overview. <https://www.worldbank.org/en/country/gambia/overview#1>



The Gambia is one of the least developed economies in the world, with a very limited economic base. The country's external sector comprises mostly re-exports, tourism and remittances from abroad¹²⁷. Domestically, the country depends mainly on agriculture, which contributes 25% of the gross domestic product (GDP) and employs 70% of the labour force as its prime economic activity¹²⁸. The main source of income for poor households in the rural Gambia is agriculture, constituting 72% of their incomes.¹²⁹

The Gambia has experienced slow economic progress since the outbreak of COVID-19, with an economic loss of GMD2.5 billion, shrinking the economy by “3 percentage points to 3.3% from a projected growth rate of 6.3% in 2020”¹³⁰. The country's total debt stock stood at US\$1.4 billion (56.7% external; 43.3% domestic) in 2019, although nominal debt fell as a percentage of GDP — from 89.1% in 2018 to 80.1% in 2019.¹³¹ The Gambia is one of the participating countries in the G20 Debt Service Suspension Initiative (DSSI). The fiscal space created by the DSSI was about \$4 million in 2020 (0.2% of GDP), according to the World Bank. The effects of the COVID-19 pandemic will pose further challenges to the economic growth of the country. The tourism and trade

industry experienced major losses, while the agriculture and construction industry has been strong. With the new global and national vaccinations, the economy of the country is expected to boost by 5.15% in 2022 (ibid. pii). The fiscal losses are foreseen to narrow to 2.3%, while the present account deficit will increase to 10.1% in 2022. The increment in remittances to 78% from citizens abroad has contributed to stabilising the economy of the country during the COVID-19 pandemic.¹³²

1.3 The Gambia's Climate Outlook

The Gambia has been experiencing the impacts of climate change, with key climate hazards including torrential rainfall, storms (and flooding), drought, intra-seasonal-drought, heat waves, sea-level rise, and unseasonal rains. The most severe climate-related hazards in The Gambia are river flooding, coastal flooding, and water scarcity¹³³. Floods accounted for 60% of climate-related hazards in the country between 1990 and 2014, while also contributing to 96% of the average annual monetary loss, of all the hazards experienced by the country¹³⁴. The country's wetlands and swamps cover 20% of the land size and floods affect the flood-prone areas every year after heavy rainfall, causing the population to face life-threatening floods and loss of properties, and livelihoods. Drought is also

127 World Trade Organisation, 2009. The Gambia: Trade Policy Review. https://www.wto.org/english/tratop_e/tpr_e/s233_sum_e.pdf

128 GoTG, 2019. The Gambia Second Generation National Agricultural Investment Plan-Food and Nutrition Security (2019-2026). https://www.gafspfund.org/sites/default/files/inline-files/7.%20The%20Gambia_Investment%20Plan%20%282019-2026%29_1.pdf

129 Food and Agriculture Organisation, 2018. <https://www.fao.org/3/CA1673EN/ca1673en.pdf>

130 GoTG, 2020. Socio-economic impact assessment of COVID-19 in The Gambia. <https://www.mofea.gm/downloads-file/socioeconomic-impact-assessment-of-covid-19-in-the>

131 International Trade Administration, 2021. The Gambia commercial guide. <https://www.trade.gov/country-commercial-guides/gambia-market-overview>

132 Ibid.p2

133 WorldBank, 2016. Climate Knowledge portal for development practitioners and policy-makers. Country Vulnerability, The Gambia. <https://climateknowledgeportal.worldbank.org/country/gambia/vulnerability>

134 Ibid.p1

forecasted to happen every five years, which will have a major impact on the agricultural sectors and food security in The Gambia¹³⁵. In addition, climate change threats have been affecting access to natural resources, which impact the livelihoods of people, and affect the GDP growth of the country. For instance, the country experienced a -0.9% GDP growth in 2005; and -4.3% in 2011.

The Gambia is ranked as the 29th most vulnerable country to climate change impacts¹³⁶. The country's emissions per capita increased from 0.21tonnes in 2000 to 0.23tonnes in 2020, and its emissions intensity was 0.10 tonnes per \$1,000 GDP, as of 2020.¹³⁷ The Gambia's carbon dioxide (CO₂) emissions from the burning of fossil fuels for energy and cement production in 2020 was 499,912.00t¹³⁸, in comparison to the global CO₂ emissions of 34.81 billion metric tons in 2020¹³⁹, with the country sharing 0.00% of the global CO₂ emissions¹⁴⁰. However, analysis has shown an increase from 0.1 million tonnes of CO₂ emissions in The Gambia in 1971 to 0.5 million tonnes in 2020, increasing at an average yearly rate of 4.29%.¹⁴¹

1. The Gambia's Climate Policy Landscape

The Gambia became one of the signatories to the United Nations Framework Convention on Climate Change in 1992 and ratified it in

1994. The Gambia is executing the climate change convention and the Kyoto Protocol, especially through the development of policies and programmes. As such, The Gambia has developed its National Adaptation Programme of Actions (NAPA), the National Climate Policy, the National Capacity Self-Assessment (NCSA), and the Nationally Appropriate Mitigation Actions (NAMA) since ratifying the convention. In addition, the country has been able to submit her first NDCs and second NDCs to the UNFCCC.

The Gambia developed her National Adaptation Programme of Actions on Climate Change in 2007. The policy aims to achieve a "significant reduction in the degree of exposure and/or sensitivity of natural and societal systems to climate hazards; increase in the resilience of impacted communities/systems and is mediated by a set of crosslinked strategies"¹⁴².

The National Climate Policy was initiated in 2016 and it highlights The Gambia's systemic response to the connected climate threats to "sustainable development, wellbeing and ecological integrity"¹⁴³. The policy's vision is to "achieve a climate-resilient society, through systems and strategies that mainstream climate change, disaster risk reduction, gender and environmental

135 WorldBank, 2016. Climate Knowledge portal for development practitioners and policy-makers. Country Vulnerability, The Gambia. <https://climateknowledgeportal.worldbank.org/country/gambia/vulnerability>

136 ND-GAIN index, 2019. The Gambia. <https://gain-new.crc.nd.edu/country/gambia>

137 Khoema, 2020. The Gambia's CO₂ emissions. The Gambia's CO₂-emissions per capita and emissions intensity.

138 Ritchie, Roser & Rosado, 2020 - "CO₂ and Greenhouse Gas Emissions". <https://ourworldindata.org/co2-and-other-greenhouse-gas-emissions>

139 Tiseo, 2021. Annual global emissions of carbon dioxide 1940-2020. <https://www.statista.com/statistics/276629/global-co2-emissions/#:~:text=In%202020%2C%20the%20COVID%2D19,in%202021%20as%20lockdowns%20eased.>

140 Ritchie, Roser & Rosado, 2020 - "CO₂ and Greenhouse Gas Emissions". <https://ourworldindata.org/co2-and-other-greenhouse-gas-emissions>

141 Khoema, 2020. The Gambia's CO₂ emissions. <https://knoema.com/atlas/Gambia/CO2-emissions>

142 National Adaptation Programme of Actions on Climate Change, 2007. p28. <https://unfccc.int/resource/docs/napa/gmb01.pdf>

143 The Gambia National Climate Change Policy, 2016. p15. <https://www.lse.ac.uk/GranthamInstitute/wp-content/uploads/laws/8109.pdf>



management, for sustainable social, political and economic development.”¹⁴⁴

Climate change adaptation has been mainstreamed into some sectoral policies and strategies, such as the Agriculture and Natural Resources Policy, the Forest Policy and the Fisheries Strategic Action Plan. The energy sector has also set policies and strategies meant to promote low carbon development and reduce carbon emissions from economic activities. These include the National Energy Policy; Strategy and Action Plan (2014 – 2018), which promotes the use of renewable energy; the National Energy Efficiency Action Plan (NEEAP) of The Gambia (2015-2020/2030), which adopts sectoral energy efficiency targets for 2020 and 2030; the National Investment Programme On Access to Energy in The Gambia (2013–2020); and the Renewable Energy Act, 2013. These policies seek to promote the use of renewable energy systems to achieve greater energy self-reliance and reduce the country’s vulnerability to fossil fuels.¹⁴⁵

Moreover, the 2012-2015 Programme for Accelerated Growth and Employment (PAGE) also clearly highlighted The Gambia’s vulnerability to the impacts of climate change, pointing out women’s role in climate change adaptation and the different sectoral actions the government will take to address climate change. PAGE paved the way for the development of the National Climate Change Strategy that is now facilitating the

mainstreaming of climate change in national and sectoral policies, programmes, and plans, as part of the national development agenda.¹⁴⁶

2.1 Key Pledges

The first major emission reduction pledge by The Gambia was contained in its Intended Nationally Determined Contribution (INDC) submitted in September 2015. The INDC forecasted a 2030 “business-as-usual” (BAU) scenario level of 3,858 GgCO₂e, and declared a reduction in The Gambia’s greenhouse gas emissions, excluding the land use, land-use change and forestry (LULUCF) sector by 1.42 MtCO₂e¹⁴⁷, which is equal to a 44.4% reduction in 2025, below a low business as usual scenario (BAU). The INDC offers to reduce emissions to 0.079 MtCO₂e in 2025 unilaterally, with an addition of 1.34 MtCO₂e conditional upon the availability of global financial and technical support.¹⁴⁸ Furthermore, the country’s INDC also comprises abatement in the LULUCF sector: it intends to unilaterally abate 0.28 MtCO₂e by 2025 through afforestation. In its INDC, The Gambia also commits to abate 0.69 MtCO₂e by restoring flooded rice fields to dry upland ones, as well as through the use of efficient cookstoves to decrease the overuse of forest resources, which are all conditional upon global support¹⁴⁹.

However, the INDC includes two unconditional mitigation targets – the use

144 Ibid.p15

145 Ibid, p30

146 GoTG, 2011. Programme for Accelerated Growth and Employment (PAGE 2012-2015).https://eeas.europa.eu/archives/delegations/gambia/documents/about_us/page_2012_2015_en.pdf

147 GoTG,2015a. Intended Nationally Determined Contribution of The Gambia. Ministry of Environment, Climate Change, Forestry, Water and Wildlife, Banjul, 24p.

148 Climate Action tracker, 2015.The Gambia.https://climateactiontracker.org/media/documents/2018/4/CAT_2015-12-01_CountryAssessment_TheGambia.pdf

149 Ibid.p1

of renewable energy sources in lighting, communication and health facilities, and for lighting water from wells and boreholes. The execution of renewable energy sources will add to the reduction of greenhouse gas emissions by 45.6 GgCO₂e in 2020, 78.5 GgCO₂e in 2025 and 104 GgCO₂e in 2030.¹⁵⁰ The second mitigation target includes the planting and care of trees by the Department of Forestry and local communities. Afforestation will contribute to a GHG reduction of 220.3 GgCO₂e in 2020, 275.4 GgCO₂e in 2025 and 330.5 GgCO₂e in 2030.¹⁵¹ Furthermore, under the emissions reduction at the sectoral level, the agricultural sector has two conditional mitigation options, which have been examined and shared in the INDC – the NERICA rice production and rice efficiency. For the NERICA upland production of swamp rice, the estimated emission reductions are 124.1 GgCO₂e in 2020, and 397.7 GgCO₂e in 2025 and 2030. For the promotion of efficiency in rice production, the estimated emission reductions are 437.8 GgCO₂e in 2020, and 707.0 GgCO₂e in 2025 and 2030.¹⁵²

With the country's usage of traditional biomass and petroleum products, they both play a major role in the country's energy supply, as petroleum is the main source of fuel for transportation and electricity generation, even with the negative environmental impacts. Under the energy

sector, five conditional mitigation options have been identified and assessed, with the total emissions reductions being 425.7 GgCO₂e in 2020, 541.1 GgCO₂e in 2025 and 629.6 GgCO₂e in 2030.¹⁵³ Under the transportation sector, one conditional mitigation option was assessed, given how this sector contributed to 46% of the CO₂ emission of 437.575 Gg from the energy sector in 2010. As such, the INDC intends to deploy energy-efficient vehicles that will lead to greenhouse gas emission reductions of 40.8 GgCO₂e in 2020, 114.5 GgCO₂e in 2025 and 193.3 GgCO₂e in 2030.¹⁵⁴ Under the waste management sector, the government intends to reduce GHG emissions of 141 GgCO₂e in 2020, 239.7 GgCO₂e in 2025, and 413.7 GgCO₂e in 2030.¹⁵⁵ This is due to how poor solid waste management in the municipal regions of The Gambia accounts for nearly 438 tons per day, which is expected to increase to 1,295 tons per day in 2025.¹⁵⁶

The key emission reduction targets, with a commitment period of 2021-2025, which is sector-based and covering Agriculture, Energy, Industrial Processes and Product Use (IPPU), Transport, and Waste Management (See appendix1), will require a total of US\$68 million for the implementation of solid and liquid waste management in the greater Banjul area.¹⁵⁷ However, the costs of implementation for the other sectors were not included in the INDC.

150 Ibid.p7

151 Ibid.p7

152 Ibid.p7

153

154 Ibid.p8

155 Ibid.p8

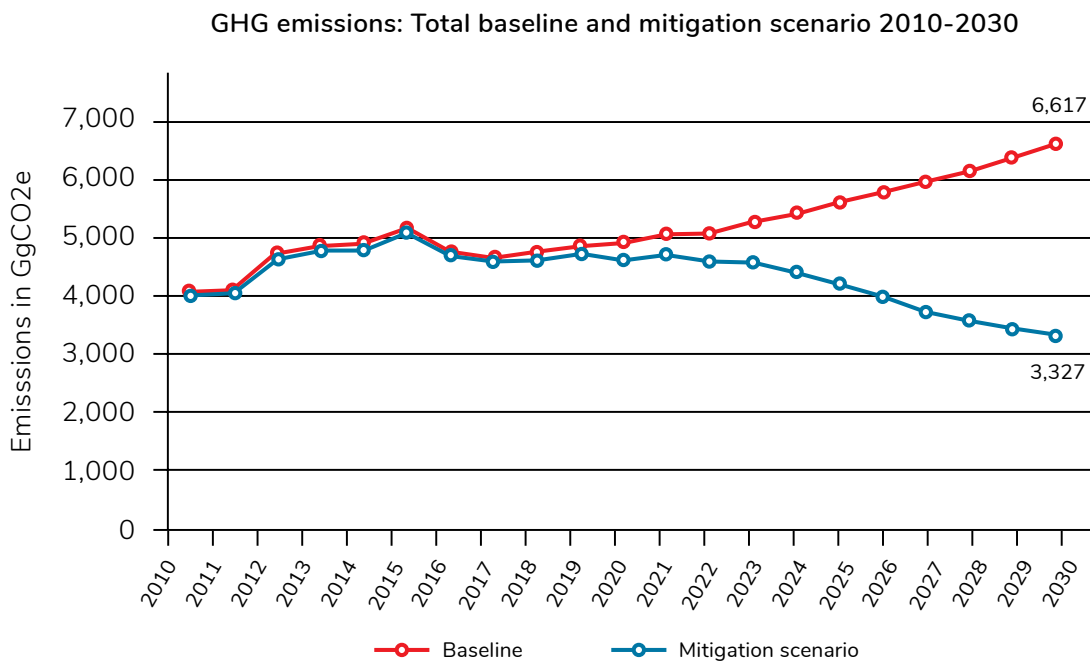
156 World Bank, 2012. A global review of solid waste management. <https://openknowledge.worldbank.org/handle/10986/17388>

157 GoTG, 2015a. Intended Nationally Determined Contribution of The Gambia. Ministry of Environment, Climate Change, Forestry, Water and Wildlife. p9

The Gambia submitted her revised/second Nationally Determined Contributions (NDC2) in December 2021, in accordance with Decision 1/CP.21 of the Conference of the Parties to the Paris Agreement. The NDCs forecast a 2030 “business-as-usual” (BAU) scenario level from 4,935 GgCO₂e to 6,617 GgCO₂e. With an addition of 13 mitigation measures included in the NDC, in comparison to the 10 mitigation options in the INDC¹⁵⁸, the NDCs mitigation scenario forecasts a reduction of 3,327 GgCO₂e in 2030, a cutback of 49.7% against BAU.¹⁵⁹ (See table 1).

Table 1: The Gambia’s Greenhouse gas emissions - Total baseline and mitigation scenario 2010-2030

Source: The Gambia’s 2nd Nationally Determined Contributions, 2021.p11



The NDC of The Gambia has identified key mitigation measures across different sectors on the basis of conditionalities and mitigation potentials (in GgCO₂e), with timelines. The agricultural sector, which is the first key target sector, has four mitigation measures that are all conditional. The activities involved include: reducing GHG emissions from different rice ecologies through upland system, Nerica upland rice, lowland system - system of rice intensification (SRI) and lowland system - tidal irrigation, accounting

158 The Gambia’s 2nd NDC, 2021. <https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Gambia%20Second/Second%20NDC%20of%20The%20Republic%20of%20The%20Gambia-16-12-2021.pdf> .p1

159 The Gambia’s 2nd NDC, 2021. <https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Gambia%20Second/Second%20NDC%20of%20The%20Republic%20of%20The%20Gambia-16-12-2021.pdf>.

for a mitigation potential of 449 GgCO₂e in 2030¹⁶⁰. The second activity includes improving agricultural resilience by implementing climate-smart agriculture by 205 GgCO₂e in 2030¹⁶¹. The third activity involves improving livestock productivity by 408 GgCO₂e in 2030 due to how livestock make up 11% of national GHG emissions and, finally, the reduction of food losses by 131 GgCO₂e in 2030¹⁶². The agricultural sector, according to the NDC, is expected to have an increase in greenhouse gas emissions from 1,1241 GgCO₂e in 2020 to 1,466 GgCO₂e in 2030 (a 30.4% increase). In terms of the mitigation measures listed above, GHG emissions in 2030 will be 273 GgCO₂e, a 75.7% decrease compared to the 2020 level and 81.3 %, in comparison to the expected baseline level in 2030.¹⁶³

The second key sector is Land Use, Land-use Change, and Forestry (LULUCF), with four mitigation measures. All the mitigation measures in this sector are conditional, except one. The activities involved include the re-greening of degraded landscapes (including protected forests), which would lead to decarbonisation by 373 GgCO₂e in 2030; upscaling the deployment of fuel-efficient biomass combustion stoves, enabling a reduction of carbon by 218 GgCO₂e in 2030; engaging in multistrata agroforestry (unconditional), with decarbonisation by 169 GgCO₂e in 2030; and containing the incursion to gather firewood from agroforestry, which would

led to a reduction of carbon by 169 GgCO₂e in 2030.¹⁶⁴ According to the NDC, GHG emissions in this sector are projected to reduce from 1,415 GgCO₂e in 2020 to 1,082 GgCO₂e in 2030 (23.5%). Pertaining to the mitigation measures mentioned above, GHG emissions in 2030 would be 589 GgCO₂e, a 58.4% decrease, in comparison to the 2020 level, and a 45.6% cut when compared to the expected baseline level in 2030.

The third sector is energy, which comprises eight mitigation measures that are all conditional, with the exception of one. The activities under this category include the projected attainment of 89 MW of utility-scale solar PV capacity by 97 GgCO₂e in 2030, a 3.6 MW of utility-scale wind capacity by 4.2 GgCO₂e in 2030, reduction of transmission and distribution losses to 17% by 35 GgCO₂e in 2030, full replacement of diesel mini-grids with solar PV and battery storage systems by 0 GgCO₂e in 2030, and solar home systems to supply off-grid consumption by 0.08 GgCO₂e in 2030 (unconditional). Also, the substitution of incandescent light bulbs by 0.18 GgCO₂e in 2030, solar water heating facilities to supply 10% of demand by 2030 (43.3 GgCO₂e), and, finally, 6 MW of solar PV rooftop systems by 2024 (6.54 GgCO₂e in 2030).¹⁶⁵

The fourth sector, which is transportation, has one mitigation measure that is conditional, and the activity involved is to downsize the Gambia's transport sector's

160 GoTG, 2021. Second Nationally Determined Contribution of The Gambia. <https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Gambia%20Second/Second%20NDC%20of%20The%20Republic%20of%20The%20Gambia-16-12-2021.pdf>

. p13

161 Ibid.p13

162 Ibid.p13

163 Ibid.p13

164 Ibid.p14

165 Ibid.p14



carbon footprint by 129 GgCO₂e in 2030. The sector's GHG emission is anticipated to multiple from 352 GgCO₂e in 2020 to 580 GgCO₂e in 2030 (64.8%).¹⁶⁶ As a result of the mitigation measure highlighted above, GHG emissions in 2030 will be 451 GgCO₂e, a 28.1% addition, in comparison to the 2020 level and a 22.2% reduction when compared to the expected baseline level in 2030.¹⁶⁷

The fifth sector is waste management, with three mitigation measures that are conditional. These include the integration of waste management by 497 GgCO₂e in 2030, the reduction of biogas from waste management and landfills by 0 GgCO₂e in 2030, and the recovery of organic waste by 0 GgCO₂e in 2030, given how an estimate of 3% solid waste in the municipal Gambia is composted.¹⁶⁸ In terms of the baseline section assumptions, GHG emission from this sector is foreseen to increase from 506 GgCO₂e in 2020 to 1,184 GgCO₂e in 2030 (134.0%).¹⁶⁹

The final sector is the Industrial Processes and Product Use (IPPU), with two mitigation measures that are conditional. The activities involved in this sector include substituting hydrofluorocarbons (HFCs) in production and manufacturing processes through GHG abatement in the food and chemical industries by 0 GgCO₂e in 2030 and the substitution of HFCs by 804 GgCO₂e in 2030¹⁷⁰. GHG emissions in this sector are foreseen to increase, from 1,297 GgCO₂e in 2020 to 1,771 GgCO₂e in 2030 (36.5%).

Consequent to the mitigation measures listed above, GHG emissions in 2030 is projected to be 967 19 GgCO₂e, a 25.4% decrease, in comparison to the 2020 level, and a 45.4% decrease when compared to the expected baseline level in 2030.¹⁷¹ (See appendix 2 for a detailed table of key mitigation targets).

The NDC detailed the national adaptation plan, which will support the country in enabling its shift from “project-based adaptation planning and implementation to an integrated approach to adaptation”¹⁷² across all vulnerable economic areas in The Gambia. These activities/components include climate-resilient land use mapping, planning and information systems; the development of climate-resilient infrastructure, services and energy systems; and the development of integrated approaches to building rural climate resilience. The total cost for the implementation of these components is US\$413,135,000.

While The Gambia's first NDC forecasted a 2030 “business-as-usual” (BAU) scenario level of 3,858 GgCO₂e, the NDC2 revised that projection to 6,617 GgCO₂e. The INDC mitigation scenario forecasts a reduction of around 1,800 GgCO₂e, while the revised NDC estimates GHG emissions of 3,327 GgCO₂e in 2030, which is a reduction of 49.7% against the BAU scenario.

166 Ibid.p16

167 Ibid.p16

168 Ibid.p17

169 Ibid.p17

170 Ibid.p18

171 Ibid.p18

172 Ibid.p24-26

Table 2: Key policies supporting The Gambia in the implementation of its national climate programmes

Key policies	Year released	Policy objectives
Nationally Determined Contributions (NDCs)	2015 and 2021	Climate mitigation and adaptation through the National Climate Pledges under the UNFCCC Paris Agreement 2030.
National Adaptation Programme of Actions on Climate Change (NAPA)	2007	To achieve a significant reduction in the country's exposure to natural and societal climate hazards and increase community resilience.
National Climate Policy	2016	To achieve a climate-resilient society through systems and strategies that mainstream climate change, disaster risk reduction, gender and environmental management.
National Capacity Self-Assessment (NCSA)	2010	Adoption of an ecosystems approach to the integrated implementation of MEAs at national and divisional levels.
Nationally Appropriate Mitigation Actions (NAMA)	2011	To mitigate GHG emissions and lower the cumulative build-up of greenhouse gases in the atmosphere through eight priority mitigation projects and two mitigation/adaptation projects. the NAMA aims to.
Agriculture and Natural Resources Policy	2017	Poverty reduction and enhancement of food, income and nutrition security through utilising resources of the agricultural sector that are consistent with protecting the environment.
Fisheries Strategic Action Plan	2012	To ensure responsible and ecologically sustainable fishing and aquaculture practices, to optimally harness The Gambia's fisheries and aquaculture resources.
Forest Policy	2009	To maintain and develop forest and mangroves; to protect and manage 75% of forest lands.
National Energy Policy (Strategy and Action Plan)	2014	Maximising efficient utilisation of scarce energy resources to aid the economy in an environmentally conducive manner.
National Energy Efficiency Action Plan (NEEAP)	2015	Adoption of sectoral energy efficiency targets for 2020 and 2030.
Renewable Energy Act	2013	To promote the use of renewable energy resources in electricity generation and establishment of the Renewable Energy Fund.
Programme for Accelerated Growth and Employment (PAGE)	2012	To achieve rapid sustained economic growth aimed at reducing poverty through employment across different sectors.

Source: Based on the author's review of policy documents

During the 26th Conference of Parties held in Glasgow in 2021, the Vice President of The Gambia and head of the National Climate Council, Dr Isatou Touray delivered the country's climate statement. Based on the Vice President's speech, no commitments/pledges were made but a progress report was shared on the implementation of climate change policies. She highlighted the government's work with the United Nations Capital Development Fund (UNCDF)'s Local Adaptation Facility to build the resilience of rural communities in The Gambia to climate change, by providing jobs, skills and finance (see appendix 3).



3. Understanding The Gambia's Long-Term Strategy

Currently, The Gambia does not have a long-term climate strategy (LTS) but in January 2022, the government launched the development process of the strategy, which is aimed at formulating and communicating long term, low greenhouse gas emission plans¹⁷³. However, the country has been utilising the 2050 Climate Vision, whose mapped out priorities will underpin the forthcoming LTS.¹⁷⁴

The key priorities of the 2050 Climate Vision include:

- **Climate-resilient food and landscapes:** This pertains to agriculture, food security, forestry and natural resources (including water, biodiversity and wildlife). The government is striving to maintain 30% of the total land area that is under forest cover through continuous efforts at implementing afforestation actions, which will contribute reductions of 275.4 GgCO₂e by 2025 and 330.5 GgCO₂e by 2030.¹⁷⁵
- **Low emissions and resilient economy:** This relates to energy, transport, infrastructure and the key economic sectors of tourism and financial services. The government commits to introducing “efficient, green, renewable and sustainable energy sources to power the economy and meet the domestic and household needs. The implementation of renewable energy sources will contribute to GHG reductions of 78.5 GgCO₂e in 2025 and 104 GgCO₂e in 2030”¹⁷⁶. This priority also commits to introducing “clean and energy-efficient modes of transport, noting that deployment of energy-efficient vehicles will produce GHG emission reductions of 40.8 GgCO₂e in 2020, 114.5 GgCO₂e in 2025 and 193.3 GgCO₂e in 2030”¹⁷⁷.
- **Climate-resilient people:** This is on the levels of health, education, equitable social development and human settlements.¹⁷⁸
- **Managing the coasts in a changing environment:** This pertains to climate-aware Integrated Coastal Zone Management.¹⁷⁹

The above four key strategic priorities of the 2050 climate vision will be built upon by the coming LTS to further advance the vision’s implementation.¹⁸⁰ Moreover, the climate vision highlights the targets and plans of the government, building upon its existing efforts to implement the UNFCCC and Paris Agreement, including a National Adaptation Plan of Action, National Appropriate Mitigation Actions and National Adaptation Plan.¹⁸¹

4. Assessment of Feasibility of Pledges

In this section, I will analyse the feasibility of the pledges through The Gambia’s national policies, including the NDC and Long-Term Strategies. This will be an evaluation of how

173 The Point newspaper, 2022. Gambia’s Long-Term Climate Change Strategy Development Process launched.

174 The Gambia 2050 climate vision. 2021. <https://ndpp.gm/wp-content/uploads/2021/08/The-Gambia-2050-Climate-Vision-MECCNAR.pdf>. p11

175 Ibid.p15

176 Ibid.p16

177 Ibid.p16

178 Ibid.17

179 Ibid.p17

180 Ibid.p18

181 GoTG, 2021. The Gambia 2050 Climate Vision. <https://www.meccnar.gov.gm/sites/default/files/2021-06/The%20Gambia%202050%20Climate%20Vision-MECCNAR.pdf>

well the country performed previously in the implementation of these pledges/policies.

4.1 How well did The Gambia perform previously?

The Gambia has been mentioned as the only country whose NDC's unconditional target is among the most ambitious and '1.5°C Paris Agreement compatible', according to the Climate Action Tracker¹⁸². The Gambia's INDC has stipulated a commitment to improving food security with the "value addition of products to be promoted to complement and support crop diversification"¹⁸³, with the country seeking to adopt improved agricultural systems for both crops and livestock, and adopt better soil management practices. Moreover, The Gambia hasn't been able to clearly specify how much will be needed for finance in the implementation of climate adaptation and mitigation action, as outlined in the NDCs.

The Gambia, in the implementation of her climate policies, has implemented some projects through the support of funding organisations. The Green Climate Fund supported The Gambia in its large-scale ecosystem-based adaptation to develop a climate-resilient, natural resource-based economy. According to the Minister of Environment, Climate Change, this project is "the single largest natural resource development project ever launched in the history of this country"¹⁸⁴. The project is planting millions (total number not mentioned) of mangrove trees, which act

as buffer zones that protect villages from storm surges and floods. The project is establishing 166 natural resource-based businesses, which stimulate economic activities for poor communities that are creating investment in ecosystem services, such as, 'home-gardens' of herbs, shrubs and trees. The project, requiring a funding of \$11.3 million, aims to rehabilitate 10,400 hectares of degraded forests, savannah and mangroves, and an additional 3,000 hectares of farmland. In the first two years, 10 million mangrove propagules were planted, protecting coastal villages from storm surges, while equally providing habitat for many fish species.¹⁸⁵ A total of 46,2000 households have benefitted from the project interventions and 166 natural resource-based enterprises were established, with a cumulative gross cash income of US\$2.46 million. This large-scale Ecosystem-based Adaptation (EbA) project seeks to create a total of 11,550 jobs in climate-resilient livelihoods.¹⁸⁶ However, some of the other targets of the project, such as "Increasing the cash income of 11,550 households by at least USD330 per year in a country where 60% of the population live below the overall poverty line"¹⁸⁷ haven't been achieved.

In 2017, the government of The Gambia received a \$3,195,000 funding from the United Nations Development Programme to implement an Environment and Resilience Development Project, "Building The

182 Climate Action Tracker, 2021. <https://climateactiontracker.org/countries/gambia/2021-09-15/#:~:text=The%20Gambia's%20current%20policies%20are,warming%20to%201.5%C2%B0C>

183 GoTG, 2015a. Intended Nationally Determined Contribution of The Gambia. Ministry of Environment, Climate Change, Forestry, Water and Wildlife, Banjul, p11

184 GoTG, 2019. The Gambia Ecosystem-based adaptation, 2017-2023. https://www.naturebasedsolutionsinitiative.org/wp-content/uploads/2019/06/EbA_Gambia.pdf

185 GoTG, 2019. The Gambia Ecosystem-based adaptation, 2017-2023. https://www.naturebasedsolutionsinitiative.org/wp-content/uploads/2019/06/EbA_Gambia.pdf

186 Ibid. p1

187 Ibid. p1



Gambia's capacities and resilience to climate change-related disasters, environmental protection and enhanced livelihoods through effective, and efficient climate actions, access to energy services, disaster risk and sustainable natural resources management". The project, which ended in 2021, achieved sustainable natural resources management, renewable energy access, disaster risk management and climate change actions being gender-responsive, adopted and adapted. The government also tried to reduce the impacts of climate-induced disasters. However, in July and September 2021 two windstorms occurred. On 7 July 2021, 12 people lost their lives and more than 109,000 people were affected by the windstorm and flash flood, with some 1,531 internally displaced persons. In addition, the country experienced more losses to food stocks, with farmers experiencing erratic rainfalls. Separately, the National Disaster Management Agency has provided 1,071 households in North Bank and West Coast Regions with US\$144 cash transfers for three months. The Government of The Gambia also allocated US\$3,600,000 to the storm-related emergency response.¹⁸⁸

In 2018, the government of The Gambia received a grant from the Green Climate Fund to restore the country's agricultural landscapes and degraded ecosystems – including forests, mangroves and savannahs – by planting climate-resilient tree and shrub species across an area of at least 10,000 hectares. This six-year project targets four out of the seven regions of The Gambia, with

funding combining US\$20.5 million from the GCF and a US\$5 million outlay from the government of The Gambia.¹⁸⁹

Another funding of US\$25,521,367 from GCF was secured to support rural communities in The Gambia through the large-scale Ecosystem-based Adaptation project, helping rustic Gambian households within and adjacent to community-managed forest reserves. The project included 11,550 direct beneficiaries (50% women) and 46,200 indirect beneficiaries (50% women)¹⁹⁰. Another adaptation project started in 2017 and worth US\$15.5 million was funded by GCF, leading to benefits to 59,140 vulnerable coastal communities, including 35,000 women, within Kololi and surrounding Serrekunda.¹⁹¹ The country also received support from the International Fund for Agricultural Development (IFAD) and African Development Bank (AfDB) for livestock and horticulture development, through a US\$15.9 million grant, and a US\$7.92 million loan for a rural water supply and sanitation project from the AfDB.¹⁹²

On the other hand, The Gambia's greenhouse gas emissions reduction through her mitigation and adaptation efforts is still lacking, from the documents reviewed. Most of the climate strategies and policies have not been implemented across different sectors, and gaps in implementation include: the creation of green jobs, attaining energy efficiency, improving agricultural resilience, livestock productivity, food security and downsizing of The Gambia's transport sector's carbon footprint, amongst others.

188 Relief Web, 2021. The Gambia windstorm. Windstorm in The Gambia causing climate disaster.

189 Green Climate Fund, 2018. Fortifying The Gambia against drought and flood. <https://www.greenclimate.fund/news/gcf-un-environment-launch-project-to-fortify-the-gambia-against-droughts-floods>

190 UNEP, 2016. Large-scale Ecosystem-based Adaptation in the Gambia River Basin. <https://www.greenclimate.fund/sites/default/files/document/funding-proposal-fp011-uneep-gambia.pdf>

191 UNDP, 2017. Enhancing Resilience of Kololi stretch economic infrastructures and social assets against sea level rise impacts.

192 Isatou F Camara. 2014. Climate financing in The Gambia. <http://www.jstor.com/stable/resrep01571>

4.2 The economic dimension of feasibility/enabling conditions

The Gambia has concluded assessments on investment and financial flows that will tackle climate change in the water, energy, forestry and agricultural sectors, highlighting national policy indications in tackling climate change. The assessment has indicated the need for an additional US\$1.35 billion to implement priority actions in reducing GHG emissions from the energy sector and forest degradation, and adapt to the impacts of climate change in the agriculture and water sectors by 2030. Of this, US\$420.66 million is for adaption and US\$925.74 million is for mitigation¹⁹³. Therefore, it is visible that as one of the least developed countries, The Gambia will rely on donors/funders to implement her transition projects to a green economy. Currently, the available climate financing focuses majorly on adaptation and resilience, whereas mitigation will require more financial support for medium and long-term projects.¹⁹⁴

The Gambia has a mixed economic system and is heavily reliant on agriculture, coupled with comparatively weak centralised economic planning and government regulation.¹⁹⁵ Being mainly dependent on the agricultural sector, the country has been facing uncertainties and climate risks. Agriculture plays a fundamental part in the economy, contributes nearly 35% of the GDP and is the major source of income,

employment and food supply for more than 80% of the country's population.¹⁹⁶ With nearly 70% of the population of rural Gambia living below the poverty line, they have been finding it challenging to adapt to climate change and access the needed support.¹⁹⁷ Given how agriculture is the main national income and source of employment in the labour sector, it is very important to ensure that The Gambia's interest in the reduction of emissions does not affect its efforts to sustain food security. The World Bank has pointed out that in 2015, 10.3% of The Gambia's population lived below the international poverty line of less than \$1. Yet, in 2020 when COVID-19 hit, this affected jobs, although remittances increased¹⁹⁸. The country then had 15.5% of its population experiencing multidimensional poverty, indicating low consumption levels, inadequate levels of education and challenges in accessing drinking water, electricity and sanitation, with these challenges worse in rural Gambia¹⁹⁹.

The national budget of The Gambia has been grappling with a "heavy debt burden", whereas the functioning of the other main sectors of the economy, such as tourism and agriculture, has remained uncertain. The country continues to face financial difficulties due to its poverty level, with an economic system heavily dependent on a limited tax base, as such making the country highly reliant on donors to support

193 Isatou F Camara. 2014. Climate financing in The Gambia.<http://www.jstor.com/stable/resrep01571>

194 Ibid. p2

195 Global Edge, 2020. The Gambia.<https://globaleedge.msu.edu/countries/the-gambia>

196 FAO, 2012. National action plan for the implementation of Green Green Wall for Sahara and Sahel Initiative of The Gambia. <https://www.fao.org/3/av146e/av146e.pdf>

197 Gambia Bureau of Statistics, 2017. Integrated Household Survey 2015/16. www.gbosdata.org/downloads/integrated-householdsurvey-ihs-24

198 WorldBank, 2021. Poverty & Equity Brief The Gambia Africa Western & Central.https://databank.worldbank.org/data/download/poverty/987B9C90-CB9F-4D93-AE8C-750588BF00QA/AM2020/Global_POVEQ_GMB.pdf

199 Ibid. p1



its development.²⁰⁰

The Gambia has been ranked as the 28th most vulnerable country to the impacts of climate change, according to the World Risk Index.²⁰¹ And, her people and economy are highly vulnerable to the variability of the climate and effects of climate change. As such, the enhancement of investments in climate resilience and adaptation is crucial. The increased frequency of droughts over the past years has affected crop yield, causing major crop failures. These occurrences have put pressure on inadequate natural resources, impacting the lives and livelihoods of people, and leading to a decrease in the yearly GDP of the country or, in some drought years, causing negative GDP growth. For example, the country experienced GDP growth of -0.9% in 2005 and -4.3% in 2011.²⁰²

The Gambia is part of the Climate Vulnerable Forum, a group of countries that are highly susceptible to the effects of climate change. The group aims to promote South-South cooperation on climate change among its members. The Gambia is also part of the Vulnerable Twenty (V20) Group of Ministers of Finance of the Climate Vulnerable Forum, whose goal is to promote alternative economic and financial visions to influence the global debate on climate change and climate policymaking.²⁰³ All the

major economic sectors of The Gambia will possibly be impacted by climate change, need enhanced resources, and the capacity to efficiently use them; in a nutshell, increased climate finance preparedness. These sectors include agriculture, livestock, water resources, health, infrastructure, transport, human settlements, physical planning, coastal zone management, energy, tourism, environment, forestry, fisheries and biodiversity, inclusive of wildlife.²⁰⁴

In 2019, The Gambia had a total debt stock of US\$1.4 billion (56.7% external; 43.3% domestic).²⁰⁵ Although nominal debt fell as a percentage of GDP — from 89.1% in 2018 to 80.1% in 2019, the continued increase of total public debt, mainly as a result of rises in guarantees to state-owned enterprises and fiscal slippages, remains a challenge.²⁰⁶ The Gambia's approximated funding need for her Low Emissions Climate Resilience Development Strategy's action plan is D170.5 million US Dollars. To gather this needed capital will pose a significant challenge to The Gambia due to policy implementation and poor regulatory systems, challenges in accessing commercial finance, and technical capacity gaps.²⁰⁷

Based on the analysis of the economic situation of The Gambia, it will be a major challenge for it to implement its NDC and

200 GoTG, 2017. Report on Low emissions climate resilient development strategy of The Gambia, 2018-2030. https://meccnar.gov.gm/sites/default/files/2021-06/LOW%20EMISSION%20CLIMATE%20RESILIENCE%20DEVELOPMENT%20STRATEGY%20REPORT-%202017-FINAL_0.pdf

p27EMISSION CLIMATE RESILIENCE DEVELOPMENT STRATEGY REPORT- 2017-FINAL_0.pdf

201 World Risk Index, 2020. <https://reliefweb.int/sites/reliefweb.int/files/resources/WorldRiskReport-2020.pdf>

202 Gambia Bureau of Statistics, 2017. Integrated Household Survey 2015/16. www.gbosdata.org/downloads/integrated-householdsurvey-ihs-24

203 GoTG, 2021. Second National Determined Contributions. <https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Gambia%20Second/Second%20NDC%20of%20The%20Republic%20of%20The%20Gambia-16-12-2021.pdf>

204 GoTG, 2017. Report on Low emissions climate resilient development strategy of The Gambia, 2018-2030. https://meccnar.gov.gm/sites/default/files/2021-06/LOW%20EMISSION%20CLIMATE%20RESILIENCE%20DEVELOPMENT%20STRATEGY%20REPORT-%202017-FINAL_0.pdf p24

205 Republic of The Gambia (2020) 2020 Debt sustainability analysis.

206 IIED, 2021. Sustainable financing of The Gambia's development in a COVID-19 era. <https://pubs.iied.org/sites/default/files/pdfs/2021-07/20211iied.pdf>

207 Ibid. pxi EMISSION CLIMATE RESILIENCE DEVELOPMENT STRATEGY REPORT- 2017-FINAL_0.pdf

national climate change policies/strategies without donor and international intervention to finance her climate adaptation and mitigation efforts, as one of the most vulnerable countries to the impacts of climate change. However, the reliance on donor support means that The Gambia will not be able to implement her NDC, and thus mere have commitments on paper without actual action.

4.3 The political dimension of feasibility

The government of The Gambia has been making efforts in taking environmental related issues more seriously, with policies and acts in place to be implemented. The government has also made an assessment of climate policies by engaging public sector institutions, the private sector, development partners and civil society organisations, in the preparation, review and validation processes, with the approval of the cabinet and the legislative.²⁰⁸

The government has been making efforts at mainstreaming climate change into national development policies and programmes, such as the 2012-2015 Programme for Accelerated Growth and Employment (PAGE), with strategies for its execution, referring to the policies submitted to the UNFCCC secretariat and the NAPA, guiding the implementation efforts of the country's climate-related interventions.²⁰⁹ The "driving force" for adaptation in the country is the political leadership and technocrats, with the technical leadership given by the focal points

in the Department of Water Resources, the Ministry of Forestry and Environment, the National Environment Agency (NEA), and the National Disaster Management Agency (NDMA). These technocrats are the ones who brief the political leadership on adaptation. The National Environment Agency, National Disaster Management Agency, and the National Climate Change Agency, led by the vice-president, coordinate the policies of government, and those on private sector organisations that have the potentials for causing major impacts on climate change and environmental degradation, while harmonising the plans and policies of the different sectors working on the environment and climate-related issues. These are in addition to also approving all the environmental and climate change plans and policies of the Gambian government.²¹⁰

However, there have been concerns about the President Adama Barrow-led government in relation to the environment, with a number of events publicised in the media and by environmental groups regarding the use of violence and police brutality against environmental defenders, besides protests that have highlighted the environmental challenges in The Gambia, both by national and international civil society groups. The National Environment Agency, which is under the Ministry of Environment, Climate Change and Natural Resources, has been mandated to ensure that the social and economic growth of The Gambia takes into consideration sufficient

208 Camara F, 2013. Mainstreaming climate change resilience into development planning in The Gambia. <https://pubs.iied.org/sites/default/files/pdfs/migrate/10046IIED.pdf>

209 Ibid. p4

210 Ibid. p4



environmental challenges, by conducting the right risk assessments and taking the needed actions to remedy the discovered concerns.²¹¹ However, one major environmental event that influenced a particular policy or project, was when environmentalists protested against the destruction of the Bijilo Forest Park for the construction of a Chinese sponsored convention centre, resulting in a cutting down of the size of the area meant for the construction. This did not halt the demolition of the Bijilo Forest, nonetheless. It has been argued that the main reason for the reduction of the earlier intended size of the construction was due to the impact it would have on tourism, rather than the significant damage it will have caused the environment.²¹²

There have equally been major concerns about the fishing activities of corporations in The Gambia, which have caused chemicals to be emitted into the rivers in coastal zones, killing mammals and aquatic animals, and polluting the environment. These are corporations given licences by the government. Consequently, there have been major concerns about the lack of political will in the regulation of the emissions of these corporations, which are affecting the lives and livelihoods of numerous communities.²¹³

On the basis of the analysis done, the government has been making efforts at addressing climate change and other environmental-related destructions by

initiating policies and programmes, however there are gaps in the political/enabling conditions for the effective implementation of climate-related policies as highlighted above. As such, for a better enabling environment for the implementation of climate policies in the country, there needs to be a more conducive environment for not only environmental groups to hold the government to account if their commitments are not put into action, but equally more efforts are required from the government in the effective management of the environment.

In its INDC, The Gambia failed to mention young people and women in its overarching plan, particularly since the country has a very youthful population, which is one of the most vulnerable groups, including women, to the impacts of climate change in society.²¹⁴ However, the revised NDC highlights how it will include young people and women in The Gambia's mitigation and adaptation efforts on climate change. The NDC emphasises the vulnerability of young people and future generations and their inclusion in the country's climate adaptation efforts. For effective climate action, intergenerational equity should be one of the key priorities. Moreover, given how women constitute 70% of The Gambia's agricultural workforce, they have local and practical knowledge about land use, even though they continue to be vulnerable to climate change.²¹⁵ The Gambia's National Gender Policy 2010-2020

211 BTI Transformation Index, 2020. The Gambia country report 2020. <https://bti-project.org/en/reports/country-report/GMB#pos 2>

212 Ibid. p21

213 Koigi. B. 2019. China fishmeal factory- a threat to Gambia, Fair Planet. [online]. Available at: <https://www.fairplanet.org/story/china-fishmeal-factory-a-threat-to-gambia's-coastal-communities/>.

214 Care About Climate, 2021. The Gambia. <https://www.ndcequitytracker.org/the-gambia>

215 IISD, 2021. The Women Transforming the Rural Gambia through Horticulture. <https://sdg.iisd.org/commentary/guest-articles/the-women-transforming-the-rural-gambia-through-horticulture/>

provides a framework for addressing gender inequality by ensuring that the planning and implementation of development projects are gender-focused.²¹⁶

As The Gambia's enhanced NDC has mentioned gender and young people several times, it is bound to not only underscore the vulnerability of women and youth to climate change, but also their inclusion in climate adaptation efforts. This newer NDC highlights the inclusion of women and youth in the design and implementation of the long-term vision, and in climate-resilient development projects, by including them in decision-making processes. It also emphasises the need to provide livelihood opportunities linked to renewable energy, waste management and urban agriculture, to be supported for women, youth and disadvantaged groups, including differently-abled people²¹⁷.

4.4 Social dimensions of feasibility (level of awareness)

Climate education and awareness among communities and institutions in The Gambia is still quite low.²¹⁸ Given how vulnerable the country is to the impacts of climate change, it is expected that there should be awareness among people regarding these and how they can adapt to them. However, there is limited information sharing, which can be linked to low public access

to information and relevant mechanisms through which people can be educated about climate change by stakeholders, most especially the government. The Gambia also has a low literacy rate, most especially in the rural areas, which continues to affect climate change awareness, resilience and response in the country.²¹⁹ However, the Third National Communication of The Gambia under the UNFCCC elaborates the government's plans to further enhance climate change education within the public schools and also acknowledges that education at the nursery, elementary and secondary school levels is important for addressing climate change by building extensive climate adaptation and mitigation knowledge.²²⁰ However, a recent study in The Gambia has drawn attention to how the country's secondary school curriculum lacks climate change content, including the impacts of climate change on human health, ecosystems and the need for renewable energy.²²¹ Furthermore, higher education in The Gambia, which is guided by the National Tertiary and Higher Education Policy 2014-2030, has not mentioned any learning or research plans in relation to climate change and environmental education/awareness²²², but the University of The Gambia recently created a Bachelor's degree programme in Environmental Sciences and postgraduate degree programmes in climate change funded by West African Science Service

216 GoTG, 2010. The Gambia national gender policy 2010-2020. <https://www.ilo.org/dyn/travail/docs/1958/Gambia%20national%20gender%20policy.pdf>

217 GoTG, 2021. Second Nationally Determined Contribution of The Gambia. <https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Gambia%20Second/Second%20NDC%20of%20The%20Republic%20of%20The%20Gambia-16-12-2021.pdf>

218 UNStats. State of Environment Statistics in The Gambia. <https://unstats.un.org/unsd/environment/gambia.pdf>

219 Foroyaa, 2021. Low literacy rates continue to impede climate change resilience in The Gambia. <https://foroyaa.net/low-literacy-rate-continues-to-impede-climate-change-resilience-in-gambia/>

220 GoTG, 2020. The Gambia's third national climate change communication. https://www4.unfccc.int/sites/SubmissionsStaging/NationalReports/Documents/619025_Gambia-NC3-1-The%20Gambia%20Third%20National%20Communication.pdf

221 UNESCO, 2021. Climate Change communication and education in The Gambia. <https://education-profiles.org/sub-saharan-africa/gambia/~climate-change-communication-and-education>

222 GoTG, 2014. National Tertiary & Higher Education Policy 2014-2023 national tertiary and higher education policy, The Gambia



Centre on Climate Change and Adapted Land Use (WASCAL)²²³.

The Gambia's NDC has elaborated that education, training and public awareness constitute the primary pillar of mainstreaming climate change in the country's development programme. It recognises the necessity of "extensive education, awareness-raising and development, and implementation of socioeconomic research as it relates to climate change"²²⁴. Therefore, the government of The Gambia will continue prioritising basic/primary education, while expanding access to secondary, higher and tertiary education, with emphasis on climate change.²²⁵ Yet, with the continuous occurrence of climate change, and no signal of its remission, the need to assess the level of awareness of the population, most especially farmers, has become more paramount in order to enable food security and the improved livelihood of the rural population. In addition, the low level of education of households also has consequences for climate awareness and the effective response to climate change, coupled with the adoption of new farming technologies and innovation, most especially among farming households.²²⁶

The National Climate Change Policy of The Gambia has emphasised that public education and awareness will enable a strong foundation for putting forward climate change issues for public discussions, which was why the National Environment Agency implemented a project on public awareness on climate change through community radios in rural communities, whereas the country's Ministry of Forestry

organised three television programmes, with presentations on climate change by experts and the public having the opportunity for questions and answers²²⁷. Nonetheless, there are still gaps in the level of awareness on climate change in The Gambia. Civil society organisations working on the environment in the country, such as Clean Earth Gambia, Green Up Gambia, and Gambia Ocean Heroes, amongst others, have been embarking on climate education/awareness programmes in communities but are constrained by resources to reach out to all the communities in The Gambia, to complement the government's efforts in promoting climate change education. Yet, there is need for more efforts on climate education in schools; capacity building for farmers, rural communities and marginalised groups; as well as encouraging more public discourse on climate change through different mediums, and building partnerships.

With the low level of climate education in The Gambia, it will pose a challenge for the implementation of the country's ambitious climate plans.

4.5. Institutional dimensions of feasibility

The Gambia has been able to initiate several policies and laws that align with its NDC plans and has established several institutions/departments, which have been mandated to implement climate policies across different sectors. These institutions, set up by the government to perform

223 WASCAL, The Gambia. <https://wascal.org/category/gambia/>

224 GoTG, 2021. Nationally Determined Contribution of The Gambia. <https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Gambia%20Second/Second%20NDC%20of%20The%20Republic%20of%20The%20Gambia-16-12-2021.pdf>

225 Ibid.

226 Kutir et al., 2015. Farmers Awareness and Response to Climate Change: A Case Study of the North Bank Region, The Gambia. <https://core.ac.uk/download/pdf/234647337.pdf>

227 UNESCO, 2021. Climate Change communication and education in The Gambia. <https://education-profiles.org/sub-saharan-africa/gambia/~climate-change-communication-and-education>

various tasks and engage in different areas of intervention, are meant to regulate the use of the country's natural resources and their efficient management. However, some of these institutions have not been able to perform their mandated tasks effectively due to inadequate financial support needed for their projects. Some of the institutions established include the following:

1. Department of Agricultural under the Ministry of Agriculture²²⁸;
2. Ministry of Environment, Climate Change and Natural Resources, which was established in 1976²²⁹;
3. Department of Parks and Wildlife Management, established in 1977²³⁰;
4. National Environment Agency (NEA), which was established in 1993 under the Ministry of Environment, Climate Change and Natural Resources ²³¹;
5. National Agricultural Research Institutes, created in 1994²³²;
6. Department of Fisheries that was created in 1967 under the Ministry of Fisheries and Water Resources, and the Department of Fisheries²³³;
7. Department of Water Resources ²³⁴;
8. Department of Energy, which was created in 1986 through the support of GTZ²³⁵.

Although the government has established different institutions to implement its

climate policies, the country has been experiencing underdeveloped institutional arrangements and weak measurement, reporting and verification (MRV) systems in the implementation of its climate programmes. This is in addition to insufficient human capacity, ranging from a few trained experts, insufficient knowledge and the needed scientific expertise, inadequate tools and equipment, and weak organisational frameworks.²³⁶ Moreover, the country has a weak coordination framework and low institutional GHG data “collection, management and monitoring”²³⁷ system, resulting in the contracting of external consultants to prepare the documents submitted to the UNFCCC by the country²³⁸. Through The Gambia's NDC, the country has highlighted the need for the technical capacity of institutions to be built to support the implementation of policies under the Paris Agreement.²³⁹ The national communication analysis preparatory process has also exposed systemic and circumstantial problems affecting institutional feasibility, including “poor institutional memory, task-related capacity gaps, and weak perception of country ownership which affected delivery schedules, quality of outputs”²⁴⁰ of climate policy implementation. A summary of the feasibility of climate pledges is presented in table 3 below

228 Ministry of Forestry. <https://www.moa.gov.gm/>

229 Ministry of Environment, Climate Change and Natural Resources. Forestry. <https://meccnar.gov.gm/forestry>

230 Ministry of Environment, Climate Change and Natural Resources. Parks and Wildlife. <https://meccnar.gov.gm/forestry>

231 Ministry of Environment, Climate Change and Natural Resources. National Environment Agency. <https://meccnar.gov.gm/forestry>

232 Food and Agricultural Organisation, 2009. Global Partnership Initiative for Plant Breeding Capacity Building. National Agricultural Research Institutes, The Gambia

233 Ministry of Fisheries and Water Resources. Department of Fisheries. <https://www.mofwr.gm/about-fisheries-department>

234 Ministry of Fisheries and Water Resources. Department of Water Resources. <https://www.mofwr.gm/about-water-resources-department>

235 Ministry of Petroleum and Energy. Department of Energy. <https://www.mope.gm/renewable-energy>

236 GEF Project, The Gambia. 2019. https://www.conservation.org/docs/default-source/gef-documents/20210617-prodoc_cigef-the-gambia-cbit_r.pdf?sfvrsn=39fc2ec6_0

p11

237 United Nations Statistics Division, 2019. State of Environment Statistics in the Gambia. United Nations Statistics Division (UNSD). Retrieved from <https://unstats.un.org/unsd/environment/gambia.pdf>.

238 GEF, 2019. Strengthening capacity of institutions in The Gambia to meet transparency requirements of the Paris Agreement. p17

239 Ibid.p15

240 Ibid.p15

Table 3: A Summary of the Feasibility of Climate Policies in The Gambia

Impact of the Feasibility of Climate Policies

Impact Factor	Low	Medium	High	Justification
Economic				High reliance on international financial support affects the implementation of climate policies due to how almost all the country's mitigation and adaptation targets are conditional upon external funding.
Political				The history of programme and policy implementation changes during political regime changes, thus affecting the level of swiftness in climate policy implementation.
Social				Efforts/progress have been made to increase awareness of climate change through policies and programmes amongst different groups. More attention should be given to climate education.
Institutional				The government has set up key institutions to support the implementation of its climate policies but institutions lack the capacity to effectively implement tasks.

Explanation

- Major threat to the feasibility of climate policies – Needs immediate action/attention.
- Moderate threat to the feasibility of climate policies – Needs attention.
- Major enabler of the feasibility of climate pledges – Still needs progressive improvement.

5. Discussion and recommendation

The government of The Gambia has been able to submit one of the best INDCs compatible with the Paris Agreement on the basis of its unconditional target. The country's NDC mitigation measures will decrease its greenhouse gas emissions by 3,327 GgCO₂e in 2030. This submission has been applauded for a least developed country to be leading in the global climate change impact reduction. However, as a country that has been facing significant economic challenges, dependent on donor support to implement its development agenda, my analysis has shown that The Gambia will face challenges in executing its ambitious NDC. Technical capacity and data access are challenges in The Gambia that will make public access to information an issue in the development of future NDCs. Therefore, it is very crucial for the government to improve access to data and build the technical capacity of relevant stakeholders to be able to support the implementation of its NDCs. The insufficient technical capacity and inadequate functioning of established institutions will hinder how efficiently the NDCs will be implemented.

Moreover, given how agriculture is the main source of national income and employment in the labour sector, it is very important to ensure that The Gambia's interest in the reduction

of emissions does not affect its efforts to sustain food security. In addition, it is crucial to create awareness about the NDC and climate-related policies through the consultation of all stakeholders, such as policy-makers, civil society organisations, youth, the private sector, women and other marginalised groups. This will ensure an all-inclusive process that will ensure that the NDC includes the voices and expertise of all. Moreover, the monitoring and evaluation of these policies should be more inclusive of all relevant stakeholders.

Furthermore, the severe climatic conditions that the country is experiencing include biodiversity loss, gender inequality, youth unemployment, poverty, especially in rural Gambia, and food insecurity. These continue to pose a significant threat to the implementation of The Gambia's NDC and other development policies. The listed challenges will be exacerbated by unsustainable farming practices, low awareness of climate-related issues, inadequate inputs like seedlings, and the over-dependence on natural resources, which will all continue to increase the country's vulnerability to climate and ecological challenges. As such, the implementation of the NDC will need a more holistic approach, with the involvement of all stakeholders, especially the most vulnerable communities in the mitigation of and adaptation to climate change.

The government of The Gambia should find innovative ways of developing mechanisms that will support the implementation of its NDC without heavily depending on donor support to implement its mitigation and

adaptation measures. Also, the government should commit more finances in its national budget to climate-related programmes. In addition, the institutions created should synergise efforts for more enhanced implementation of the NDC, alongside environmental laws. The Gambia's law enforcement has been weak, as such for the NDCs and other environmental-related development agendas to be effectively executed, the laws in place should be stringent and not merely exist on paper.

Finally, the government and leadership of the country need to strengthen their political will towards the implementation of The Gambia's NDC to enable its green transition. Education should be key, with environmental education incorporated into the national education systems, while climate education needs to be communicated in the languages understood by the population. This will support the government on how well the climate projects can be sustainable. Farmers and rural farming communities should be supported by the government, with women farmers – being in the majority – provided with enough climate information, funding, and access to technical support, in addition to being included in decision-making processes. The government should equally allow environmental groups and citizens to express themselves and their concerns about environmental damages in The Gambia, without the fear of being repressed as they seek to hold the government and all relevant stakeholders accountable on climate concerns. This will ensure more transparency on climate-related issues in The Gambia, alongside a more informed and involved citizenry.



6. Conclusion

This research project has been able to analyse the feasibility of The Gambia's NDC pledges, as the only country that has been mentioned to be on track in cutting its GHG emissions in line with the Paris Agreement goals of reducing global warming to 1.5 degrees Celsius, according to the Climate Action Tracker. As one of the least developed country in the world, The Gambia has been able to further develop national climate policies that will support the implementation of its NDCs. With a population of 2.1 million people, the country is mainly dependent on agriculture, which is the main source of economic activity of its people, contributing 25% of the national GDP and employing 70% of the country's labour force. Women constitute the majority of actors in the agricultural sector.

The Gambia submitted her first INDC in 2015 and submitted its enhanced NDC in 2021. The country's implementation of its climate pledges has been conditional upon international financial support, which will however affect the effective transition of the country to a green economy. Currently, the available climate financing focuses majorly on adaptation and resilience, whereas mitigation will require more financial support for medium- and long-term projects.

The first NDC failed to mention women and youth as some of the most vulnerable groups to the impacts of climate change and how they will be included in climate adaptation and mitigation efforts, however in its enhanced NDC, the vulnerability of women and youth were mentioned and the need for their inclusion in the design, planning, monitoring and evaluation of climate policies. This research work has shown the need for more climate education, awareness and public access to information across all levels, with the necessity of climate education being incorporated into the education sector, and tools provided for rural communities to better understand and learn about climate change, while green jobs are also created. This research has also shown the need for stronger institutions that will ensure the implementation of climate policies and provide the needed capacity and technical skills for the implementation of climate pledges in The Gambia.

In conclusion, this research has shown that having ambitious climate policies without the capacity for effective actions will affect the level of the implementation of the NDCs in a country like The Gambia.

Appendices

Appendix 1: (GoTG, 2015 - INDC's Emissions Reduction Targets Across Sectors; p3)

INTENDED NATIONALLY DETERMINED CONTRIBUTION						
1.1: Commitment Period	2021 to 2025					
1.2: Commitment Type	Activity/Sector Based					
1.3: Base Year	2010					
1.4: Emissions reduction targets	Mitigation activity	Description	Unconditional	Conditional upon*		Reduction
				FS	TT	Gg Co2e in 2025
	Afforestation	Plant trees on communal lands to increase forest coverage	✓			275.4
	Nerica Upland Rice	Reduce methane emissions from flooded rice fields by replacing them with efficient dry upland rice		✓	✓	397.7
	System of Rice Intensification	Reduce methane emissions through water management, less flooded areas, reduced fertilizer usage		✓	✓	707.0
	Reduce Transmission Losses	Refurbish and upgrade the national grid (from 33Kv to 132Kv) to reduce losses		✓	✓	98.7
	Renewable Energy	Install solar PV, wind power and hydro-electric power plants	✓			78.5
	Efficient Lighting	Substitute incandescent light bulbs and raise awareness in the residential sector		✓	✓	42.9
	Solar Water Heating	Install solar water heating facilities on public buildings and support them for hotels and the residential sector		✓	✓	19.3
	Extended Renewable Energy and Energy Efficiency	Energy saving appliances and additional hydro-electric, solar PV and wind power capacities		✓	✓	121.7
	Efficient Cook-stoves	Reduce firewood and charcoal consumption and the overuse of forest resources		✓	✓	287.6
	Vehicle Efficiency Standards	Reduce fuel consumption through efficiency standards			✓	114.0
	Methane Capture and Flaring	Remove methane emissions from landfills		✓	✓	237.0
Recycling and Composting	Reduce methane emissions from anaerobic decomposing of organic matter by composting and reduce waste generation by recycling		✓	✓	2.7	
	<i>*FS= financial support, TT= technology transfer</i>					
1.5: Scope and Coverage	<ol style="list-style-type: none"> The target is individual/sector based Sectors/Categories covered are Agriculture, Energy, Industrial Processes and Product Use (IPPU), Transport, and Waste Management. 					

Appendix 2: Emissions Reduction Targets - NDC2

ID	Mitigation measure	Unconditional	Conditional upon*		Mitigation potential Gg Co2e in 2030
			FS	TT	
1	GHG reduction from different rice ecologies in the Gambia		✓	✓	449
MA1	Improving agricultural resilience by implementing climate-smart agriculture		✓	✓	205
MA2	Improving livestock productivity		✓	✓	408
MA8	Reducing food losses		✓	✓	131
2	Re-greening degraded landscapes (including protected forests)		✓	✓	373
3	Upscaling deployment of fuel-efficient biomass combustion stoves		✓	✓	218
MA3	Multistrata agroforestry	✓			169
MA4	Firewood from agroforestry		✓	✓	169
E1	89 MW of utility-scale solar PV capacity		✓	✓	97
E2	3.6 MW of utility-scale wind capacity		✓	✓	4.2
E3	Reduction of transmission and distribution losses to 17%		✓	✓	35
E4	Full replacement of diesel mini-grids with solar PV and battery storage systems		✓	✓	0 ¹
E5	Solar home systems to supply off-grid consumption	✓			0.08
E6	Substitution of incandescent light bulbs		✓	✓	0.18
E7	Solar water heating facilities to supply 10% of demand by 2030		✓	✓	43.3
E8	6 MW of solar PV rooftop systems by 2024		✓	✓	6.54
4	Downsizing the Gambia's transport sector carbon footprint		✓	✓	129
5	Integrated waste management		✓	✓	497
MA7	Organic waste recovery		✓	✓	0 ²
MA6	Biogas from waste management and landfills		✓	✓	0 ³
6	Substituting HFCs in production and manufacturing processes		✓	✓	0 ⁴
MA10	Substituting HFC		✓	✓	804

*FS= financial support, TT= technology transfer

Appendix 3: Gambia - High-level Segment Statement COP 26

Excellencies, distinguished delegates, on behalf of His Excellency, Mr. Adama Barrow, President of the Republic of the Gambia, I wish to extend my sincere gratitude and appreciation to the Prime Minister and the government and people of the United Kingdom for hosting COP26 amidst COVID-19.

We must build on the enthusiasm shown by world leaders in 2015. The realities of climate change have gone beyond doubt and debate. The most vulnerable countries are bearing the brunt of its impact.

In the Gambia, two recent wind storms occurred in July and September 2021 causing terrible destruction to properties and claimed many innocent lives. In addition to the storms, disruptions in rainfall at the beginning of this year's rainy season resulted in delayed planting of vital crops in many areas in the country.

In 2014 we asked the following questions:

- 1) "If urgent action is not taken now, when shall we take them?"
- 2) "When shall we act to reduce global greenhouse gas emissions?"

These questions in my view will remain unanswered. Nationally Determined Contributions (NDCs) and other commitments to the Paris Agreement are not sufficient enough to limit global temperature rise to 1.5°C. Certainly not enough to protect the lives of vulnerable communities in many developing countries around the world!

As developing nations, I believe that we are doing more than our fair share in combating global warming. The Gambia even though a small developing country in sub-Saharan Africa do recognize the severity of climate change, and never became hesitant to ratify the Paris Agreement and submitted her first and second NDCs. The Gambia's updated NDC is recognized by Climate Action Tracker as a fundamental commitment to reducing global

temperature rise to 1.5°C above business as usual by 2050. On behalf of Government, I would like to thank UNDP, IRENA and ICLEI for contributing financially and technically to the updating process of the NDC.

In our national drive towards strengthening resilience and adaptation measures to climate change, the Government of the Gambia is progressively implementing its climate change policy aimed at mainstreaming and building resilience of communities to climate change, together working with the United Nations Capital Development Fund (UNCDF) Local Adaptation Facility to strengthen jobs, skills and finance.

My country firmly believes that other governments, particularly the world's rich and developed countries, should do more and honour their past pledges to meet the unquestionable and dire needs of the world's poorest and most climate vulnerable people, especially those with the least resilience who are put at the greatest risk from an ever-changing and unpredictable climate.

I and my delegation, expect nothing less from COP26 than tangible commitments that strengthen emission reduction targets to be consistent with 1.5°C and reflect each country's fair share of the global effort.

Without additional finances, investments in new technologies and strong capacities, my country will find it extremely difficult to implement our ambitious climate action plan.

We must not leave Glasgow without a robust and effective rule set for the Paris Agreement and this includes: a post-2025 climate finance goal; ensure support to address loss and damage as well as recognize the special needs and circumstances of the LDCs. Let's remember that our lives and livelihoods depend on the decisions we will make here in Glasgow. The time to act is now! I thank you all.



Evidence from Nigeria

By Obasanjo Joseph Oyedele and Kingsley Osinachi N. Onu

1 Introduction: Nigeria

Nigeria suffers the effects of climate change because the pillars of its economy (fossil fuel and agriculture) are highly vulnerable to extreme weather events and environmental changes, with observable negative impacts on human health, land use, land cover, and human survival.²⁴¹ As a party to the United Nations Climate Convention on Climate Change (UNFCCC),²⁴² the country has promulgated national policies and laws for the sustainable management of climate change and its effects.²⁴³ It is critical to examine the government's readiness to fulfil its current pledge to reduce the emission of greenhouse gases by 47% in 2030 in its amended Nationally Determined Contributions (the amended NDC)²⁴⁴ and attain a net-zero carbon emission status by the year 2060, in its Long Term Vision (LTV)²⁴⁵ respectively. In this chapter, we highlight the ambition

²⁴¹

K.O.N. Onu (2021) Human Rights Impacts of Nigeria's Oil and Gas Sector NDC implementation Projects: Lessons from the Kwale CDM Project. *Journal of Environmental Law, Policy and Development (JELPD)* VIII (2021) 57-83, 58.

²⁴² The United Nations Framework Convention on Climate Change (UNFCCC), 1771 UNTS 107; The Kyoto Protocol to the United Nations Framework Convention on Climate Change, 1997; and the Paris Climate Agreement 2015.

²⁴³ See Onu n.1, 58.

²⁴⁴ See FRN, Nigeria's Updated (Amended) First NDC. (Jul. 31, 2021), Department of Climate Change https://climatechange.gov.ng/wp-content/uploads/2021/08/NDC_File-Amended-_11222.pdf. (last visited Jan. 4, 2022).

²⁴⁵ Federal Republic of Nigeria (FRN), 2050 Long Term-Vision for Nigeria (LTV-2050). (last visited Feb. 2, 22) <https://unfccc.int/documents/386681>

and feasibility of climate change policies and pledges made by Nigeria, using the political, economic, social, and institutional (PESI) dimensions as yardsticks. We also examine the Nationally Determined Contributions (NDC) 2021, the National Climate Change Policy (NCCP) 2021, the pledges and other policy documents to determine the feasibility or otherwise of achieving climate objectives in the country. This assessment ends with a conclusion and some recommendations that are capable of ensuring an effective implementation and successful achievement of the national policy objectives and pledges on climate change. In the next section, we summarise the context and climate outlook of Nigeria.

1.2 Country Context and Climate Outlook

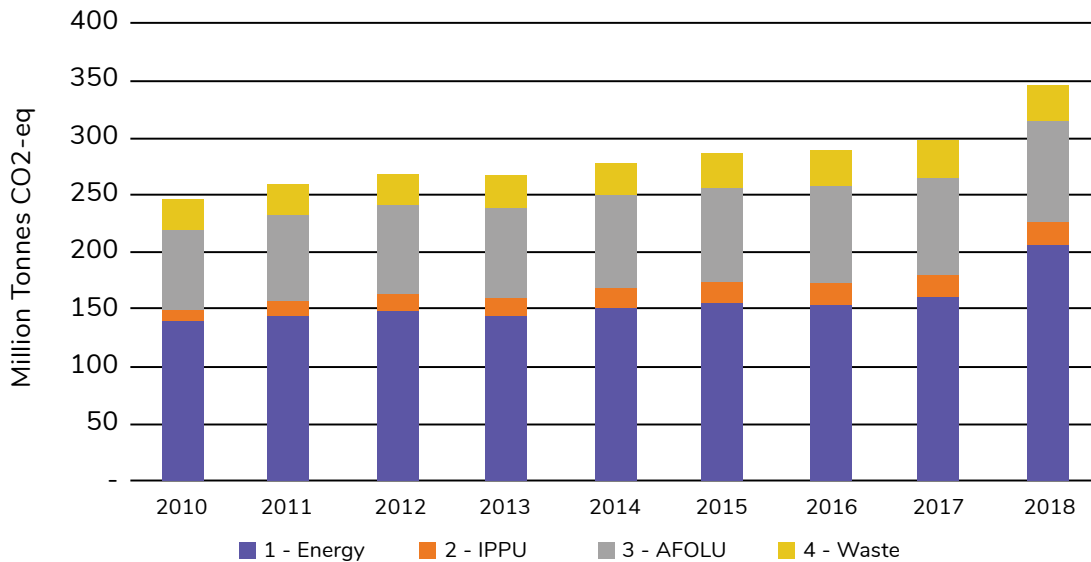
Nigeria is the most populous black nation in the world, a democratic federal republic with 36 states and a Federal Capital Territory. It has since 1999 witnessed 23 years of unbroken democratic governance, with the

incumbent President, Muhammadu Buhari to complete his second term by the 29th of May 2023. Nigeria is currently bedevilled by many challenges, which include corruption, terrorism, banditry, kidnapping, farmer-herder conflicts, secessionist movements and civil unrest in the Niger Delta, the sacred cow that lays the golden egg (crude oil) that largely sustains the country's public finances. Nigeria is also ranked very low on the human development index (HDI), as over 40% of its citizens live in abject poverty.²⁴⁶ It is the highest emitter of greenhouse gases (GHG) in West Africa, with over 60% of GHG emissions in the region.²⁴⁷ On the basis of Nigeria's amended NDC 2021 GHG assessment, its estimated total GHG emissions between 2010 and 2018 range from 247 million tonnes of CO₂ equivalent (MtCO₂e) emissions in 2010 and 347 MtCO₂e in 2018.²⁴⁸ The energy sector is the highest emitter of GHG, as it accounts for over 60% of emissions in Nigeria (209 MtCO₂e).

246 The Federal Republic of Nigeria. (2020). Nigeria: Integration of the SDGs into National Development Planning. A Second Voluntary National Review (p. 96). https://sustainabledevelopment.un.org/content/documents/26308VNR_2020_Nigeria_Report.pdf

247 USAID, (2019) Greenhouse Gases Emission in the West African Region: Factsheets. Retrieved May 2, 2022. From https://www.climatelinks.org/sites/default/files/asset/document/2019_USAID_West%20Africa%20Regional%20GHG%20Emissions%20Factsheet.pdf

248 FRN, n.5, 7.



Total GHG Emissions in Nigeria between 2010 and 2018 (Units: million Tonnes CO₂ equivalent emissions).²⁴⁹

Fugitive GHG emissions from the oil and gas sub-sector represent 36% of emissions from the energy sector, followed by the transportation sector, grid and non-grid connected electricity, and residential and industrial consumption.²⁵⁰ Agriculture, Forestry and Other Land Use (AFOLU) is the second-largest contributing category to Nigeria's GHG emission with 25%, followed by waste (9%) and Industrial Processes and Other Product Use (IPPU) at 5%, respectively.²⁵¹ As it stands, Nigeria's economy suffers from high inflation and heavy domestic and foreign borrowing, couple by a high rate of youth unemployment.

2.0 Nigeria' Climate Policy Landscape

The goal of this section is to highlight major policies that Nigeria has enacted since its climate change management journey started. The climate policy landscape in Nigeria is a trajectory of policy frameworks starting with the ratification of the United Nations Framework Convention on Climate Change (UNFCCC) on 29 August, 1994.²⁵² Before ratifying the Kyoto Protocol in 2004, the First National Communication on Climate Change was produced, while the idea of a draft National Climate Change Policy document was mooted in 2003 under the regime of President Olusegun Obasanjo²⁵³. Furthermore, this National Climate Change Policy Development Framework harvested the plans and strategies of the National Environment Policy (1999), and

²⁴⁹ Sourced from Ibid.

²⁵⁰ Ibid.

²⁵¹ Ibid.

²⁵² The United Nations Framework Convention on Climate Change (UNFCCC), 1771 UNTS 107.

²⁵³ Sayne A. (2011). Climate change adaptation and conflict in Nigeria; special report. United States Institute of Peace.

the Vision 20:2020 in 2010, as the National Environmental, Economic, and Development Study (NEEDS) of Climate Change in Nigeria highlights the roles of the National Strategic Climate Change Trust Fund and the National Climate Change Policy and Response Strategy in driving the climate change policy aspects of the NEEDS²⁵⁴.

Through Nigeria's Response to Climate Change (BNRCC) project, the country designed and adopted the National Adaptation Strategy and Plan of Action on Climate Change for Nigeria (NASPA-CCN) in 2011.²⁵⁵ The goal was to reduce the effects of climate change through thirteen adaptation strategies. The National Climate Change Policy and Response Strategy (NCCP-RS) was adopted in 2012 to replace the NASPA-CCN, which was considered deficient due to its singular focus on adaptation.²⁵⁶ However, the urgency and need for prompt responses to the impact of climate change at both local and international levels prompted Nigeria to modify the 2012 policy to the National Policy on Climate Change and Response Strategy (NPCC-RS) in 2013.²⁵⁷ In 2015, after the Paris Agreement, Nigeria submitted its

first Nationally Determined Contributions (NDC), promising to achieve a low-carbon environment, build climate resilience, and achieve equitable growth in its economy.

The signing of the Paris Agreement in 2015²⁵⁸, which Nigeria ratified in March 2017, revolutionised the country's response to the effects of climate change.²⁵⁹ In 2015, Nigeria developed and adopted its Intended Nationally Determined Contribution (INDC) to the Paris Agreement, 2015;²⁶⁰ and on 31 July, 2021, it submitted its amended or revised Nationally Determined Contributions (NDC) to the Paris Agreement (PA).²⁶¹ In line with article 4(19) of the Paris Agreement, in November 2021 (shortly before the 26th Conference of Parties (COP26) held in Glasgow, Scotland), Nigeria also communicated its Long-Term Low Greenhouse Gas Emissions Development Strategies (LT-LEDs).²⁶² The Paris Agreement promotes the adoption of a low carbon economy, which is also the centrepiece of Nigeria's INDC, amended NDC, and LT-LEDs. Thus, Nigeria, in June 2021, revised the NCCP-RS to align with the above instruments by promulgating the

254 Federal Ministry of Environment, Abuja (2010). NEEDS for Climate Change in Nigeria.

255 FRN, National Adaptation Strategy and Plan of Action on Climate Change for Nigeria (NASPA-CCN), November 2011. Retrieved January 11, 2022, from <https://csdevnet.org/wp-content/uploads/NATIONAL-ADAPTATION-STRATEGY-AND-PLAN-OF-ACTION.pdf>.

256 London School of Economics and Political Science. (2013) 'National policy on climate change: Executive, mitigation and adaptation framework' cited in Alima Ogah, *supra* note 13.

257 New Climate Institute. (2015) 'National policy on climate change Nigeria', cited in Alima Oga, *supra* note 13.

258 UNFCCC, Paris Agreement, 2015. UNFCCC (Dec. 10, 2015) https://unfccc.int/sites/default/files/english_paris_agreement.pdf (Last visited Jan. 4, 2022)

259 See UNFCCC, Paris Agreement- Status of Ratification, UNFCCC <https://unfccc.int/process/the-paris-agreement/status-of-ratification>. (last visited Jan. 8, 2020).

260 The implementation is period spans from the year 2015-to 2030. See Federal Republic of Nigeria (FRN), Nigeria's Intended Nationally Determined Contribution, UNFCCC, (Mar. 17, 2017) https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Nigeria%20First/Approved%20Nigeria%27s%20INDC_271115.pdf (last visited, Feb. 13, 2020)

261 See FRN, Nigeria's Updated (Amended) First NDC. (Jul. 31, 2021), Department of Climate Change https://climatechange.gov.ng/wp-content/uploads/2021/08/NDC_File-Amended-_11222.pdf. (last visited Jan. 4, 2022).

262 Federal Republic of Nigeria (FRN), 2050 Long Term-Vision for Nigeria (LTV-2050). (last visited Feb. 2, 22) <https://unfccc.int/documents/386681>.

National Climate Change Policy (NCCP) 2021-2030.²⁶³ Therefore, the aim of the NCCP 2021-2030 is to provide a comprehensive framework that will direct the country's responses to the current and emerging impacts of climate change. It uniquely provides for sectoral and cross-sectoral resilient action plans for the efficient management of climate change and its impacts. Nigeria is heavily dependent on technical and financial support from the private sector and foreign entities for the implementation of the NCCP. It has also enacted the Climate Change Act of 2021 to give legislative backing to the attainment of its obligations under the Paris Agreement.

Table 1: Summary of Policy Frameworks on Climate Change Mitigation and Adaptation in Nigeria

Key policies	Year released	Policy objective
National Environmental Policy	1999	To ensure environmental protection and efficient conservation of natural resources for sustainable development.
National Climate Change Policy Development Framework	2003	To provide national control and management strategies on drought and desertification, erosion, flood control, forest management, coastal zone management, and disaster preparedness.
National Environmental, Economic, Development Study for Climate Change	2010	To properly integrate climate change mitigation and adaptation concerns into the national development plan labelled 'Vision 20:2020'.
National Adaptation Strategy and Plan of Action on Climate Change for Nigeria (NASPA-CCN)	2011	To reduce the effects of climate change through thirteen adaptation strategies.
National Climate Change Policy and Response Strategy (NCCP-RS)	2012	To foster a low carbon, high growth economic development path, and build climate resilience in Nigeria by achieving set targets.
National Policy on Climate Change and Response Strategy (NPCC-RS)	2013	To foster a low carbon, high growth economic development path, and build climate resilience in Nigeria through the achievement of set targets.
Nationally Determined Contributions (NDC)	2015, 2021	To achieve low-carbon in the country, build climate resilience, and attain equitable economic growth.
National Climate Change Policy (NCCP)	2021	To promote low-carbon, climate-resilient and gender-responsive sustainable socio-economic development.
Long-Term Low Emission Vision document	2021	To cut emissions by 50%, achieve net zero in the second half of the century across all sectors, promote a low-carbon, climate-resilient, high growth circular economy and be gender-responsive by 2050.

3.0 Understanding Nigeria's climate pledges

Having presented a summary of some of the major climate change policies enacted; in this section, we analyse the contents of the nation's NDC and the LTV to show some of the

²⁶³ Department of Climate Change, 2021 National Climate Change Policy (NCCP) for Nigeria (2021-2030). Retrieved January 21, 2022, from <https://climatechange.gov.ng/national-policy-on-climate-change/>

pledges made. Nigeria submitted an updated NDC (hereafter referred to as the Amended NDC) to the secretariat of the Paris Agreement on 31 July, 2021.²⁶⁴ This Amended NDC increased the unconditional commitment of Nigeria from 45% to 47%.²⁶⁵ When compared to the 2015 NDC, the Amended NDC seems to have considerably enhanced Nigeria's climate ambition through the inclusion of greenhouse gas (GHGs) emission reduction targets for the waste sector and by increasing Nigeria's conditional contribution. It also includes the water resources sector and equally articulates other nature-based solutions not included in the earlier NDC of 2015.²⁶⁶ Nigeria needed an estimated sum of \$142 billion to achieve its first NDC by the year 2030.²⁶⁷ However, it is estimated that the country will now require \$177 billion to implement its Amended NDC within the same period.²⁶⁸

Nigeria's pledge under the Amended NDC has both adaptation and mitigation priorities.

- a. **Adaptation Priorities:** The Amended NDC acknowledges the fact that Nigeria is highly vulnerable to the effects of climate change, and that the extant climate change impacts in Nigeria vary in intensity, extent and severity. These impacts include a poor economy; agricultural downturn and loss of food security; water scarcity and population; floods and droughts; soil erosion; sea-level rise; poor energy generation; and loss of biodiversity.²⁶⁹ The Amended NDC adopts the measures outlined in the National Adaptation Plan Framework (NAP framework)²⁷⁰ published in June 2020, to respond to the above challenges. The specific objectives of the NAP framework are to:
 - Clarify Nigeria's approach to its NAP process. This includes articulating the country's vision of climate change adaptation, its adaptation objectives, the principles that will guide adaptation in Nigeria, the roles and responsibilities of relevant stakeholders, and any priority actions to be undertaken. It is also a reference point for bringing together various adaptation planning efforts from different sectors and spheres of decision-making (i.e. the national, states, and local governments).
 - Align the NAP process with existing policies (the Economic Recovery and Growth Plan, NASPACCN, NCCP-RS), strategies, and adaptation research.

264 See FRN, Nigeria's Updated (Amended) First NDC. (Jul. 31, 2021), Department of Climate Change https://climatechange.gov.ng/wp-content/uploads/2021/08/NDC_File-Amended-_11222.pdf. (last visited Jan. 4, 2022).

265 Ibid.

266 Ibid

267 Vanguard (2017). 'Nigeria needs \$ 142 bn to meet NDC's target-FG' Vanguard Online newspaper, September 27, 2017. Retrieved May 5, 2022, from https://www.vanguardngr.com/2017/09/nigeria-needs-142bn-meet-ndcs-target-fg/amp/?fb_comment_id=156668653389230_1567042546686964

268 G. Olorunfemi and E.E. Anieze (2022) 'Key Steps to Scaling Up Climate Implementation in Nigeria'. Business Day Online Newspaper, March 11, 2022. Retrieved May 5, 2022, from <https://www.google.com/amp/s/businessday.ng/amp/opinion/article/key-steps-to-scaling-up-climate-implementation-in-nigeria/>

269 Ibid, 11.

270 Nigeria's National Adaptation Plan Framework. Retrieved January 29, 2022, from <https://napglobanetwork.org/wp-content/uploads/2020/06/napgn-en-2020-Nigeria-National-Adaptation-Plan-Framework.pdf>

- Focus on specific themes that are particularly relevant and/or unique to Nigeria's context.

Its methodology consists of three interconnected segments: a desk-based literature review, stakeholder consultations, and a national validation workshop.²⁷¹

To achieve the above objectives, the key elements of the NAP process include:

1. Building appropriate capacity for adaptation action;
2. Defining adaptation options at the various levels of governance;
3. Creating an enabling environment for effective adaptation;
4. Designing a coherent approach to fund mobilisation for effective climate change adaptation;
5. Developing suitable strategies for engaging the private sector;
6. Developing effective communication strategies in the various phases of the adaptation process; and
7. Developing an effective monitoring and evaluation plan to facilitate implementation.²⁷²

The NAP adopted some innovative principles to guide the implementation of the measures stated above. These principles, inter alia, include stakeholders' participation; youth engagement; incorporation of local knowledge into climate adaptation; equality, equity and cross-sectoral responsibilities. We submit that these guiding principles, if properly incorporated, will catalyse Nigeria's NAP process.

In addition to the measures stipulated under the NAP framework, the Amended NDC proposed the inclusion of nature-based solutions (NBS)²⁷³ and improved the water sector as part of Nigeria's NAP.²⁷⁴

- b. Mitigation Priorities:** The Amended NDC, in line with the NCCP, seeks to transform Nigeria into a low carbon economy as a means of reducing the global emission of GHGs. Table 1 above shows that Nigeria emitted 347 million MtCO₂e of GHGs in 2018. However, a baseline projection made in the aftermath of the coronavirus disease pandemic (COVID-19) estimates that Nigeria will be emitting 452.7 million MtCO₂e by 2030.²⁷⁵ This will amount to a 31% increase in total GHG emissions between the years 2018 and 2030. The energy and AFLOU sectors remain Nigeria's highest emitters of GHG over the estimated period.

271 Ibid, 4.

272 Ibid, viii.

273 The NBS include actions that protect biodiversity and sustainably manage and/or restore the ecosystem.

274 Amended NDC (supra), 14.

275 Ibid, 17. See Table 2 below.

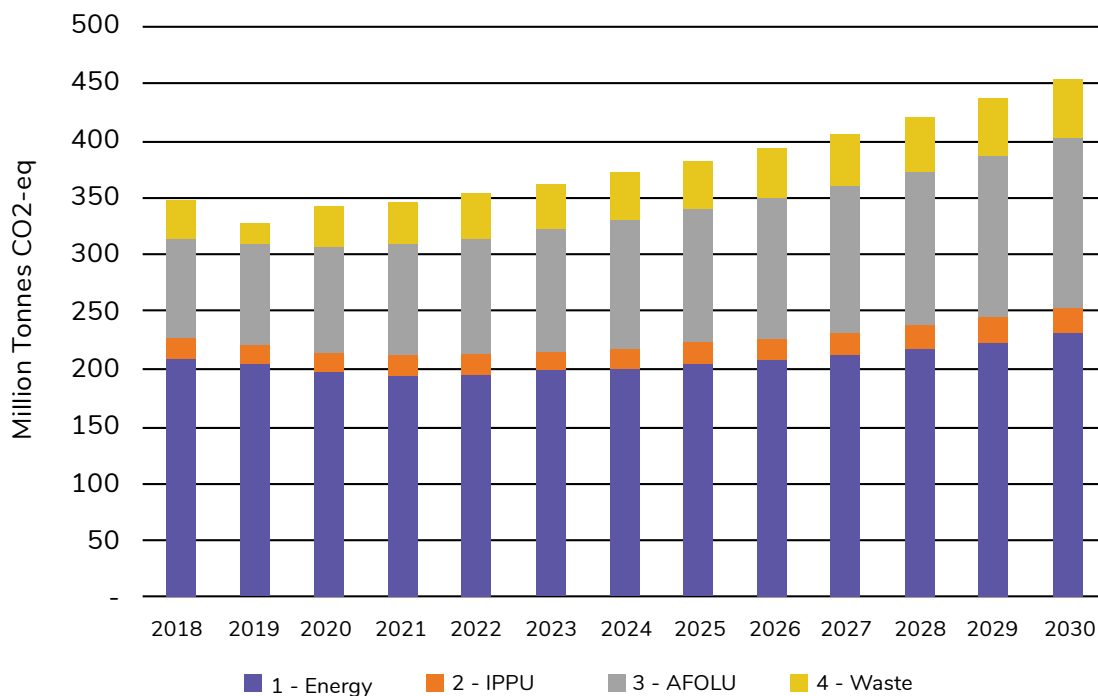


Table 2: Total GHG Emission Projections from 2018 to 2030 for the Baseline Scenario (Units: million tonnes of CO₂-equivalent emissions)²⁷⁶

The above baseline is 898 MtCO₂e lower than what was estimated in the 2015 NDC. The reasons for the huge difference above are the different historic estimates of GHG emissions, the difference in assumptions about socio-economic development in Nigeria and the period over which the growth rates are applied.²⁷⁷

To mitigate the above baseline, Nigeria’s Amended NDC is committed to achieving a 20% unconditional GHG emission reduction target by 2030, as was pledged in the 2015 NDC, and it further increased the country’s conditional emission reduction target to 47% by 2030, as against the 45% projected in the 2015 NDC.²⁷⁸ If the conditional emission reduction is achieved by 2030, Nigeria’s emission will drop to 347 MtCO₂e by 2030, as against the baseline projection of 453 MtCO₂e. This is represented in table 3.

²⁷⁶ The table is sourced from Ibid, 17.

²⁷⁷ Ibid.

²⁷⁸ Ibid, 18.

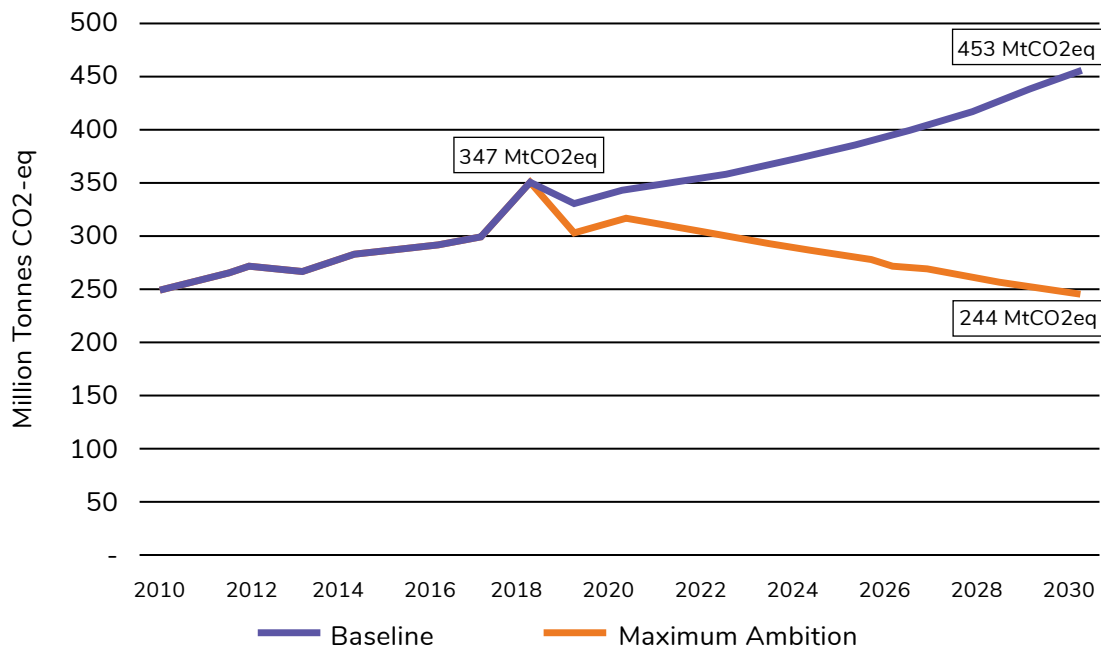


Table 3: GHG Emissions in MtCO2e Nigeria Under the Business-as-usual Scenario (blue line) and Conditional Contribution (the Orange line)²⁷⁹

c. Measures towards achieving the above targets:

The Amended NDC pledges some specific sectoral measures that will help Nigeria achieve its overall emission reduction target, as in the following:

- a. Energy Sector: The Amended NDC pledges to mitigate the emissions from the energy sector by 2030 through the following measures: reduction of 48% pollution (in 26.8 million households) and another 13% (in 7.3 million households) by the use of improved cookstoves, and ultimately to eliminate the use of kerosene lighting. It also pledges to reduce energy intensity across all sectors by 2.5% per year. In the transport sector, it commits to the reduction of 100,000 extra buses by 2030. Similarly, the Bus Rapid Transport (BRT) will constitute 22.1% of passenger-per-kilometre by 2035. In addition, 25% of trucks and buses would be using compressed natural gas (CNG) by 2030.

For electricity generation, the Amended NDC projects to generate 30% of on-grid electricity from renewables, 13 gigawatts (GW) of off-grid electricity from renewable energy, while eliminating diesel and gasoline-powered generators for electricity supply by 2030. Finally, it seeks to end gas flaring by 2030, alongside the reduction of fugitive methane emissions by 60% in 2030.

The Amended NDC states that women will benefit from the implementation of the above measures, as they will have access to decent and efficient transportation. The measures

²⁷⁹ Table 3 is sourced from Ibid, 18.

will also create green jobs, and finally, improve the quality of air and health of the people.²⁸⁰

- b. AFOLU: The measures in this regard include climate-smart agriculture (CSA), a 50% reduction in the fraction burning of crop residues by 2030, improved natural forest management, forest restoration, increased forest protection, reduced fuel wood harvest, and the protection and restoration of mangrove forest ecosystems.
- c. Waste: The Amended NDC pledges to adopt a circular economy for the waste management sector.
- d. Industrial Processes and Product Use: The key measure in this sector is the reduction in the emission of HFC gases – in line with the Kigali Amendment and the Montreal Protocol – through the phasing down of HFCs by reducing their production and consumption. Nigeria pledges, in line with its obligations under the Kigali Amendment, to reduce the consumption of HFCs by 80% in 2047.
- e. Short-Lived Climate Pollutants (SLCP): With support from K-CEP, Nigeria pledges to transit to energy-efficient air conditioning, and the implementation of the National Action Plan to reduce SLCPs, which has 22 specific measures.
 - a. Cross-cutting Issues: The adaptation and mitigation measures in the Amended NDC are to be implemented as guided by gender and youth inclusion, a whole society approach, the necessity of green jobs/transitions, and foreign financial and technical support.

Based on the above scenario, the Amended NDC sets out three key national priorities/strategies that will aid Nigeria, as outlined in the Nigeria Economic Sustainability Plan (NESP).

Nigeria's Long-Term Vision (LTV) and the Net Zero Pledge

Nigeria communicated her LTV under article 4(19) of the Paris Agreement, which mandates parties to long-term low greenhouse gas emissions development strategies (LT-LEDs).²⁸¹ The LTV “provides a clear sense of direction to all stakeholders for a well-managed transition to a low-carbon economy that grows existing and new sectors, creating new jobs and economic opportunities for the nation.”²⁸²

The vision states that: By 2050, Nigeria will be a country of low-carbon, climate-resilient, high growth circular economy that reduces its current level of emissions by 50%, moving towards having net-zero emissions across all sectors of its development in a gender-responsive manner.

280 Ibid, 24.

281 Federal Republic of Nigeria (FRN), 2050 Long Term-Vision for Nigeria (LTV-2050). (last visited Feb. 2, 22) <https://unfccc.int/documents/386681>.

282 Ibid.

The LTV lays a strong foundation for Nigeria's Medium-term (2021-2025) and long-Term (Agenda 2050) national development plans towards attaining a climate-neutral and resilient society. After submitting an LTV, which promises a 50% emission reduction by 2050, President Muhammadu Buhari surprised everyone at the COP26 in Glasgow by stating that Nigeria will cut down on her GHG emissions and attain net-zero emissions by the year 2060.²⁸³

4.0 Feasibility Assessment of Climate Ambition and Pledges

Having examined the climate pledges made by Nigeria during COP26 in Glasgow and its Nationally Determined Contributions (NDC) and National Climate Change Policy (NCCP) of 2021, we proceed in this section to assess the feasibility of the promises and pledges made. The focus of the section is to measure the capacity, readiness, and capability of Nigeria to achieve a 20% emissions reduction below business-as-usual (BAU) by 2030 and a 45% conditional commitment (NDC, 2015), alongside a 20% below business-as-usual by 2030 and a 47% conditional commitment (updated NDC 2021). To do this, we will analyse the mitigation and adaptation projects, plans, and implementation strategies in the NDC (2021) and NCCP (2021), which have legal framework, institutional framework, finance and finance mobilisation, capacity development, coupled with the roles of the private sector, technology and innovation, research and development, and international cooperation as enabling conditions for successful implementation. Nigeria's mitigation projects, plans and

implementation strategies specifically target agriculture, forests and other land use, energy, health, industry, oil and gas, transportation, waste, and water; while for adaptation, agriculture, forests, energy, health, industry, transportation, water, information and communication technology (ICT), human settlements, and security are targeted.

4.1 Assessing/Tracking the Implementation of Past Climate Pledges

Assessing the feasibility of Nigeria's preparedness to implement its Amended NDC will require a peep into the way and manner the NDC was implemented and the challenges faced in the process, which will form the basis of the assessment of the Amended NDC. In the communication of Nigeria's 2015 NDC to the UNFCCC secretariat in 2017, it made concerted efforts towards attaining the pledges made under that 2015 NDC and the Amended NDC by pushing for and implementing new policies and measures. In 2021, Nigeria revised her climate change policy to the NCCP, thereby bringing the policy up-to-date with its commitments under the Paris Agreement. The country also made a giant stride by enacting the Climate Change Act, 2021, a landmark legislation on climate change governance which aims to give legislative backing to the implementation of measures outlined under its NDCs and LTS.

Nigeria made significant progress in the implementation of the first NDC across different sectors. In agriculture, it successfully built a biogas plant in Kogi

283 Channels News, Nigeria to Reach a Net-Zero Emission by 2060 says Buhari. (November 16, 2021) <https://www.channelstv.com/2021/11/02/cop26-nigeria-to-reach-net-zero-emissions-by-2060-says-buhari/>

State, which is currently in use,²⁸⁴ while the Ilaje Mangrove Project located in Lagos State is still been executed.²⁸⁵ Two other projects are still in their planning stages.²⁸⁶ So far, an estimated 400,000 tonnes of CO₂e have been successfully reduced in the agriculture sector through the above projects.²⁸⁷

The country has also implemented two climate mitigation focused energy sector projects,²⁸⁸ while three projects are still being implemented,²⁸⁹ and seven others are in their planning stages.²⁹⁰ Through the above projects, Nigeria has reduced its GHG emissions to the tune of 800,845 tonnes of CO₂e.²⁹¹ In the oil and gas sub-sector of the energy sector, four projects have been implemented,²⁹² another four projects are still being implemented,²⁹³ while two projects are in the planning stages.²⁹⁴ Through these projects, Nigeria has also reduced its emissions from the oil and gas sector

to the tune of 234,100 tonnes of CO₂e.²⁹⁵ Similarly, on the 13th of December 2016, the country launched the Nigerian Gas Flare Commercialisation Programme (NGFCP), for the utilisation of gas in Nigeria.²⁹⁶ The essence of the NGFCP is to eradicate gas flaring and its attendant environmental and human health implications, and then propel socio-economic development.²⁹⁷ This objective is to be achieved through commercially and technically sustainable gas utilisation projects to be developed by third-party investors.²⁹⁸ The NGFCP was incorporated in the first NDC implementation plan and it led to the promulgation of the Flare Gas (Prevention of Waste and Pollution) Regulations in 2018,²⁹⁹ which is a legislation that imposes stiffer penalties on gas flaring, as opposed to its predecessor. Nigeria seeks to eliminate gas flaring by 2030 through the above legislation.

In the transportation sector, the Langtang Bus Rapid Transit (BRT) Project has been

284 Obagana Biogas Project Kogi State. Retrieved August 3, 2021, from <https://ndcregistry.climatechange.gov.ng/projects/?sector=4>.

285 Ilaje Mangrove Project, Lagos State. Retrieved August 3, 2021, from <https://ndcregistry.climatechange.gov.ng/projects/?sector=4>.

286 Project List. Retrieved August 3, 2021, from <https://ndcregistry.climatechange.gov.ng/projects/?sector=4>.

287 See Nigeria NDC Registry. Retrieved August 3, 2021, from <https://ndcregistry.climatechange.gov.ng/>.

288 Tucson Solar Project, South Western Nigeria; and Nigeria Electrification Project, Nigeria. Retrieved August 3, 2021, from <https://ndcregistry.climatechange.gov.ng/projects/?sector=1>.

289 Mambila Hydro Power Project, Taraba State; Ejigbo Saved 80 Cook Stove; and Renon Food Project. Retrieved August 3, 2021, from <https://ndcregistry.climatechange.gov.ng/projects/?sector=1>.

290 Project List. Retrieved August 3, 2021, from <https://ndcregistry.climatechange.gov.ng/projects/?sector=1>.

291 See Nigeria NDC Registry. Retrieved August 3, 2021, from <https://ndcregistry.climatechange.gov.ng/>.

292 Ofom Gas Flare Out, Delta State; Obi Anyiam Flare out, Delta State; Otumara AG Project, Delta State; Rademo Pipeline Project, Yola, Adamawa State. Retrieved August 3, 2021, from <https://ndcregistry.climatechange.gov.ng/projects/?sector=2>.

293 Afro Magi Tree Plantation, Yakari; Southern Swamp AG Project, Delta State; Kuala Field Gas Project, Bauchi; Umutu Gas Utilization, Delta State. Retrieved August 3, 2021, from <https://ndcregistry.climatechange.gov.ng/projects/?sector=2>.

294 ACU LADR Project Activity, Maji, Niger State; and Jones Creek Gas Capture. Retrieved August 3, 2021, from <https://ndcregistry.climatechange.gov.ng/projects/?sector=2>.

295 See Nigeria NDC Registry. Retrieved August 3, 2021, from <https://ndcregistry.climatechange.gov.ng/>.

296 Department of Petroleum Resources, 2016. Nigerian Gas Flare Commercialization Programme. Retrieved June 21, 2020 from <https://ngfcp.dpr.gov.ng/>.

297 Pricewaterhouse Coopers (PWC) 2018. Assessing the Impact of Gas Flaring on the Nigerian Economy. Retrieved on June 15, 2020, from <https://www.pwc.com/ng/en/assets/pdf/gas-flaring-impact1.pdf>. 1, 8.

298 Ibid.

299 No. 88, Vol. 105 of the Federal Republic of Nigeria Gazette of July 9th, 2018. Retrieved June 15, 2020, from: <https://ngfcp.dpr.gov.ng/media/1120/flare-gas-prevention-of-waste-and-pollution-regulations-2018-gazette-cleaner-copy-1.pdf>. This regulation is made according to section 44 of the 1999 Constitution of the Federal Republic of Nigeria, as amended in 2018; The Petroleum Act 1969; and the Associated Gas Reinjection Act, 1979. See paragraph 2(1) of Flare Gas (Prevention of Waste and Pollution) Regulation 2018, hereafter referred to as the Regulation.

implemented,³⁰⁰ while two other projects are still being implemented,³⁰¹ and two projects are still in their planning stages.³⁰² An estimated 504,000 tonnes of CO₂e have been reduced through the foregoing projects.³⁰³

On gender inclusion in the climate action and decision-making process, in 2020 Nigeria adopted the National Action Plan on Gender and Climate Change for Nigeria (NAPGCCN).³⁰⁴ The NAPGCCN sets out strategies for mainstreaming gender into the implementation of Nigeria's NDC under the Paris Agreement. It is pertinent to note that "the priority sectors covered by this Action Plan include: Agriculture, Forestry and Land Use; Food Security and Health; Energy and Transport; Waste Management; Water and Sanitation. The Action Plan covers the period 2020-2025."³⁰⁵

4.2. Dimensions of the Feasibility Assessment of the Climate Pledges and Promises: PESI Analysis

The section below presents an analysis of the NDCs/pledges from the political, economic, social and institutional dimensions.

4.2.1 The Political Dimension of Updated Climate Pledges

The assessment of the country's ability to muster political will to implement its rich

climate policies and pledges is rated medium. The NDC, NCCP, LTV and other pledges are rich, long-term and sustainable policy frameworks that can transform a country to the level of success. Furthermore, there is no doubt that Nigeria is strongly committed to the management of climate change, as evident in the recent signing of the climate bill into law and the existence of other policy instruments and pledges made by the government before 2021³⁰⁶. Unfortunately, laws, policies, and pledges are irrelevant if they are not enforced, implemented and acted upon. There are no concrete signs yet to show that the implementation strategies of these instruments will not suffer. The organised private sector, a group of companies and concerned stakeholders, is creating sustainable products and services for the effective management of the effects of climate change in the areas of agriculture, water, electricity and transportation. It is also collaborating with the public sector in the areas of project formulation and execution, under the mitigation and adaptation components³⁰⁷. This is not to say that the public and private sectors do not travel in opposite directions when it comes to dealing with the effects of climate change, as many private-sector initiatives, for example, have

300 Langtang BRT Project. Retrieved August 3, 2021, from <https://ndcregistry.climatechange.gov.ng/projects/?sector=3>.

301 Supply of Electric Cars; and Modal shift to efficient Bus Transit. Retrieved August 3, 2021, from <https://ndcregistry.climatechange.gov.ng/projects/?sector=3>.

302 Project List. Retrieved August 3, 2021 from <https://ndcregistry.climatechange.gov.ng/projects/?sector=3>.

303 See Nigeria NDC Registry. Retrieved August 3, 2021 from <https://ndcregistry.climatechange.gov.ng/>.

304 Department of Climate Change, (2020) 'National Action Plan on Gender and Climate Change for Nigeria (NAPGCCN)'. Retrieved May 7, 2022 from <https://www.climatechange.gov.ng/>

305 Ibid.

306 Onuigbo, S., (2021). 'Climate change act has put Nigeria on the growth path', The Guardian, November 27, 2021, <https://guardian.ng/interview/climate-change-act-has-put-nigeria-on-path-to-growth/>; Akintunde, B., (2021). Nigerian govt serious about climate change – Official, Premium Times, November 28, 2021 <https://www.premiumtimesng.com/news/more-news/497826-nigerian-govt-serious-about-climate-change-official.html>

307 USAID (n.d). Usaid Nigeria Climate Change Fact Sheet, https://www.usaid.gov/sites/default/files/documents/Climate_Change_Fact_Sheet_NIGERIA_FINAL_FORMAT2.pdf;

been stymied by red tape, political and financial malfeasance.

The transition from military to civilian rule in 1999 has been maintained, though most of its constituents complain about the expensive cost of governance, with the country's presidential system of government and mangled federalism seen as weak points. The country's economy has also been battered by two rounds of successive recession, complicated by the global economic disruption associated with COVID-19 (World Bank, 2021)³⁰⁸. Finding a balance between its challenges and national development plans has been a problem for Nigeria over years. Consecutive administrations in the country since 1999 have faced the need to improve the standard of living of the teeming population, to overcome insecurity, reduce unemployment, diversify the economy, reduce the debt burden, bridge the infrastructure gap, and build enduring and effective institutions and tackle corruption³⁰⁹.

Nigeria is currently bedevilled by several political challenges that will affect its chances of fulfilling its commitment under the NDC and LTV. Corruption has been a major impairment to quality decision-making by the government, affecting most public decision-making and implementation processes. The country ranks among the

most corrupt in the world, and an average Nigerian believes that most government officials across all levels are corrupt.³¹⁰ Corruption accounts for the illegal logging of Nigeria's timbers, poaching of wildlife, and lack of compensation and access to justice for victims of climate change.

Similarly, insecurity is a major challenge that poses a threat to the national political will to address climate change. Terrorism in the northern part of Nigeria, kidnapping, farmer-herder clashes, and civil unrest in the South-East and South-South regions have characterised the land.

4.2.2 The Economic Dimension of Updated Climate Pledges

Nigeria needs about \$177 billion to fully implement its Amended NDC obligations.³¹¹ The country is currently implementing its 2022 budget on a 37% deficit, which is to be funded through foreign loans; hence it lacks the financial ability to implement its Amended NDC pledges. Nigeria's debt profile in December 2021 stood at N39 trillion and it is set to hit N45 trillion due to the additional loan of N6 trillion needed to offset the 2022 budget deficit.³¹²

308 World Bank (2021). Nigeria Overview: Development news, research data.

309 ibid

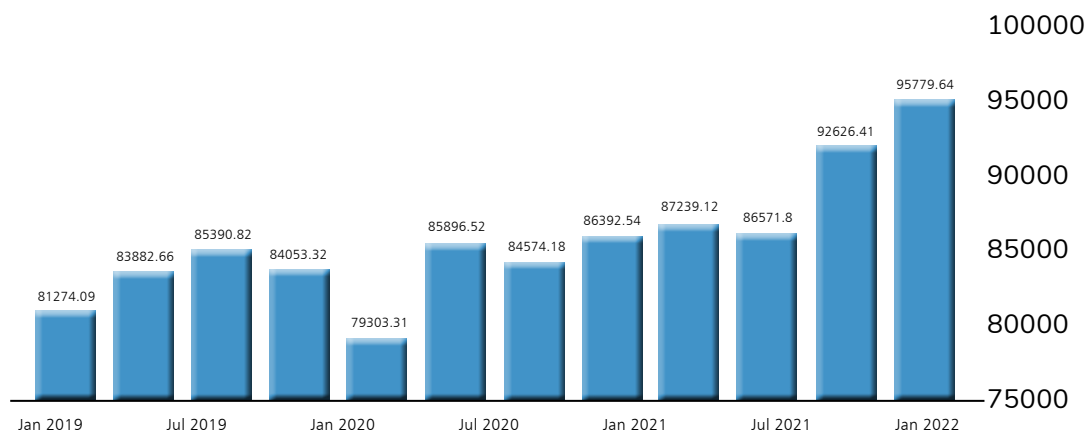
310 Transparency International. (2021). Corruption Perceptions Index 2020. https://images.transparencycdn.org/images/CPI2020_Report_EN_0802-WEB-1_2021-02-08-103053.pdf

311 G. Olorunfemi and E.E. Anieze (2022) 'Key Steps to Scaling Up Climate Implementation in Nigeria'. Business Day Online Newspaper, March 11, 2022. Retrieved May 5, 2022 from <https://www.google.com/amp/s/businessday.ng/amp/opinion/article/key-steps-to-scaling-up-climate-implementation-in-nigeria/>

312 Debt Management Office (2021). Nigeria's Public Debt Profile, <https://www.dmo.gov.ng/debt-profile/total-public-debts/3758-nigeria-s-total-public-debt-as-at-september-30-2021/file>; CEIC (2021). Nigeria External Debt, <https://www.ceicdata.com/en/indicator/nigeria/external-debt>

Table 5 shows that Nigeria’s debt profile has been on the increase since July 2021.

Table 5: Nigeria’s debt profile from 2019 to 2022.³¹³



This national economic outlook makes it difficult for Nigeria to score beyond low on the economic dimension of its climate pledges. Although the government’s economic diversification drive has resulted in the growth of the nominal and current values of the GDP between 2015 and 2021, the increase in debts (foreign and local)³¹⁴ and fluctuations in the Foreign Direct Investment growth of the critical sectors that can promote climate change mitigation and adaptation, and foreign reserves³¹⁵, cast doubt on the country’s climate financing capacity, and suggest potential danger for the sustainable financing of future climate-related projects. Therefore, Nigeria depends largely on foreign support to achieve its climate obligations. The United States and the United Kingdom, at the 76th UN General Assembly (UNGA), pledged to increase their climate finance support to developing countries to \$11.4 billion and £11.1 billion respectively per year by 2024.³¹⁶ In addition, there exists several other funding sources for a developing country like Nigeria, which include the issuance of green bonds;³¹⁷ the Rural Electrification Fund;³¹⁸ the Green Climate Fund’s Universal Green Energy Access Programme (UGEAP);³¹⁹ the Clean Technology Fund (CTF);³²⁰ the financing

313 Sourced from Ibid

314 Debt Management Office (2021). Nigeria’s Public Debt Profile, <https://www.dmo.gov.ng/debt-profile/total-public-debts/3758-nigeria-s-total-public-debt-as-at-september-30-2021/file> ; CEIC (2021). Nigeria External Debt, <https://www.ceicdata.com/en/indicator/nigeria/external-debt>

315 Owoeye, F., (2021). Nigeria’s external reserve slips to an 8-month low, <https://www.thecable.ng/nigerias-external-reserve-sinks-to-8-month-low>

316 G. Olorunfemi and E.E. Anieze (n.89).

317 Green Bonds. Retrieved July 12, 2020, from <http://www.nse.com.ng/products/debt-instruments/green-bonds>.

318 Ricardo Energy and Environment, 2017. NDC Implementation Action Plan for the Power Sector. Report for the Government of Nigeria and United Nations Development Programme (UNDP). Ref: ED62516- Issue Number 2, p. 13.

319 Universal Green Energy Access Programme (UGEAP). Retrieved July 12, 2020, from <https://www.greenclimate.fund/project/fp027?inheritRedirect=true&redirect=/projects/browse-projects>

320 Clean Technology Fund. Retrieved July 21, 2020, from <https://climatefundsupdate.org/the-funds/clean-technology-fund/>.

of multilateral development banks (MDB);³²¹ private sector-led projects;³²² international climate finance funds;³²³ the Green Climate Fund (GCF);³²⁴ International Climate Fund (IKI);³²⁵ and the Special Climate Change Fund (SCCF).³²⁶

However, Okereke³²⁷ identified four major issues with climate finance for African states and Nigeria, in particular. First is the issue of adequacy of the support. The developed countries' pledge of \$100 billion of annual climate finance support to developing countries is just like a drop of water in the big ocean of the high climate financing needs of developing countries. Nigeria's cost of climate change skyrocketed to \$100 billion in 2020 and it is projected to rise to \$460 billion per year by 2050.³²⁸ Extant foreign support is grossly inadequate to assist Nigeria to meet its NDC and LTV obligations, making the entire pledges aspirational, rather than firm commitments. Second is the issue of additionality. Climate finance support to developing countries by the United Nations Framework Convention on Climate Change, 1992, ought to be new and additional to the already existing Overseas Development Assistance (ODA) of developed countries. Most developed countries have jettisoned

these clear rules of financial engagement with developing countries. There are instances in which ODA funded projects on agriculture, energy, and transportation are now repackaged as climate finance obligations, thereby shortening the aid due to a developing country like Nigeria, and crippling its chances of fulfilling its pledge under the Paris Agreement.³²⁹

4.2.3 The Social Dimension of Updated Climate Pledges

The level of climate change awareness among the population, the ever-increasing population, high youth unemployment, the gender aspect of climate change, and rapid urbanisation, are indices that led us to rate Nigeria low on the social dimension of the feasibility assessment.

In a 2020 study conducted among 1599 respondents aged 18 years and above in Nigeria by Statista, "more than six Nigerians out of 10 never heard about climate change. Only 30 per cent of respondents declared to have heard about this topic. Awareness of the topic resulted to be higher in urban Nigeria than in rural areas."³³⁰ This low level of awareness, which affects citizens' knowledge, attitudes, practices and

321 MDB Climate Finance hit a record high of USD43.1 Billion in 2018. Retrieved July 21, 2020, from <https://www.worldbank.org/en/news/press-release/2019/06/13/mdb-climate-finance-hit-record-high-of-us431-billion-in-2018>

322 See Collings, S. and Munyehirwe, A. 2016. Pay-as-you-go solar PV in Rwanda: evidence of benefits to users and issues of affordability. *Journal of Field Act, Special Issue*. 16, 94-103. Retrieved July 21, 2020 from <https://journals.openedition.org/factsreports/4189#:~:text=Source%3A%20Azuri%20Technologies-,Introduction,areas%20of%20sub%2DSaharan%20Africa.&text=In%20rural%20areas%20the%20electrification,lowest%20in%20sub%2DSaharan%20Africa.>

323 NAMA Facility. Retrieved July 22, 2020 from <http://stories.nama-facility.org/portfolio-workshop/Workshop/>

324 The Cancun Agreements: Outcome of the work of the Ad Hoc Working Group on Long-term Cooperative Action under Convention I, para 1. Retrieved online June 22, 2020 from <http://unfccc.int/resource/docs/2010/cop16/eng/07a01.pdf#page=17>, p. 1

325 IKI Funding Instrument. Retrieved July 22, 2020 from <https://www.international-climate-initiative.com/en/about-the-iki/iki-funding-instrument>.

326 Special Climate Change Fund. Retrieved July 22, 2020 from <https://www.thegef.org/topics/special-climate-change-fund-sccf>.

327 G. Olorunfemi and E.E. Anieze (n.89).

328 Ibid.

329 Ibid.

330 Statista (2020). Have you heard about climate change? www.statista.com/statistics/1269701/knowledge-of-climate-change-topic-in-nigeria-by-area/

participation in climate change governance has also been reported by other studies³³¹. Nigeria's population is expected to be 262,977,337 in 2030, on the basis of an over 2% annual growth rate³³². Analysis shows that the country's population growth between 2016 and 2020 contributed to the tonnes of carbon emissions generated during the period. However, analysis suggests that the growth in population did not generate substantial carbon emissions from oil (-92.1%) and gas (-87%)³³³. Population growth might not directly reveal its connection with carbon emission generation from the two sources because people/citizens are not directly involved in industrial activities in oil and gas production that led to carbon emissions. Despite the high percentage of variation of population growth in the carbon emissions generated from coal usage, the Nigerian government has the intention of adding six coal power generating plants to the 23 existing plants by 2037³³⁴.

Unemployment is another social dimension negatively affecting the implementation of the climate pledges. Nigeria has struggled with structural and cyclical unemployment in all areas and industries over the years³³⁵, which have had a negative, decreasing effect on the livelihoods and business revenues of residents. The consequences of production and consumption activities, which generate

varying amounts of carbon emissions, are affecting the productivity of residents, as well as citizens who are gainfully employed and working in diverse sectors and businesses.³³⁶ On gender inequality and climate change, many women in rural and semi-urban areas still rely on coal and firewood for cooking. Unfortunately, the CCA, 2021 did not create any human rights obligations for climate change-induced human rights violations and climate change mitigation or adaptation measure-induced human rights violations, hence gender inclusion only remains within the realms of policy that are not enforceable in court. New urban settlements are opened up in all the six geopolitical zones of Nigeria and between 2016 and 2020, the urbanisation rate accounted for 29.8% of carbon emissions generated by activities related to coal, 75.1% of carbon emissions generated by gas, 62.2% of carbon emissions generated by flaring, 84.9% of carbon emissions generated by oil, and 2.1% of carbon emissions generated by cement.³³⁷

4.2.4 The Institutional Dimension of Updated Climate Pledges

Nigeria has a rich institutional framework that can drive the implementation of the climate pledges that have been made. The Department of Climate Change (DCC) in Nigeria's Federal Ministry of Environment

331 See Oyedele, O.J. (2017) Climate change information sources and knowledge, attitudes and practices of farmers in Southwestern Nigeria, Unpublished PhD Thesis, University of Ibadan, Ibadan, Nigeria.

332 World Population Review (2021). Previous, Current and Future Population Growth of Nigeria, www.worldpopulationreview.com

333 World Population Review (2021). Previous, Current and Future Population Growth of Nigeria, www.worldpopulationreview.com

; Our World in Data (2021). Nigeria's Carbon Emission Status, www.ourworldindata.org

334 Dapo-Thomas, O., (2021). Will Nigeria choose climate change over oil money? <https://nairametrics.com/2021/05/25/will-nigeria-choose-climate-change-over-oil-money/>

335 Trading Economics (2021). Nigeria Employment Rate, <https://tradingeconomics.com/nigeria/employment-rate>

336 EnviroNews (2017). Workers Day: How climate change affects the workplace, by Labour, <https://www.environewsigeria.com/workers-day-climate-change-affects-workplace-labour/>

337 Statista (2021). Urbanisation Rate in Nigeria, www.statista.com ; Our World in Data (2021). Nigeria's Carbon Emission Status, www.ourworldindata.org; Authors' analysis (2022)

has been designated as the country's Focal Point (Focus Person) to the UNFCCC, the Kyoto Protocol and Paris Agreement.³³⁸ The mandate of the DCC is "to co-ordinate the national implementation of the United Nations Framework Convention on Climate Change, its protocol and any other legally binding agreement for implementing climate change activities."³³⁹ The National Environmental Standards and Regulations Enforcement Agency (NESREA) is another institution empowered to enforce and ensure compliance to international treaties, protocols, agreements and conventions bothering on the environment, such as ozone depletion, chemicals, forestry, hazardous wastes, marine and wildlife, pollution-induced climate change, conservation, biological diversity, forestry, sanitation, oil and gas, and such other environmental instruments that may come in force.

Unfortunately, Nigeria's run to net-zero carbon emission may be cloaked by the duplicity and overlapping regulatory functions of the above institutions. For instance, section 8 of the NESREA Act empowers the agency to implement Nigeria's obligations under international climate change, which is similar to the function of the secretariat of NCCC under the Climate Change Act (CCA); while the DCC, on the other hand, acts as Nigeria's focal point for the Paris Agreement. This may become problematic as rivalry may arise between institutions with interrelated functions, especially the age-long rivalry between the Federal Ministry of Environment and NESREA

over the governance of Environment Impact Assessments (EIAs), which still exists despite the decision of the court in the case of Helios Towers Nig. Ltd v. NESREA & Anor.³⁴⁰ The Court, in the above case, declared NESREA as the principal agency on EIA governance in Nigeria. However, NESREA and the Federal Ministry of Environment reached a 'gentleman's' agreement that allows the Ministry to carry out EIAs in Nigeria, while NESREA focuses on the enforcement of the law.³⁴¹ This is an illegality that can be utilised by defaulters under the CCA to evade liability.

Another weak institutional problem is the low statutory fiscal allocation to NESREA and the Federal Ministry of Environment, which makes it difficult for the institutions to vigorously pursue their mandates to deliver Nigeria's vision of a net-zero carbon emission country by 2060. These institutions are grossly underfunded and do not also have adequate personnel and facilities to service the entire country. Furthermore, the CCA did not make provisions for the human rights protection cause of the implementation of the NDC and LTV measures. The Amended NDC, in line with global best practice, makes provisions for gender, consultation and inclusion of all stakeholders as part of its guiding principles, which yet do not express human rights provisions, but which are akin to the tenets of human rights and can elicit human rights obligations on entities and the government. What is closest to a human rights provision in the Amended NDC is its paragraph 6, which deals with cross-

338 Department of Climate Change Federal Ministry of Environment. 2017. retrieved May 27, 2020, from: <http://climatechange.gov.ng/about-us/department-of-climate-change/>

339 Ibid.

340 (supra)

341 Kingsley Onu and Rebecca Sojnu, 2021 'The Quagmire Of Environmental Impact Assessment Governance In Nigeria: A Review Of The Case Of HELIOS TOWERS NIG. LTD V. NESREA'. NIALS Journal of Environmental Law (NJEL) vol. vii, p. 145.



cutting issues that include social inclusion and gender impacts.³⁴² Therefore, it will be overambitious to assume that this provision has guaranteed substantive and procedural human rights in the implementation of the NDC. The above provisions are vague and cannot command a compelling obligation on any person or individual to respect and protect humans in the cause of the implementation of the NDC.

5.0 Discussion

This section summarises the feasibility of climate pledges by Nigeria and observations made in this chapter. The overall summary of this section is that the economic and social dimensions to the implementation of the climate pledges are weak, while the feasibility assessments of the political and institutional dimensions show medium performance. These developments raise serious doubts about the implementation and achievement of the pledges.

The feasibility of Nigeria achieving its climate pledges is largely dependent on the availability of foreign finance, which is largely uncertain at the moment. Extant external climate finance is grossly inadequate to enable Nigeria meet its climate pledges. There also exists a high level of international cheating of developing countries like Nigeria by developed countries, in terms of climate finance, as some ODA programmes are repackaged as climate finance, when in actual sense climate finance ought to be an addition and not part of ODA. Energy security is equally central to the attainment of Nigeria's climate pledge, but unfortunately the country is energy impoverished. Nigeria's attainment of energy security that is also clean is pivotal to the achievement of its

climate pledges. However, this substantially depends on foreign funding, which is currently inadequate and hazy, being that it is subject to the whims, caprices and conditions of international donors.

Also, the findings of this study, taken together with the nation's fragile economy, which is riddled with high inflation; a previous history of the abandonment of policies, laws, strategies and projects; a weak financial capacity that can support implementation; and the inability of the country to spell how the pledges and action plans will be achieved, show that Nigeria may not be able to meet its climate change goals and plans by 2030 and 2060. There are technocrats and skilled human resources to drive the implementation strategies, as well as enough scientists, climate experts, policy administrators, experienced diplomats, civil society groups, and skilled government workers, but we need to control corruption, bad governance and poor national support in order to make real progress on the climate pledges.

If there is none in existence, these human resources should be harnessed through the formation of a think tank on the implementation of the formulated mitigation and adaptation strategies. Changes in the political structure of the country also constitute a challenge that can affect the implementation drive on the climate pledges. When a new administration assumes power, even when from the same political party as the earlier one, a change of the personnel leading specific ministries, units, boards, and committees of government spells doom for many policy actions of

³⁴² FRN, *supra* note 118 at 16.

previous administrations, which is a national woe that prevents the country from moving forward. It is not certain yet what will happen to the beautiful and concrete laws, policies, and action plans and strategies of government on climate change management from 2023. Stable structures of governance and oversight are the solution to this problem. Therefore, the government should ensure that there is continuity and conclusion of the oversight functions of stakeholders selected or appointed to work for the country.

There are laws, policies, and pledges with spelt out action plans in existence, but the political will to enforce and implement them will determine their success. It was difficult for such beautiful policies, laws and action plans designed before 2007 to make any meaningful contributions to our national efforts on mitigation and adaptation. Serious commitment and policy actions are just being extracted from Nigeria by the international community on climate change, because of its previous history of poor performance. It is also evident that due to its experienced and competent human resources, Nigeria does not lack the right policy instruments, laws, and pledges for sustainable development. What it lacks is the political will to execute good policies and programmes. The summary chart of the feasibility of Nigeria’s climate pledge is in table 2 below.

Table 2: Summary: feasibility of climate policies and pledges by Nigeria

	Low	Medium	High	Justification
Political				Nigeria has good policies and good international cooperation and agreements, but its history of poor implementation of these good policies, political instability, fragility, corruption, high-level insecurity, weak leadership, and inability to raise the political will for implementation are factors working against the achievement of the country’s climate pledges.
Economic				More than 80% of the annual budget is based on heavy borrowing from local and international sources. The country’s debt portfolio, debt financing, and subsidy payments take more than 85% of its revenue annually. For climate financing, Nigeria relies heavily on foreign support and green bonds.
Social				Citizens’ awareness, knowledge, attitudes, practices and participation in climate change are weak. These indicators are negatively compounded by an increasing population, structural and cyclical unemployment, gender aspects of climate change, rapid urbanisation, and over-reliance on electricity from the national grid.
Institutional				There are technocrats, qualified researchers, and other trained professionals as human resources needed for actualising the pledges. There are also good laws and other institutional frameworks, an informed private sector and a technology hub for young people needed for proper implementation. What is lacking is the provision of an enabling environment for these stakeholders to work with the government to actualise the pledges.

6.0 Conclusion and Policy Recommendations

Nigeria’s climate change obligations under the Paris Agreement are apt and ambitious, and they are such that if properly implemented will deliver to the country its ambition of net-zero carbon emission by 2060. Nigeria is certainly on the right path to a green economy through the giant strides it has made in the area of a robust regulatory framework for climate change

governance. This chapter examined how different factors challenge the attainment of the visions of the framework. Some of these factors include the high cost of mitigation and adaptation measures, which makes Nigeria depend on foreign support to achieve its conditional pledge; the failure to mainstream substantive and procedural human rights in Nigeria's climate actions; the avalanche of inadequate incentives to climate adherent entities; the major drawback of funding, which relies on over 80% foreign support and Foreign Direct Investments (FDI) to attain its obligations under the Paris Agreement;³⁴³ and the existence of administrative bottlenecks and duplicity of functions between NCCC, NESREA, and Federal Ministry of Environment over climate change governance in Nigeria.

Beyond rhetoric, the country needs to show the right political will to implement the policies and pledges it has made. The implementation involved will affect individuals, groups, multinationals, ways of doing business, agreements signed with oil companies, policies and projects in the major sectors highlighted in this report, and the investments of some powerful individuals in the country. Where the political will is weak, as seen in the Nigeria situation, probably, the implementation drive will not be effective and efficient. Therefore, the issue of implementation should be prioritised and dispassionately pursued without any political, tribal, ethnic, religious, or personal consideration. Another problem with the processes is the inability of the policies, laws and pledges to indicate

how the implementation will be carried out and the responsibilities of the stakeholders involved. Most especially, the role of citizens in the implementation strategies should move from the passive reception of policies, laws and action plans to active participation. Citizens in their communities and daily activities contribute to carbon emissions at a time when research findings show a low level of public understanding and knowledge of climate change. Apart from taxes, which they do not understand why they pay, what they pay for, and how the money is used, clarity is needed on the roles of citizens as stakeholders in climate action. Beyond designing development messages to inform, educate, and mobilise them, what they need to contribute to the global and national commitment to climate change should be determined, mainstreamed and demanded. An inter-ministerial and grassroots participatory approach will be needed to make this happen.

The weakest aspects of the nation's implementation approach are in terms of the technology, finance and product innovations, where the country is heavily and disproportionately relying on foreign/international assistance or transfer for success. Countries that have made significant progress on renewable energy leveraged heavily on these three areas. Relying on developed countries to transfer technology, raise finance for poor countries (Nigeria is one of the countries with a low capacity for climate financing), and come up with innovative products that can help in reducing the carbon footprint below 1⁰

343 Nigeria's Updated Nationally Determined Contribution (supra).

should convince everyone that such middle-level and poor countries may not be able to implement their action plans without heavy assistance from the developed economies.

There are technical universities, universities of technology, and technology and engineering departments in many higher institutions in Nigeria where knowledge/technology incubation can happen for national survival on climate change. The government may need to give incentives, provide grants and institute chairs on the technology needed for the implementation of the 2030 and 2060 action plans on climate change. Furthermore, to correct the imbalance, the training and re-training of manpower and strategic promotion of tech-hubs on climate change management will help. To reduce its heavy reliance on international organisations, donors, and developed countries for climate finance, green tax, climate financing monetary support, and special funds directly from multinationals and the organised private sector can help in this regard. These do not rule out the government's resolve to fully diversify the economy, invest in renewable energy, and devote a percentage of its annual budget to climate financing. Where there is effective and sustainable technology, climate-friendly products for all sectors will be developed for use. Therefore, it is recommended that technology, climate financing, and climate-friendly products should be opened up to local and international investors, while young Nigerians are encouraged to innovate on how to solve observable problems in these areas. It is also recommended that Nigeria should subsidise the cost of renewable energy and

CSA resources for Nigerians, especially rural dwellers and women. This will help them to afford such resources for their day-to-day basic energy and agricultural needs, which will, in turn, assist Nigeria in meeting its obligations on carbon emissions reduction. Efforts should be made to amend the CCA to expressly mainstream human rights in Nigeria's climate change mitigation and adaptation actions.

The demand for climate change mitigation and adaptation is a substantial modern challenge for developing countries, such as Nigeria. These are essential to governments because they allow them to address two significant challenges (reducing GHG emissions and stimulating economic growth) through a singular approach. The essence of climate action is to make the world a better habitation for current and future generations of humankind; it will become counterproductive if a project targeted at mitigating or adapting to the effects of climate change erodes on the human rights of people. It is imperative to strengthen the human rights architecture of Nigeria to adapt to climate change measures in a synergised manner that will not jeopardise either of the conflicting interests. Mass education on the essence of climate change actions should be prioritised in Nigeria. Where the purpose of climate action measures is unknown or unclear to the masses, their abuse or abhorrence becomes inevitable. Nigerian government should, as a matter of urgency, address the duplicity and overlapping roles of government institutions on climate change.

Appendix

Table A 1: Overview of Updated NDCs

Nationally Determined Contribution Policy Actions	Climate Objective	Outcomes	Job Prospects No	Funding (US \$ m)	Emission Reductions	Short-lived climate pollutants mitigation
Unconditional contribution of 20% below business-as-usual by 2030 and increases in its conditional contribution from 45% to 47% below business-as-usual by 2030.	Mitigation.	Emissions reduction, lowering absolute GHG emissions than stated in the 2015 NDC.	About 12 million net additional jobs.	International Support.	20% and then 45%	High.
Elimination of kerosene lighting by 2030.	Mitigation.	48% of the population (26.8 million households) using LPG and 13 % (7.3 million households) to be using improved cookstoves by 2030.	Over 25 million households use LPG.	Sovereign green bonds.		High.
A 50% reduction in the fraction of crop residues burnt by 2030.	Mitigation.	Climate-smart agriculture.			115,584 ha of degraded land.	High.
Increased forest protection (46,219 ha of forests throughout the country).	Mitigation.	Sustainable forest protection.			19,346	High.
2.5% per year reduction in energy intensity across all sectors.	Mitigation.	Energy efficiency.	250,000 green jobs.			
Incorporate BRT and light rails special requirements in urban areas.	Mitigation.	Smart communities/sustainable mobility.	100,000 extra buses by 2030.	Sovereign green bonds.		Low.
Zero gas flaring by 2030.	Mitigation.					High.
30% of on-grid electricity from renewables (12 GW additional large hydro, 3.5 GW small hydro, 6.5 GW Solar PV, 3.2 GW wind).	Adaptation.	Sustainable energy transition.	800,000 jobs to the economy.	US\$ 550 million.		High.
60% reduction in fugitive methane emissions by 2031.	Mitigation.	Sustainable energy transition.		Foreign support.		High.
Incentivise climate-smart agricultural production systems.			Some three million net jobs.			High.
Increase Nigeria's capacity to manufacture essential drugs, vaccines and consumables from 40% to 80% of national need.	Mitigation.	Responsible production.		Foreign support.		High.

Reduce forest loss and degradation.	Mitigation.			Sovereign green bonds.	712 million tonnes.	Low.
Greening of the industry to continuously improve the environmental performance of the industry.	Mitigation.	Responsible production.		Sovereign green bonds.	80% reduction.	High.
End landfilling of untreated waste and transit into properly designed and managed landfills with state-of-the-art gas collection.	Mitigation.	Sustainable community development.				High.
Deploy renewable energy for water and sanitation facilities and infrastructure.	Mitigation.	Sustainable energy transition.			10% reduction.	High.
Promote efficient, gender-responsive, socially inclusive and climate-smart crop production, fishery and livestock development practices.	Adaptation.	Social inclusion/ gender equity and sustainable agricultural production.			712 million tonnes.	High.
Enhance forest capacity for adaptation by reducing ecosystem vulnerability and also lessening exposure of the ecosystems to extreme events.	Adaptation.	Sustainable ecological management/ forest resilience.				
Promote de-centralised energy systems to increase resilience, with emphasis on mini-grids and stand-alone systems.	Adaptation.	Sustainable energy transition.				
Strengthen integrated water resources management (IWRM) for multi-layered development of the country's water resources infrastructure.	Adaptation.	Sustainable water resources management.				
Ensure a functional, socially-inclusive, gender-responsive, culturally appropriate and adaptable transport system.	Adaptation.	Gender and social inclusion/ sustainable smart transportation.				
Harness the potential of clean technologies for climate-resilient industrial development.	Adaptation.	Responsible production.				

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