Options for coherent implementation of the post-2015 agreements (Paris Agreement and the 2030 Agenda for Sustainable Development) at the national level in Sub-Saharan Africa:

A case study of oil-dependent economies—Ghana and Nigeria

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Thesis Declaration Form

I, Michael Benedict Agyanno Nana Yaw Yamoah confirm that the work presented in my thesis is my own. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.

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Date: 30 September 2024

Abstract

This study addresses a critical gap in policy coherence research by examining options for coherent implementation of the post-2015 agreements (Paris Agreement and Sustainable Development Goals—SDGs) in sub-Saharan Africa. Using Ghana and Nigeria as case studies, it investigates how hydrocarbon resource-based (HRB) economies navigate complex tensions between climate commitments and economic dependence on fossil fuel exports while pursuing sustainable development goals. Despite extensive literature on policy coherence, limited research exists on its application to these global frameworks, particularly in developing countries facing climate-development trade-offs. The research contributes a normative definition—ensuring that unique policy objectives, goals, and consequences are not compromised or are well-considered—specifically applicable to post-2015 agreements. The review examines deep decarbonization pathways for the oil and gas sector and policy strategies facilitating energy transitions. Three research questions guide the investigation: How are countries in Sub-Saharan Africa addressing climate and development agendas in policy and governance? What specific gaps and barriers impede or support transition away from hydrocarbons? What options support coherence of climate ambitions and sustainable development? These are addressed using mixed-methods combining content analysis, case studies, structured analytic techniques, and policy network analysis. Results from mapping 311 policies across 48 Sub-Saharan African countries reveal striking climate policy dominance (60% versus 40% SDGs policies), with only 22% integrating both objectives. Ghana and Nigeria case studies identify four critical barriers: executive dominance, fossil fuel dependence, institutional capacity constraints, and complex international influence, resulting in systematic policy-implementation gaps. The research provides a three-pronged interconnected framework—governance strengthening, capacity building, and regional/international cooperation—with practical tools including Integrated Policy Coherence Units and Climate-SDGs Budgeting Systems. This study provides comprehensive empirical analysis of climate-development policy coherence in Sub-Saharan Africa, offering

evidence-based solutions for HRB economies navigating global climate commitments alongside domestic development priorities.

Impact Statement

This thesis provides valuable insights that could benefit both academic and practical spheres in several important ways. Within academia, the research advances understanding of policy coherence in the context of competing global agreements, offering a normative definition and analytical framework that future scholars can build upon. The methodology combining content analysis, case studies, and structured analytic techniques provides a robust template for examining complex policy interactions in other contexts. The findings around barriers to policy coherence in hydrocarbon-dependent economies could inform additional research in environmental policy, development studies, and energy transition programs.

Outside academia, the research has significant potential to improve policy design and implementation, particularly in developing economies grappling with energy transitions. The identification of specific barriers and gaps impeding transitions away from hydrocarbons could help policymakers in resource-dependent countries develop more effective strategies. The three-pronged framework for enhancing policy coherence (governance, capacity building, and regional/international cooperation) provides practical guidance for government officials and development practitioners.

The research could benefit international organizations and development agencies by highlighting the need for tailored approaches to supporting policy coherence in different contexts. The findings around institutional capacity constraints and implementation gaps could inform how technical assistance and capacity building programs are designed. The analysis of Ghana and Nigeria's experiences offers valuable lessons for other hydrocarbon-dependent economies facing similar challenges.

These benefits could be realized through several channels. Academic insights could be disseminated through journal publications and conference presentations, while practical implications could be shared through policy briefs, workshops with government officials, and engagement with development practitioners. The research could inform training programs for civil servants working on climate and development policies. Collaboration with think tanks and international organizations could help translate the findings into

practical tools and guidelines. At the local level, improved understanding of policy coherence could enhance municipal planning and implementation. Regionally, the findings could strengthen cooperation among African countries facing similar challenges. Internationally, the research could influence how development partners support policy coherence initiatives in developing countries. These benefits could accumulate over time as the frameworks and approaches are tested, refined, and adapted to different contexts.

Acknowledgements

This thesis signifies not only years of dedicated thinking, research and writing, but also the culmination of a journey made only possible by the support of many individuals.

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Chapter I: Introduction

The Millennium Ecosystem Assessment (MEA),[1] which was concluded in 2005, provided a grim outlook on the well-being of the world's ecosystems. The report suggested that the activities of humans—mostly to meet rapidly growing demands for food, freshwater, timber, fibre and fuel—over the years have changed ecosystems more rapidly and extensively than in any comparable period in human history;[2] and that the tremendous change in the cycle has also created "a substantial and largely irreversible loss in the diversity of life on earth."[3] In 2018, the Intergovernmental Panel on Climate Change (IPCC) also released a report that described the looming dangers associated with global temperatures due to global warming of 1.5°C above pre-industrial levels, and warned that if existing trends in temperature changes continue, the world would likely reach 1.5°C between 2030 and 2052.[4] These concerns, which remain relevant today, underscore much of the wider societal discussion on the climate and development nexus; one the 2023 United Nations (UN) special report on Sustainable Development Goals (SDGs) described as part of the new age of polycrisis.[5] Perhaps more worrying is the analysis of the United Nations Environment Programme (UNEP) via its seventh edition Global Environment Outlook (GEO-7), noting that existing policies "cannot keep pace with the rate of environmental degradation we face today," and that "with current policies, none of the environmental [SDGs] will be achieved, and none of the leading internationally agreed environmental goals (e.g. Paris Agreement, Aichi Targets, etc.) will be completed.[6]

The impact of global warming on planetary systems is expected to continue for the foreseeable future; resulting in frequent extreme weather events which affect ecosystem services and livelihoods.[7] Although disasters related to or caused by climate change has been debated and continues to be discussed in both academia and policy circles—whether or not climate change causes much of any of the increasing disasters we see?—there is enough acceptable evidence to support that the warming of the earth in some way is contributing to events such as earthquake, tsunamis, and volcanic eruptions.[8] The effects that scientists predicted would happen due to climate change are now occurring, including "loss of sea ice, accelerated sea-level rise and longer, more intense heat waves."[9] Sea level is expected to rise significantly after 2100, and the intensity and rate of that growth will depend on the future paths of gas emissions.[10] The

[1] An assessment called for by former United Nations Secretary-General Kofi Annan in 2000 and formally began in 2001. The report was prepared by 1,360 experts from 95 countries, with an 80-person independent board of review editors. See: (Millennium Ecosystem Assessment 2005)
[2] (Millennium Ecosystem Assessment 2005), V
[3] Ibid., 1
[4] (IPCC 2018)
[5] (United Nations 2023), 3
[6] (UNEP n.d.)
[7] (UNEP 2016), 44-45
[8] (Berlemann and Steinhardt 2017), 357
[9] (NASA n.d.)
[10] (IPCC 2018)

IPCC, through its series of report on Climate Change, including the 2023 Synthesis Report, has therefore reiterated the urgency for deep, rapid and sustained reduction in greenhouse gas emissions in order to mitigate climate impacts; highlighting the need for international corporation, increased financial resources, and inclusive governance in enabling effective climate action.[11] At the same breadth, global efforts to progress towards the SDGs remain endangered by "intensifying, interconnected challenges;" with the UN 2024 Sustainable Development Goals Report underlying that progress has literally "ground to a halt or been reversed across multiple fronts, despite reaffirmed pledges."[12]

Hydrocarbon Resource-Based (HRB) Economies and the Climate Change Dilemma

The IPCC has acknowledged the intricate interplay between climate action strategies and sustainable development goals. It reveals that both mitigation and adaptation measures offer significant synergies with sustainable development but also present notable trade-offs that require careful consideration.[13] Perhaps, no industry is more exposed to the consequential trade-off between economic growth and environmental policy than the oil and gas sector—particularly oil export countries as certain mitigation strategies can have unintended negative economic consequences. The Global Commission on the Economy and Climate (GCEC) in 2016 noted that "countries at all levels of income now have the opportunity to build lasting economic growth at the same time as reducing the immense risks of climate change."[14] The institution called on countries to pivot away from the development path of the past—heavily reliant on high-carbon resources like oil and gas, coal, etc.—and make considerable investments in low-carbon growth strategies. The call for energy transitions from high-carbon based fuels to low-carbon fuels is not unique to the research and report of the GCEC, but also from organizations like the International Energy Agency (IEA). The IEA has noted that oil and gas sector:

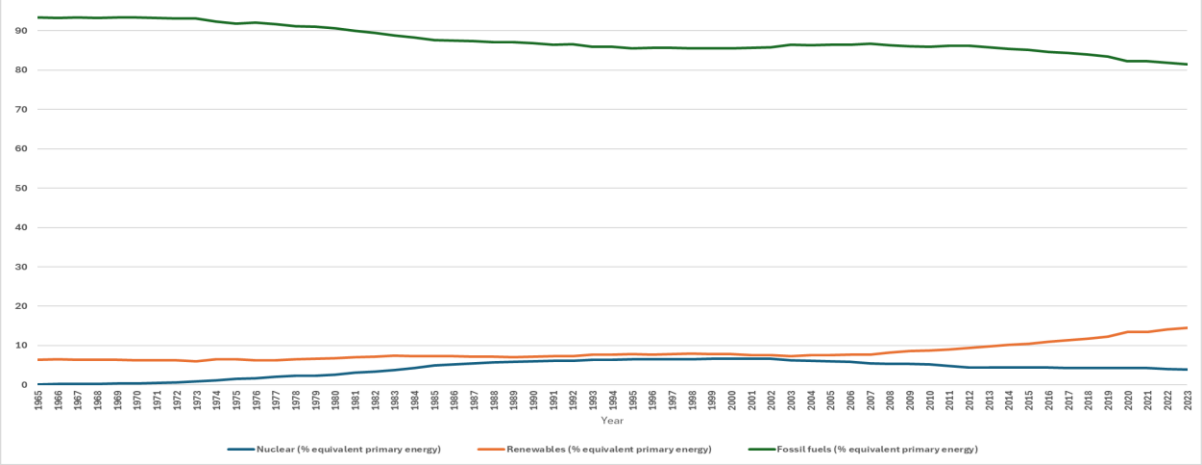
> is facing increasing demands to clarify the implications of energy transitions for their operations and business models, and to explain the contributions that they can make to reduce greenhouse gas (GHG) emissions and to achieving the goals of the Paris Agreement.[15]

According to the GCEC, measures to combat climate change could increase the value of the world economy by $US 26 trillion by 2030. Thus, this essentially refutes the claim that a departure from fossil fuels would undermine economic growth.[16] However, such transformational economic feat will be highly dependent on the behavioural patterns of political institutions, industries and citizens. This is because, for years, the

[11] (IPCC 2023), 4, 33
[12] (United Nations 2024), 3
[13] (IPCC 2018)
[14] (The Global Commission on the Economy and Climate 2014), 1
[15] (IEA 2020), 3
[16] (The Global Commission on the Economy and Climate 2018), 2

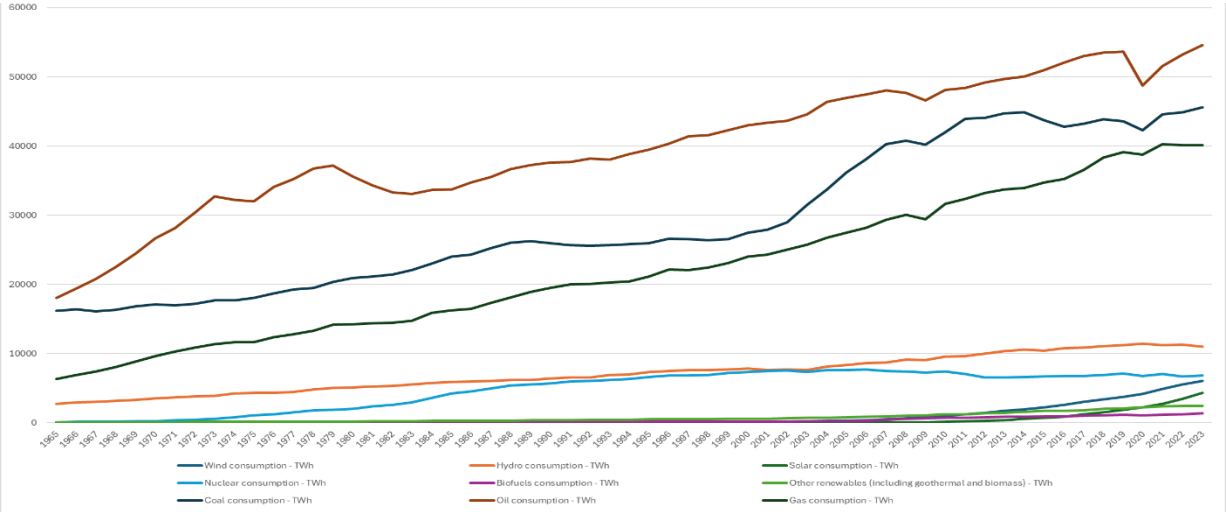
world has significantly depended on hydrocarbon resources for energy sources energy—shown in Figure 1–with oil, coal and gas, representing the major share of the energy consumption, as shown in Figure 2. Today, although renewables are growing, its progress remains below the expected threshold required to be consistent with the Paris Agreement.[17] In part, explaining the significant impact hydrocarbons still have on economies.

Figure 1: Global Energy Trend - Share from Fossil Fuels, Renewables and Nucler (1965-2023)



Data Source: Our world in Data (last updated date: January 2024)

Figure 2: Global Energy Consumption Trend by Source (1965-2023)



Data Source: Our world in Data (last updated date: January 2024)

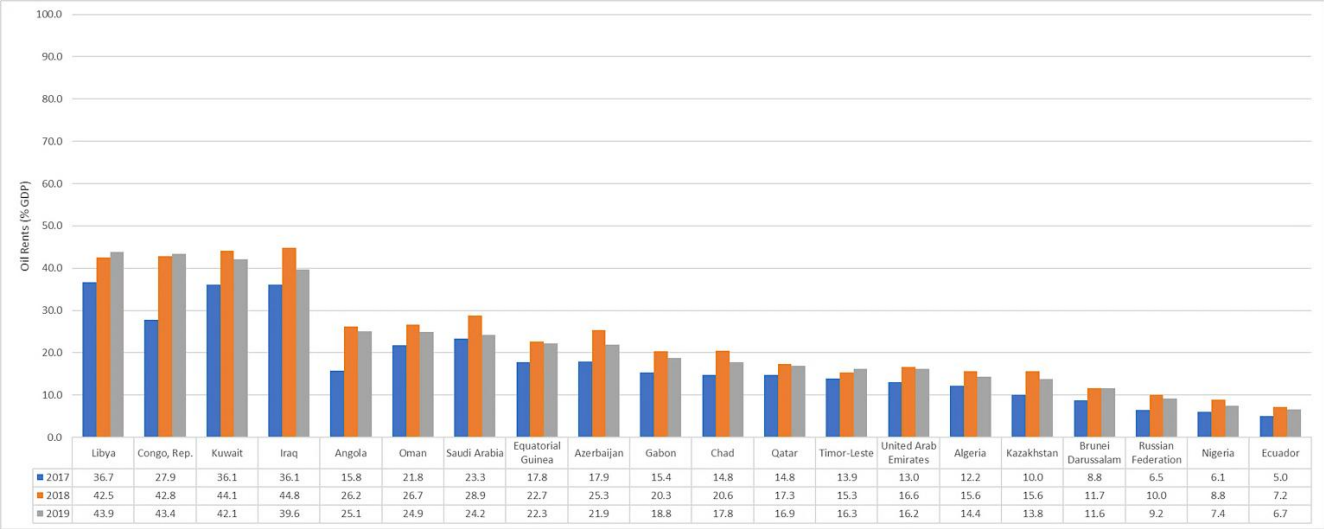
[17] (McKinsey & Company 2019), 1; and (Ritchie and Rosado 2024)

Part of the rationale—hydrocarbons remain resilient in world economy, is that there are several economies that still rely heavily on rents from the exploration and production (E&P) of hydrocarbon resources such as oil and gas. For countries such as the top 20 identified in Figure 3 (oil rents, % of GDP); managing their respective economies away from existing oil resources could prove challenging—notwithstanding the political and social tensions associated with the level of rent dependence. This sentiment is equally shared in the 2024 World Development Report; which notes that middle income countries, like some of those shown in Figure 1 will have "to work miracles—not only to lift themselves up to high-income status but also to shift away from carbon-intensive growth paths that will lead to environmental ruin."[18] Most of these countries are located in Africa—a region already faced with development challenges. African countries, such as Libya and Congo, Rep., whose oil rents as percent of GDP is 40% or more have a relatively challenging task ahead in managing their respective economies through a global energy transition momentum. Also, Nigeria, an oil rich country—well discussed in many academic literatures with the context of the resource curse—will likely face further socio-economic stress in transitioning its economy from fossil fuels; and other emerging oil export countries from the region, like Ghana, may perhaps have to rethink their economic development aspirations.

For the top 20 countries identified in Figure 4 (gas rents, % of GDP), the continued debate over natural gas as transition or bridge fuel—due to its low carbon emissions when compared to other fossil fuels—could point to some positive economic opportunities. It could mean that countries like Timor-Leste, Brunei, and Equatorial Guinea—being both oil and gas rent dependent economies—could seek new opportunities to drive their respective HRB economies. However, recent literature have questioned the role of natural gas in the energy transition, noting concerns such as methane leakages—as methane is considered one of the main greenhouse gases accelerating climate change.[19] The debate over the role of natural gas as a transition fuel will likely not fade anytime soon, as research related to hydrogen from natural gas and demand for liquified natural gas (LNG) remain topical in policy decisions.[20]

[18] (World Bank Group 2024)
[19] (Brauers 2022)
[20] (Prato-Garcia 2023)

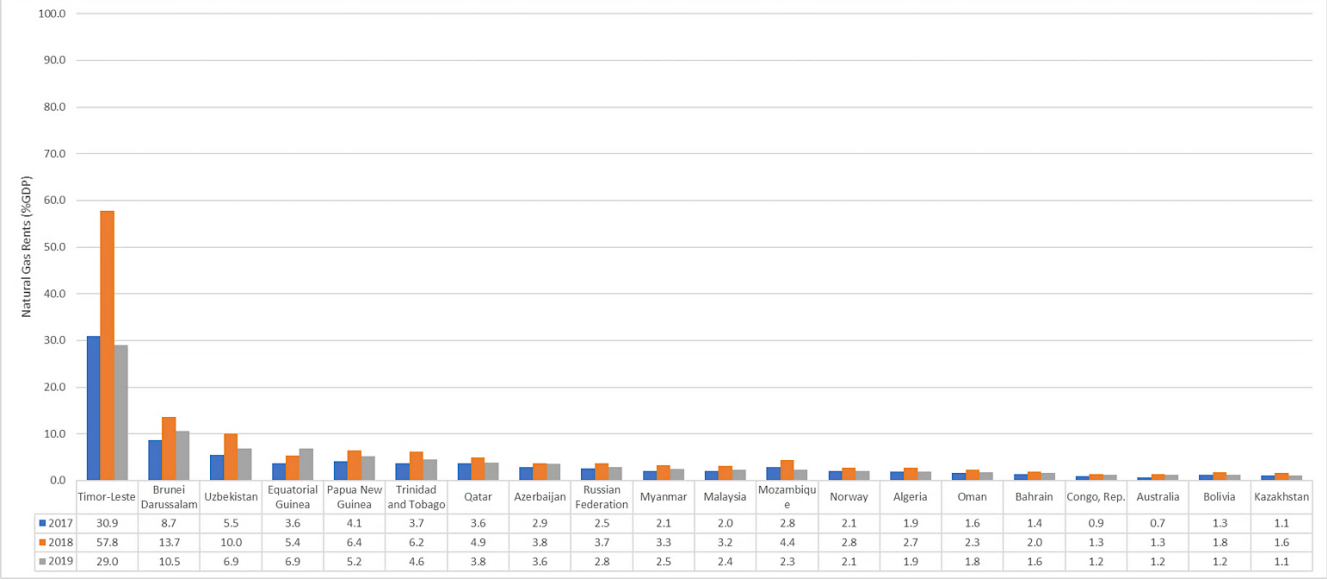
Figure 3:Top 20 Countries, Oil Rents (% GDP), 2017-2019



	Libya	Congo, Rep.	Kuwait	Iraq	Angola	Oman	Saudi Arabia	Equatorial Guinea	Azerbaijan	Gabon	Chad	Qatar	Timor-Leste	United Arab Emirates	Algeria	Kazakhstan	Brunei Darussalam	Russian Federation	Nigeria	Ecuador
2017	36.7	27.9	36.1	36.1	15.8	21.8	23.3	17.8	17.9	15.4	14.8	14.8	13.9	13.0	12.2	10.0	8.8	6.5	6.1	5.0
2018	42.5	42.8	44.1	44.8	26.2	26.7	28.9	22.7	25.3	20.3	20.6	17.3	15.3	16.6	15.6	15.6	11.7	10.0	8.8	7.2
2019	43.9	43.4	42.1	39.6	25.1	24.9	24.2	22.3	21.9	18.8	17.8	16.9	16.3	16.2	14.4	13.8	11.6	9.2	7.4	6.7

Data Source: World Development Indicators (last updated date: May 25, 2021)

Figure 4: Top 20 Countries, Natural Gas Rents (% GDP), 2017-2019



	Timor-Leste	Brunei Darussalam	Uzbekistan	Equatorial Guinea	Papua New Guinea	Trinidad and Tobago	Qatar	Azerbaijan	Russian Federation	Myanmar	Malaysia	Mozambique	Norway	Algeria	Oman	Bahrain	Congo, Rep.	Australia	Bolivia	Kazakhstan
2017	30.9	8.7	5.5	3.6	4.1	3.7	3.6	2.9	2.5	2.1	2.0	2.8	2.1	1.9	1.6	1.4	0.9	0.7	1.3	1.1
2018	57.8	13.7	10.0	5.4	6.4	6.2	4.9	3.8	3.7	3.3	3.2	4.4	2.8	2.7	2.3	2.0	1.3	1.3	1.8	1.6
2019	29.0	10.5	6.9	6.9	5.2	4.6	3.8	3.6	2.8	2.5	2.4	2.3	2.1	1.9	1.8	1.6	1.2	1.2	1.2	1.1

Data Source: World Development Indicators (last updated date: May 25, 2021)

For many HRB economies, oil and gas is a driver, if not the main anchor of their economy. That is:

> …every country uses oil and gas, but over 50 countries produce oil and gas. So obviously there's a big economic generator going there, but how big is it really? Well, let's look at it in stages. You have the producing

> countries and the direct effect of people who work in the oil and gas industry. If you think of finding and developing and producing and transporting and processing oil and gas, it's a long and complicated and very diverse value chain.[21]

This statement adds to the complexity of the global climate and development nexus, often highlighted through the lens of global inequality or political divide between developed and developing economies. It is a known fact that countries in the global south—developing economies—are largely less responsible for the scale of greenhouse gas emissions today, yet also face the most impact of climate change. [22] Therefore pursuing a just and fair energy transition that maintains viable economic pathways for HRB global south economies, like Nigeria, Libya, Congo, Rep., Ghana etc. remains a healthy academic and policy debate in the long term. The IEA's sustainable development scenario (SDS)—an integrated scenario analysis of the energy and sustainable development, is an example of emerging efforts to understand the relationship of energy broadly to sustainable development outcomes such as access to energy, health impacts and climate change.[23] Regardless of the complexities between the need for economic growth and energy transition, these countries face a challenging task at both reducing emissions and ensuring domestic economic success. In 2020, over 121 countries had set or were proposing some form of goal(s) to cut their respective carbon emissions down to net-zero in or before 2050.[24] This constituted a part of the over USD39 trillion "of the world's annual gross domestic product (GDP), or around 49%," [that] is being generated in nations, regions and cities with an actual or proposed net-zero target."[25] Currently, the UN notes that over 140 countries, "including the biggest polluters—China, the United States, India and the European Union—have set a net zero target, covering 88% of global emissions.[26]

The call for a net-zero emissions future is now more urgent if the 1.5ºC limit is to be achieved. Within the oil and gas sector, the Oil and Gas Climate Initiative (OGCI)—a global industry-led organization which includes 12 member companies from the oil and gas industry; [27] has provided a shared net-zero pathway in responding to the climate change.[28] See Figure 5 below. Some of its actions include investments in carbon capture solutions— "working with governments and other stakeholders in industrial areas to help achieve the benefits of CCUS at scale and an affordable cost while making it investable and attractive to capital."[29]

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[21] (IADC n.d.)
[22] (Hadžić 2024), 33
[23] (IEA 2020)
[24] (ITV 2020)
[25] Ibid.
[26] (United Nations n.d.)
[27] Member companies: BP, Chevron, CNPC, Eni, Equinor, ExxonMobil, Occidental, Petrobras, Repsol, Saudi Aramco, Shell and Total; representing 30% of global operated oil and gas production.
[28] (OGCI 2019)
[29] (OGCI 2019), 21

Another challenge for many HRBs is also the cost associated with making oil and gas exploration and production activities energy efficient to address emissions, including improving oil production operations, or designing the right policies to reduce emissions. The GCEC in its 2014 report made a case for a robust and equitable global agenda that supports national actions on climate change—including mobilizing financial and technological support systems for developing countries.[30] The nature of such equitable distribution and support remains fundamental in much of the global politics and debate on how to manage global growth to improve social and economic inequality as well as protecting the environment. During the Doha and Paris climate talks—2012 and 2015 respectively, the debate over whether developed or rich countries should shoulder more responsibilities was not only fundamental in during the negotiations, but it also epitomized the challenges of socio-economic inequality among countries.

Figure 5: OGCI Global Net-Zero Pathway

According to Iqbal and Pierson:

> the developing countries aspire to achieve the same level of economic development and standard of living as developed countries. The West developed without paying heed to the environment. From the beginning of the Industrial Revolution in the second half of the eighteenth century until roughly the 1960s, developed countries either ignored or were not yet conscious of environmental concerns.[31]

Furthermore, “curbing China’s emissions will be impossible without reigning in U.S. corporations.”[32] Huang and Ulanowicz frame it better when they note that “the

[30] (The Global Commission on the Economy and Climate 2014), 2
[31] (Iqbal and Pierson 2017), 16
[32] Ibid.

quantification of growth and development is a necessary prerequisite to any treatment of sustainable development."[33]

The Global Call-to-Action: Post-2015 Agenda

Given existing and foreseeable impacts of climate change, as well as the increasing need for achieving the sustainable development goals, a global call-to-action emanated in 2015 from a combination of civil society pressures and commitments by world leaders and industry. Although some level of national and regional climate mitigation and adaptation programs and projects were already underway, a global one had not yet materialized. Institutions like the Organization for Economic Co-operation and Development (OECD), advocated for adaptation integration into climate change responses and measures for poverty reduction to ensure sustainable development.[34] Similarly, the United Nations Environmental Programme (UNEP) called for a global response that promoted coordination, integration and systemic considerations around climate and environmental changes and its impact on human well-being.

In 2015, under the auspices of the United Nations, countries adopted number of global development and environmental agreements, including two separate but interrelated international agreements at two summits—The Paris Agreement on climate change and the SDGs—hence the post-2015 sustainable development agenda, or the post-2015 agenda or agreements.[35] Other notable agreements included The Sendai Framework for Disaster Risk Reduction 2015-2030,[36] and the Addis Ababa Action Agenda on Financing for Development.[37] Together, they defined a new era of sustainable development and the nexus of international corporation on environmental and development issues. UN Secretary-General Ban-Ki Moon described the Sustainable Development Goals (SDGs) as ensuring prosperity and environmental protection without compromising the ability of future generations to meet their needs. On the other hand, the Paris Climate Agreement was described as an effort to strengthen the global response to the threat of climate change. The agreements—particularly the Paris Agreement and the SDGs— were celebrated as incredible feats in modern international politics and global leadership in addressing poverty, inequality, climate change, and disaster risk reduction over the next fifteen years.

The signing and in some cases ratifying of an international treaty or agreement is only a first step, as countries must take additional actions at the national level through "legislative and administrative actions and policies necessary to fully…implement the international treaty effectively within the domestic legal order."[38] Such actions often

[33] (Huang and Ulanowicz 2014), 1
[34] (African Development Bank; Asian Development Bank; Department for International Development UK; Directorate-General for Development European Commission; Federal Ministry for Economic Cooperation and Development Germany et al 2012), 1
[35] See Appendix V: Summary on SDGs and Paris Agreement.
[36] (UNDRR n.d.)
[37] (United Nations 2015)
[38] (Neudorfer and Wernig 2010), 412

include a system, both in the domestic and international context, of collecting, monitoring, evaluating and assessing performance against commitments and targets. For example, the Millennium Development Goals (MDGs), a precursor to the SDGs, received enormous global support when world leaders adopted it in the year 2000; yet, today, the debate remains whether the goals and targets produced the desired outcomes established by the international organizations. In summary:

> While the MDGs have often been praised as a global success for galvanizing international attention around issues crucial to eradicating poverty, the reality is that many policymakers at the national or local level are unaware of decisions taken at the global level. Global policy debates and their outcomes are often disconnected from national development plans and poverty reduction strategies. Overcoming this 'implementation gap' poses a significant challenge.[39]

Pursuing Policy Coherence

Implementation of global agreements at the national remains a challenge. Much like the MDGs, the post-2015 arrangements face similar tests; complicated by the implementation of multiple equally essential agreements that require the same level of efforts from relevant stakeholders; including the capacity of governments to simultaneously commit and deliver on the goals and targets they agreed to. To address this gap, some have touted the concept of coherence in implementation. Elena Kosolapova noted that

> it has been widely observed that convergence among these instruments is essential for coherent international policies on sustainable development, climate change and disaster risk reduction (DRR). As outlined in the advance unedited copy of the 'Report of the Secretary-General on critical milestones towards coherent, efficient and inclusive follow-up and review at the global level' (UN, 2016), with the advent of the implementation phase of these agreements, it is of growing importance that interlinkages among them be identified at various levels to ensure a holistic approach and build synergies.[40]

The United Nations Office for Disaster Risk Reduction (UNISDR) also called for understanding the interlinkages of the agreements to support implementation. It expressed support for the interlinkages of the post-2015 framework for disaster risk reduction, SDGs, and the Paris agreement; arguing that they "share a common aim of making development sustainable…," and that given their complementariness, "leveraging the total impact of these instruments creates shared value."[41] This inherently means that "progress achieved in one goal (e.g., water) contributes to progress in other

[39] (Rigon 2014), 2
[40] (IISD 2016).
[41] (UNISDR 2014)

goals (e.g., food security or health)."[42] Furthermore, at the 2017 global platform for disaster risk reduction, the connection between the post-2015 sustainable development agenda and other agreements like the New Urban Agenda[43] highlighted the "alarming trends in exposure and vulnerability as well as the drive for innovation in the pursuit of sustainable and equitable development."[44] The conference observed that "the coherent and mutually reinforcing approaches to implementing these agreements may be among the most valuable assets for strengthening the resilience of communities and nations."[45] To this end, they called for practical examples for coherence in implementation, particularly at the national level. However, as explained in detail in Chapter II below, while there is significant body of literature on coherence within policymaking and development, there is limited focus on coherence in the context of the post-2015 development agenda—arguably contributing to the current pace of global progress toward the SDGs as it "ground[s] to a halt or been reversed across multiple fronts, despite reaffirmed pledges."[46]

Aims and Structure of Research

This study responds to the evidence gap highlighted above by pursuing three aims: First, underscoring the importance of coherence to policymaking and in particular the post-2015 agreements—Paris Agreement and SDGs; secondly, the coherence of the post-2015 agreements at the national—in this context in sub-Saharan Africa, and lastly, examining options for oil and gas producing economies with high dependence on oil and gas rents—as percentage of GDP—and faced with challenge of aligning with the Paris Agreement while minimizing socio-economic trade-offs relevant to the SDGs. The research is thus structured as follows:

Chapter I provides a brief, yet, systematic discussion of the pertinent issues related to global development, including global efforts to address environmental impacts while meeting development objectives. It highlights the challenges faced by HRB economies as they deal with the consequential trade-off between climate change and sustainable development. It also briefly introduces the post-2015 agreements—focusing on the Paris Agreement and SDGs and notes the importance of policy coherence in addressing a critical gap in implementation if the unique goals and objectives of both policies are to be achieved.

Chapter II provides a comprehensive literature review structured around four main areas critical to understanding policy coherence in hydrocarbon-dependent economies. The first section examines the theory and practice of policy coherence, proposing a normative definition suitable for analyzing coherence in post-2015 agreements implementation. The second section discusses deep decarbonization

[42] (OECD 2016)
[43] (UN 2017)
[44] (UNISDR 2017)
[45] Ibid.
[46] (United Nations 2024), 3

pathways for energy-intensive sectors, emphasizing the oil and gas sector and highlighting how country context, political structures, and policy coherence across social and economic priorities shape transition possibilities. The third section presents an extensive review of Africa's oil and gas decarbonization challenges, examining financial dependencies, technological barriers, and institutional constraints that characterize resource-dependent economies, with specific attention to Ghana and Nigeria's experiences. The final section reviews policy and technological options that facilitate decarbonization transitions, particularly addressing the technological and capacity gaps between advanced and developing economies with high oil and gas dependencies.

Chapter III presents the main research questions and associated methods to answering them. The three main categories of the research questions: policy implementation/mapping across sub-Saharan African, barriers and gaps that impede or support transition from hydrocarbons, and options for coherence, are answered using a mixed method approach for data collection, analysis and interpretation. The policy implementation/mapping introduces the question, how are countries in sub-Saharan Africa addressing climate and development agenda in policy and governance. The barriers and gaps category are focused on what specific gaps and barriers exist that impede or supports transition away from hydrocarbons? And lastly options category of the research questions is to determine what options are available to support coherence of climate ambitions and sustainable development. The mixed method approach discussed in this section for addressing the research questions includes the use of content analysis, case study, structured analytic techniques (SATs), and policy network analysis (PNAs).

Chapter IV is a summation of the results of the data collected and analysed to help answer the research question one (RQ1) How *are countries in Sub-Saharan Africa addressing climate and development agenda in policy and governance?* First is the presentation of the results at the sub-Saharan Africa regional level. The results showed that a significant number of the countries in the region were more conceptually aligned with the Paris Agreement than the SDGs. This is explained by a number of rationales, including the binding nature of the Paris Agreement as well as the fact that the region faces significant impact from climate change.

Chapter V, in part, helps answer the research question two (RQ2) of *what specific gaps and barriers exist that impede or supports transition away from hydrocarbons?* by taking a narrow focus on Ghana and Nigeria, two oil dependent economies. I perform a deeper analysis of the two countries policymaking process and policy alignments with the post-2015 agreement. The two West African countries share some similarities and differences, especially related to their respective political structure and policymaking approach. Findings indicated a broader sense that Ghana appears to have a more structured approach to policy coherence when compared to Nigeria. However, there is significant challenge for both Ghana and Nigeria in reconciling their climate commitments and SDGs with their economic dependence on fossil fuel exports.

Chapter VI answers research question three (RQ3), *What options are available to support coherence of climate ambitions and sustainable development?* This section leverages insights from the first two research questions in a discussive manner. I introduce an interconnected framework for how countries like Ghana and Nigeria could develop or design appropriate options to enhance policy coherence around climate-energy-development nexus. This includes strengthening governance, capacity building and encouraging more regional and international cooperations.

Chapter VII is the conclusion, summarizing the entire research and offering unique insights and highlighting the contributions. It also acknowledges the limitations and offer recommendations on future research.

Chapter II: Literature Review

Introduction

The review presented in this chapter is fundamentally built around three main sections. First sections explore existing research to help understand and define policy coherence, which is the central focus of this paper. It underscores its importance to the policymaking process, especially where competing yet valuable policy goals and objectives must be met in other to deliver positive outcomes to citizens. The second section is a discussion on decarbonisation pathways for energy intensive sectors with emphasis on the oil and gas sector. I point to the importance of the Deep Decarbonization Pathway (DDP) which offers a three principled approach—including political structure and policy coherence across social and economic priorities. The last section focuses on the technological and policy strategies for decarbonization—especially in addressing the technology gap in the climate solutions but also the gap between more advanced economies and particularly developing economies with high dependencies on oil and gas. This is ultimately fundamental to the case study presented in this research on Ghana and Nigeria—two sub-Saharan oil and gas dependent countries.

Theory and Practice of Policy Coherence

Policy coherence theory and practice are relevant to how national and international policy is managed and created, especially in organizations and regional bodies like the European Union and its Member States.[47] However, there is no agreement within existing literature on the exact definition of policy coherence; although there is an excess of definitions of the concept in literature.[48] Policy coherence stems from European foreign and security policy, where it implies standard EU framework policies, without contradictions and with reduced differences between the foreign and domestic policies of EU member states.[49] Nilsson et al. considers policy coherence as a policy attribute that systematically reduces conflicts and promotes synergies between and within different policy areas to achieve outcomes related to commonly agreed policy objectives.[50] The OECD defines policy coherence as the systematic promotion of mutually reinforcing policy actions in government departments and agencies, creating synergies in achieving agreed goals.[51]

Policy coherence also implies that policies in all sectors that have an impact on the same issue does intersect or at least seek to avoid negative effects. This suggest that coherence requires a clear definition of the objectives of both policies, possible synergies, and criteria for determining which aspect will be given priority in the event of

[47] (Nilsson, et al. 2012), 395
[48] (Stroß 2017)
[49] (Thomas 2012), 455-459
[50] (Nilsson, et al. 2012), 396
[51] (OECD 2012)

a conflict, which is often difficult. For instance, Policy coherence for development (PCD), assured that policies were not undermining development aid objectives—underlining aspirations by many in the international development community to ensure that development policies by donor governments are not undermined by other policies of the same government which could impact developing nations. [52] When synergies are difficult to identify, coherent policy framework primarily provides an opportunity for recognizing compromises. Such framework creates space for thinking about whether policies can pursue at least a joint 'development' goal, and which aspect should take precedence in the event of a conflict between different policy goals. By pursuing some level of harmonization in policies, we are in effect enabling the best possible use of resources.

The notional understanding that contradictory policies can create tensions in society and among donors and their counterparts in development cooperation, makes policy coherence relevant for effective implementation and evaluation. Additionally, policy coherence can contribute to better and more transparent cooperation and build trust to reach compromise between actors.[53] Often, the concept and practice of policy coherence has emerged as an essential issue when sectoral policy decisions have effects that go beyond the sectors for which they were intended. In such situations, it is necessary for decision-makers to recognize that policies designed to address an identified problem sometimes have implications elsewhere and are likely to affect other equally important development issues.[54] For example, policy coherence exists when policies for agriculture, food, trade, taxation, migration, or others, are managed well to support a country's development goals in a complementary and effective way. Ideally, these policies should work synergistically, i.e., strengthening each other to achieve the set goals. Hence, policies that hamper development efforts need to be reformed and aligned with existing policies.

Within global agreements and development, policy coherence can be viewed in two ways. First, the process of globalization has made obvious the interdependence and complexity that characterize an increasingly interconnected system in which states have lost the ability to respond independently to the demands and challenges of development.[55] Second, these governance challenges introduce a dichotomy of global public goods, which, when proposing their solutions, require not only spaces for interstate cooperation, but also examination and re-creation of design, execution and evaluation of public policies from the perspective of integrated development.[56] In other words, development cannot be explained as the result of a specific policy isolated from the rest, but requires, from its planning, that a set of government policies contain a

[52] (Barry, King and Matthews 2010), 207-208
[53] (Hong and Knoll 2016), 3
[54] Ibid., 3-5
[55] (Martinez Martinez and Martinez Osés n.d.)
[56] Ibid

vision of joint development and therefore guarantee adherence. This, in many respects, is precisely what policy coherence implies.

Policy coherence is not a natural state in bureaucratic political systems, either at the level of national administrations or the level of regional bodies like the EU.[57] It means that different parts of government work together to find the most effective complementary outcomes. It is about identifying common goals while ensuring that the work of one part does not undermine the work of another. For example, subsidizing a particular industry, such as agriculture or fisheries, can help create jobs, but can negatively impact environmental protection. Equally, the government may choose to invest in renewable energy to increase climate activity, but this can negatively affect employment without adequately considering how and when to invest. Internationally, trade policy can help the industry in one country and negatively affect the livelihoods and environment of people elsewhere in the world.[58] Therefore, while some trade-offs might be inevitable, policy coherence ensures that the intended and unintended consequences of any decision are well-considered.

Finding systemic approaches to how things work together is foundational to what policy coherence means. It is demonstrated when those outcomes can be comprehensive frameworks that combine the objectives of two or more policy subsystems.[59] Furthermore, a policy strategy that defines priorities, common goals, and responsibilities could add complementarity between policy perspectives.[60] Policy coherence implies recognizing synergies or the absence of contradictions between policy objectives, design, instruments, and implementation arrangements.[61] However, Picciotto asserts that there is a challenge to the practice of coherence given the political and organizational interest of most modern democracies. He argus it

> … implies that the preference functions of diverse groups can be aggregated without ambiguity. But economic theory demonstrates the exact opposite: majority rule leads to outcomes that depend less on preferences than on agenda setting and the sequencing of votes. Kenneth Arrow's "impossibility theorem" demonstrates that under plausible assumptions, only absolute and competent dictatorships operating in stable environments can achieve full and consistent policy coherence. Subsequent research has probed the instability of voting coalitions, the mechanics of vote trading and logrolling and the rationale of partitioning rulemaking to achieve equilibrium.[62]

[57] (Furness and Gänzle 2017), 478
[58] Ibid., 477-479
[59] Ibid
[60] Ibid
[61] (Biesbroek and Candel 2020), 78-80
[62] (Picciotto 2004), 5

It is not farfetched to achieve policy coherence, especially if you look at the policy environment in a country like China with its carefully designed one-party system and common five-year plans. The notional challenge here is that given modern democracies inability to arrive at the aspirational values of policy coherence, it is almost unrealistic to have coherence outcomes of a China-like system.

Disentangling the Dimensions of Policy Coherence

Various authors have grappled with the concepts of policy coherence and identified several distinct elements. A particular useful starting point are the four dimensions identified by Millan et al—in the work of Martinez Martinez and Martinez, namely vertical, horizontal, temporal and global.[63]

1. vertical policy coherence refers to "the convergence between the values, obligations, actions and systems of a particular policy".[64] This form of coherence ensures that all instances of design, implementation, and evaluation respond to the commitments and goals that the policy claims to pursue.
2. horizontal coherence refers to the coherence between different public policies of a government body concerning a common development vision so that different policies include and contribute to the promotion of development processes. Other authors call it "intra-state" coherence.[65]
3. temporal coherence refers to the consistency that public policy must take in the long run if it is to achieve accurate results in any field of action.[66] In other words, a policy that “expresses a sustainable and long-term commitment that goes beyond the political cycle of a particular government".[67]
4. global dimension of policy coherence includes an international dimension that promotes collective and coordinated action among countries, considering the processes of interdependence and interconnectedness arising from the dynamics of globalization.[68] Kivimaa and Sivonen consider horizontal policy coherence in a broader sense and state that it relates to policy objectives and instruments.[69]

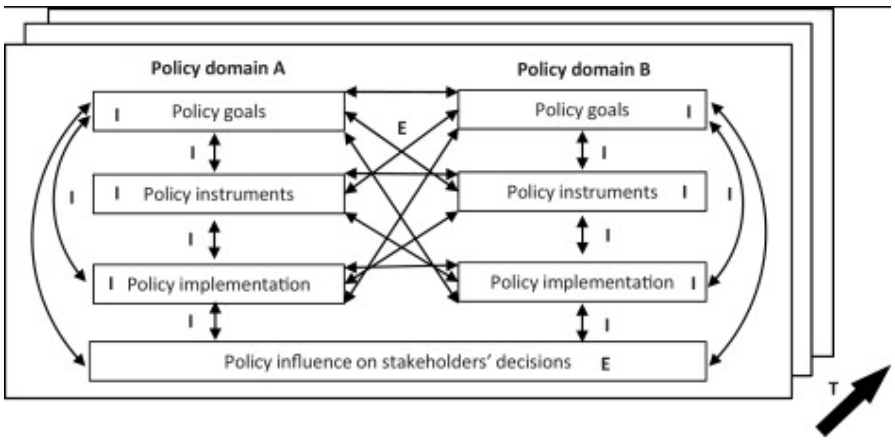
Other authors have also developed similar categorization of policy coherence. For instance, Carbone (2008), focused on policy coherence at the Eurpoean Union (EU), similarly identified horizontal and vertical coherence, describing the former as the coherence between policy subsystems, and vertical policy coherence as a reference to the coherence of the EU and Member States' policies.[70] He also identified two other dimension, the internal and multilateral policy coherence. By internal, Carbone describes the consistency of objectives within the policy subsystem, and multilateral

[63] (Martinez Martinez and Martinez Osés n.d.)
[64] Ibid
[65] ibid
[66] Ibid
[67] ibid
[68] Ibid
[69] (Kivimaa and Sivonen 2020), 6
[70] (Carbone 2008), 326

refers to the interactions between international organizations—which effectively also captures the concept of Millan et al global dimension— in the work of Martinez Martinez and Martinez. However, Huttunen, Kivimaa and Virkamäki identify three dimensions of policy coherence—merging elements of Carbone and Millan et al:[71]

1. internal dimension focuses on one policy domain, with different policy objectives, instruments and implementation being assessed horizontally and vertically to determine whether they are consistent with each other. In this case horizontal evaluation refers to the comparison of various policy objectives, while vertical evaluation refers to the comparison of policy objectives with instruments, and policy outcomes are assessed against policy objectives.
2. External policy coherence refers to the consistency of policy domains including policy objectives, instruments, and implementation. Also, external coherence refers to comparing the goals of one policy domain with the instruments of another policy domain.
3. The temporary dimension of policy coherence relates to policy consistency and predictability over time[72]. To demonstrate the dimensions above, they use a modification of the work of Nilsson et al. (Figure 6).

Figure 6: Dimensions of Policy Coherence



Note: I represent internal, E, external and T, temporal coherence. Source. Huttunen et al. (2014)

Policy coherence for development and sustainable development

The concept of coherence of development policies implies a careful consideration of all policies that have an impact on development, thus overcoming insufficient views on the problem of development. It assumes that public actors, regardless of their local, state, or supranational nature, assume the responsibility they have in all government action, not

[71] (Huttunen, Kivimaa and Virkamäki 2014), 16-17
[72] (Huttunen, Kivimaa and Virkamäki 2014), 16-17

just in areas related to cooperation. Hence, Policy Coherence for Development (PCD) increases the capacity of governments to balance different policy objectives and by aligning domestic policy objectives with broader international goals.[73]

Development policy coherence refers to the multidimensionality that this concept implies. According to the OECD, policy coherence can be extremely useful at different complementary levels—including for OECD policies towards international development.[74] The first, is that environmental policies in OECD countries should consider the potential unintended adverse consequences for development and growth in developing countries."[75] Second, that policies that are not environmentally related in OECD countries "can have negative implications on the environment in developing countries thereby undermining sustainable development in these countries."[76] Lastly, that "increased coherence between environmental and non-environmental in both OECD and developing countries is critical for sustainable development. Furthermore, trade liberalisation—unless accompanied by improved environmental policies—can increase environmental pressure."[77] In this case, policy incoherence is defined as actions that reduce current income and growth prospects for developing countries and, therefore, go against aid policies that seek to build their competitiveness. The adoption of the SDGs meant that PCD now transitions into to policy coherence for sustainable development (PCSD).[78] PCD was promoted as a mechanism to ensure that "domestic and foreign policies support, or at least do not undermine, the development aspirations of developing countries. On the other hand, PCSD was regarded as an improvement to the PCD—"reconfigured to respond effectively to the vision and needs of the new agenda."[79]

Policy coherence and policy integration

A coherent policy requires that its instruments be consistent with each other, not overlapping or duplicating, but complementing each other. May, Sapotichne and Workman describes policy coherence a process in which policies are designed that, if properly implemented, can achieve a broader goal.[80] If the policy is not coherent, individual programs cannot be effective. This means that the program must be consistent in the objective relationship between plan, goals, and instruments. Cejudo and Michel believe that when evaluated from a broader perspective, these goals and policy instruments can be redundant and often not clear how they will contribute to a common goal.[81] Policies within a policy area that often share consistent issue framing or have supportive policy publics or clients and have integrative policy properties do

[73] (OECD 2012), 22
[74] (OECD 2012), 22
[75] Ibid
[76] Ibid
[77] Ibid
[78] (Morales and Lindberg, Coherence for Sustainable Development 2017), 1
[79] (Morales, Aligning policy coherence for development to the 2030 Agenda 2016)
[80] (May, Sapotichne and Workman 2006), 382-383
[81] (Cejudo and Michel 2015), 1-10

cohere.[82] Policy coherence has the following attributes: issues, interests and policy integration. First, most policy domains often comprise of a number of issues, and issues also do not just come out of nowhere; rather they emerge from interest groups involvement in aspects of it.[83] Secondly, “a policy space that is comprised of a diversity of interests that seek out issue niches will appear more as a checkerboard of issues than a mosaic; whereas “a policy space that is dominated by a few interest will force attention to a more restricted set of issues, thereby imposing greater policy coherence or at least the potential for it.”[84] Third, similar to Nilsson et al, May et al argues that integrative elements of diverse issues often links issues and interest, and “that consistency of policy goals is in itself a potentially powerful integrative force.”[85]

It is impossible to discuss policy coherence without bringing up policy integration. These two concepts can be easily misunderstood. According to Nilsson et al., policy integration primarily deals with policy-making processes and related institutional arrangements.[86] Kivimaa and Sivonen argue that policy integration is an attribute of a policy that can enhance policy coherence because the integration of a particular policy objective into another policy subsystem can also occur independently of horizontal coherence between policy subsystems.[87] Candel and Biesbroek also argue that policy integration takes a broader approach based on mechanisms in the analysis of the political processes behind integration and coherence over time[88]. Russel, Uyl and Vito defined policy integration as normative approaches that emphasize; the principled priority of the issue and the need for political commitment, an organizational and procedural approach such as departmental responsibilities, administrative integration of instruments, results-based integration assessments, and reshaping approaches, focusing on learning between policy actors.[89]

Huttunen, Kivimaa and Virkamäki believes that “policy integration deals with the incorporation of specific policy goals and processes into a more comprehensive set of policy domains (typically involving environmental policy goals), potentially facilitating policy coherence."[90] Policy integration can improve policy coherence, but it can also remain an isolated functional exercise without creating interaction between actors from different policy subsystems.[91] Additionally, policy integration can have fluctuating quality. It can increase first and then decrease again.[92] Also, the cultural and cognitive frameworks behind policymaking affect the degree of policy integration. The lack of sufficient integration can manifest itself, for example, in the form of conflicting

[82] (May, Sapotichne and Workman 2006), 383
[83] Ibid. 382-383
[84] Ibid.
[85] Ibid., 384-385
[86] (Nilsson, et al. 2012), 397
[87] (Kivimaa and Sivonen 2020), 5-6
[88] (Candel and Biesbroek 2016)
[89] (Russel, Uyl and Vito 2018)
[90] (Huttunen, Kivimaa and Virkamäki 2014)
[91] (Biesbroek and Candel 2020)
[92] Ibid

statements in policy documents and the absence of discussion of potentially conflicting goals in strategies and plans.[93] However, the process, outputs, and outcomes of these two dimensions—policy coherence and policy integration, are interlinked.

A Normative Value Definition for Policy Coherence

Policy coherence "is an important pillar of good governance and as a concept is both a *normative value* and a process of governing."[94]. In many ways, we can use policy coherence interchangeably as a goal and policy integration as a process.[95] Adopting a normative definitional framework does not minimize the importance of the elements of policy integration, which includes the process of governance and the role of interest groups such as government institutions and other actors. Normative values, within the field of philosophy and modern economics, provides a means to assume that some aspects of policy integration as a process already exist within polices such as the post-2015 agreements.

Coherence theory has been addressed in various fields such as ethics, logic, philosophy, epistemology, metaphysics (ontology), and political science. There exist different views on how to make a particular set of elements (e.g., norms, beliefs, etc.) coherent. The scientific literature dealing with the notion of coherence is extensive, but the authors use different approaches in defining the idea. For instance, in philosophy, normative ethics underscores the importance of there being "one ultimate criterion of moral conduct, whether it is a single rule or a set of principles."[96] The three theories underpinning normative ethics: virtue theories, duty theories and consequentialist theories.

1. Virtue theory "consist of following precisely defined rules of conduct…"[97] In the case of the Paris Agreement, central to the process, and at the heart of the agreement was the efforts by countries to “each country to reduce national emissions and adapt to the impacts of climate change.”[98] It was required for countries to “prepare, communicate and maintain successive [NDCs] that it intends to achieve.”[99] Those defined the rules of conduct—prepare, communicate, and maintain—ensured a process by which countries underlined their contributions to meeting the objectives of the agreement. described as a bottom-up approach, produced the Nationally Determined Contributions (NDCs). They represent the rules of conduct each country is required to follow develop mitigation measures.

[93] Ibid
[94] (Scobie 2016).
[95] Ibid
[96] (Internet Encyclopedia of Philosophy n.d.)
[97] Ibid
[98] (UNFCCC n.d.)
[99] (UNFCCC n.d.)

2. Duty theory highlights the notion that "principles are obligatory, irrespective of the consequences that might follow from our actions."[100] In principle, the Paris Agreement had to be ratified by countries and turned into a legislative instrument to be enforced—obliging parties to what they have committed to. This, under the Duty theory, means that countries have a legal obligation to meet the targets domestically identified; irrespective of the consequences that might ensue—especially when various social and economic impacts might occur contrary to the national development agenda of parties. In essence the Duty theory only captures the obligation and not the consequence that comes after.
3. The Consequentialist theory "requires that we first tally both the good and the bad consequences of an action. Second, we then determine whether the total good consequences outweigh the total bad consequences."[101] In a scenario where the good outweighs the bad, one can argue it is morally right; and vice versa. We can then infer that it is ethically improper.[102] By leveraging consequentialist theory in the normative value definition—especially ensuring that the unique objectives, goals, and outputs of each policy are not compromised or are well considered— we balance the relationship across the post-2015 agreements to keep their individual goals intact while better understanding the trade-offs. Note, there is no judgment on whether the outcome of one goal is good or bad, instead, given each intended outcome, what are the trade-offs?

In contrast to normative ethics, normative economics studies the desirability and acceptability of an economic outcome. It studies what and how things need to change to achieve the best possible or desired outcome. It is commonly used to evaluate policy and macroeconomic performance. Normative economics offers recipes or recommendations based on personal value judgments. Although it is difficult to know exactly what normative economics is—that is whether “welfare or choice, value judgements or the study of value judgements, economic policy or armchair evaluation;”[103] Philippe Mongin argues that it is much to do with the “investigate methods and criteria for evaluating the relative desirability of economic states of affairs.”[104] However, Hammitt writes that the implications for interpretation of policy when it comes to behaviours that are inconsistent with the standard economic models could be examined through a benefit-cost analysis (BCA) with two categories of justifications: positive and normative.[105] By positive, one is able to answer via scientific means, “by measuring individuals preferences for good and services affected by the policy change.”[106] However, the normative justification is not based on logic or empirical

[100] Ibid
[101] Ibid
[102] Ibid
[103] (Mongin 2008)
[104] Ibid
[105] (Hammitt 2013), 199
[106] (Hammitt 2013), 201

evidence, rather "it depends on whether the definition of what improves social well-being is accepted."[107]

To define policy coherence in a manner consistent with the theoretical and practical understanding of policy coherence as explored thus far, I address two things. First is to capture the concept of policy itself. This I consider as instruments with unique objectives and goals with associated consequences. This is in line with Scobie and Nilsson et al understanding and interpretations of these instruments of governance.[108] Next is to tackle coherence. In this case I adopt Duraiappah and Bhardwaj's appreciation that policy goals—competing policies for that matter—should not be compromised and at best well considered.[109] Hence Policy coherence, by definition and in the context of this research, **is about ensuring that the unique objectives, goals, and consequences of policies are not compromised or at minimum these interactions are well considered.** This definitional concept, means that the goals and objectives of the post-2015 agreements—are generally well accepted given the overwheling adoption by countries. It also underscores the reality of potential trade-offs between the two proposed agreements under this study—SDGs and Paris Agreement. Hence, in this study, the goal is to highlight those unique goals and objectives for each policy at the international level—see Appendix VI, and then at the national level—using the two case studies: Ghana and Nigeria; evaluate coherence of those international agreements with national level policies and also between the national policies themselves.

Decarbonizing an Energy Intensive Sector—Oil and Gas

Activities of heavy industries are critical to meeting the Paris Agreement—especially limiting warming to 1.5^{o}C or 2^{o}C limit above pre-industrial level; and the oil and gas sector is one prime target in that category. There are different types of fossil fuels, and oil, being one of those, has steadily grown "for many decades, and despite rapid increases in electric vehicles around the world, continues to increase in transportation."[110] The oil and gas sector account for about 9 percent of global emissions (scope 1 emission only), and 33 percent additional emissions from its value chain (scope 3).[111] Overall—direct and indirectly, they account for 42 percent of global emissions. Driving down emissions in the oil and gas sector, as Pye et al argues, has "implications for energy producing countries, many of whom currently rely on such sectors for economic growth and development."[112] Grubb et al also underscores how cheap oil discoveries in the mid-century help accelerated economic growth in many regions, especially post-WWII Middle East; although such rapid economic growth also

[107] Ibid., 201
[108] (Scobie 2016); (Nilsson, et al. 2012)
[109] (Duraiappah and Bhardwaj 2007)
[110] (Jackson, et al. 2018), 3
[111] (Beck, Rashidbeigi and Roelofsen Occo, The future is now: How oil and gas companies can decarbonize 2020)
[112] (Pye, et al. 2016)

had some periods of economic downturns and the well documented experience under the resource curse theory.[113]

Pushing for a decarbonized oil and gas sector is an important strategy for any global climate change strategy. But what is decarbonization? Rogelj et al describes the term as the "declining average carbon intensity of primary energy production over time," or "the reduction of carbon emissions from energy and industrial processes."[114] In similar form, Nakićenović also describes decarbonization as a product of two factors; one being "specific carbon emissions per unit energy," and the other, energy intensity—"energy requirements per unit value added."[115] Lempert and Trujillo also describes deep decarbonization as "reducing net human greenhouse emissions to zero by the second half of the 21st century."[116] In this study, the definition adopted is the description offered by Rogelj et al, siding with the view point that it is about reducing carbon emissions from energy and industrial sectors.

According to the IPCC, to limit global mean surface temperatures to less than 2°C limit above the pre-industrial level, society will need to substantially reduce emissions over the next few decades. Many of such reductions is expected to come from changes within existing energy systems; and although that is a recognized fact, Bataille et al writes that national governments, in making their respective nationally determined contributions (NDCs) did not "provide a clear vision of the profound transformation of energy systems that would be required by mid-century to maintain a 2°C limit.[117] Bataille et al notes that there needs to be detailed decarbonization trajectories at the national level; essentially setting forth a "a sequence of sectoral changes in physical infrastructure, deployment of technologies (e.g. energy efficient and low carbon vehicles, building, power plants, industrial boilers), investment, consumption patterns, based on available and anticipated technologies."[118] This is described as Deep Decarbonization Pathway or DDP—"explorative and iterative in nature, not prescriptive, and are meant to serve as a way to structure debates around the different visions of the national transitions."[119] DDPs are built on three principles: (i) defined at the country level with the entire economy in scope as well as a disaggregation by sectors to "ensure that national technical, social and economic priorities and circumstances are explicitly taken into account"[120], (ii) has a long-term trajectory—that is 2050, and "provide an explicit description of the trajectory from the present to the long-term objective in order to inform the sequencing of decisions at different time horizons, an especially the consistency of

[113] (Grubb, Hourcade and Neuhoff, Planetary Economics: Energy, Climate Change and the Three Domains of Sustainable Development 2014), 5-8
[114] (Rogelj, et al. 2015), 1
[115] (Nakicenovic 1993), 2
[116] (Lempert and Trujillo 2018), 1
[117] (Bataille, Waisman, et al., The need for national deep decarbonization pathways for effective climate policy 2016), 3
[118] (Bataille, Waisman, et al., The need for national deep decarbonization pathways for effective climate policy 2016) 3-4
[119] Ibid. 3-4
[120] (Bataille, Waisman, et al., The Deep Decarbonization Pathways Project (DDPP): insights and emerging issues 2016)

short-term policy and actions with long-term deep decarbonization;"[121] (iii) lastly can present "detailed and explicit information on how dep decarbonization can occur."[122]

There are different pathways to achieving deep decarbonization, and Scholars like Naimoli and Ladislaw agree that in order to decarbonize the world by 2050—net zero emissions; it will include significant cuts in fossil fuel consumptions as well as changes in consumer behaviour.[123] Kenyon and Jeyakumar identifies a series of policies, institutions and technologies that are components of the different pathways to reaching 2^{o}C limit above pre-industrial level.[124] The key components includes: improvements in efficiency and behaviour changes, increased energy supply from renewables and nuclear, carbon capture and storage coupled with fossil fuels or bioenergy, and afforestation.[125] Victor et al provide the systems transition approach—a "transformative sector-level changes in the methods of producing, selling, transporting and using goods and services."[126] The system transition approach to a low carbon future consist of three transition phases: the emergence phase—where radical innovations emerge due to "pioneering activities of researchers, entrepreneurs, activities or other relative outsiders"[127]; the diffusion phase—a stage where the radical innovations finally appear to gravitate outside of the "niches and spread more widely into mainstream markets and society;"[128] and finally the reconfiguration phase—the stage where the new technology finally replaces the old, "which can have effects that reconfigure entire regimes."[129] At each transition phase, they argue that different policy actions could be taken to accelerate the transitions.

Åhman et al breaks down decarbonization of energy intensive industries (EIIs) into technical options and innovation challenges. Technical options consist of emissions that comes from the combustion of fuels for energy and the production processes.[130] Three basic types of technical options exist: (i) replacing fossil feedstock with biomass, (ii) electrification of the process, (iii) and lastly the use of carbon capture and storage (CCS).[131] Like Victor et al and Kenyon and Jeyakumar, Åhman et al notes that pursuing these technological changes will include "development and introduction of new core production processes and new associated infrastructures."[132] The innovation challenges they discuss also align with some of the work of Kenyon and Jeyakumar, and Victor et al. First is the notion that historically major technological changes "have been driven by improved economic performance, better feedstock or by large changes in consumer

[121] Ibid.
[122] Ibid.
[123] (Naimoli and Ladislaw 2020)
[124] (Kenyon and Jeyakumar 2015), 1
[125] (Kenyon and Jeyakumar 2015), 1
[126] (Victor, Geels and Sharpe 2019), 17
[127] (Victor, Geels and Sharpe 2019),17-31
[128] Ibid., 17-31
[129] Ibid., 17-31
[130] (Åhman, Nilsson and Johansson 2017), 637
[131] (Åhman, Nilsson and Johansson 2017), 637- 638
[132] Ibid., 637 -638

demand driven partly by regulations."[133] There isn't in place policy incentives that will drive or enable the market to pay for decarbonized materials—"especially as technologies for zero emissions in basic materials production offer few, if any, co-benefits, whereas production costs may increase considerably."[134]

Decarbonizing Africa's Oil and Gas

Building upon the broader imperatives for decarbonizing energy-intensive sectors globally, the African context presents unique challenges and opportunities that merit specific examination. The continent's oil and gas sector sit at the intersection of development aspirations, climate commitments, and resource dependence dynamics that fundamentally shape policy coherence possibilities. Recent scholarship has increasingly focused on understanding how African hydrocarbon-dependent economies can navigate the tensions between immediate development needs and long-term climate objectives, while addressing the structural impediments that characterize resource-rich developing economies.

Current literature shows a fundamental tension between Africa's industrialization imperatives and global decarbonization pressures. Emenekwe et al. provide critical insights through their systematic review of decarbonization strategies across Global South countries, emphasizing that energy system decarbonization requires substantial investment outlays while generating ambiguous GDP impacts.[135] Their analysis demonstrates that while some studies find future GDP growth impacts from decarbonization scenarios, others identify GDP decline effects, highlighting the uncertain macroeconomic implications for developing economies. This ambiguity is particularly pronounced in sub-Saharan Africa, where the review identifies significant gaps in country-specific evidence, noting that most studies focus on broader regional patterns rather than tailored national strategies.[136] Chidolue et al. extend this analysis through their comparative examination of decarbonization strategies across Canada, the United States, and Africa, revealing that African nations face distinctive challenges in "leapfrogging traditional, carbon-intensive industrialization pathways."[137] Their work underscores that for Africa, decarbonization is "inseparable from the broader inclusive and sustainable development goal," requiring innovative solutions that simultaneously address energy access, technology transfer, and socio-economic development dimensions.[138] This perspective aligns with the policy coherence framework central to this dissertation, as it highlights the need for integrated approaches that reconcile competing but valid policy objectives.

[133] Ibid., 638
[134] Ibid., 638 - 639
[135] (Emenekwe, et al. 2022)
[136] (Emenekwe, et al. 2022)
[137] (Chidolue, Ngozichukwu and Ibekwe 2024)
[138] (Chidolue, Ngozichukwu and Ibekwe 2024)

At a country level, countries like Ghana and Nigeria face decarbonization challenges. Yinbil offers comprehensive analysis of Ghana's petrochemical industry decarbonization pathways, identifying the "inherent tension between Ghana's rapid industrialization goals and its commitment to achieving net-zero emissions by 2060.[139] His work reveals that Ghana's petrochemical sector accounts for 63% of the country's total CO_2 emissions from fuel combustion, yet the ambitious Petroleum Hub project is projected to boost GDP by up to 70% and create approximately 700,000 jobs.[140] Critically, Yinbil identifies multiple barriers impeding decarbonization, including "socio-economic challenges such as the high cost of green solutions and potential social exclusion, technical limitations like outdated infrastructure and shortage of skilled labor, and institutional weaknesses including unsupportive policy environment and weak regulatory enforcement."[141] This presents a challenge for policy coherence particularly regarding the coordination failures between economic development and climate policy objectives. For Nigeria, Bello provides detailed examination of decarbonization strategies within the oil and gas sector, emphasizing the role of the Nigerian Upstream Petroleum Regulatory Commission (NUPRC) in developing emissions reduction frameworks.[142] The analysis highlights Nigeria's commitment to reducing emissions by 20% by 2030 through its Nationally Determined Contributions, while acknowledging the substantial challenges posed by the country's heavy reliance on oil revenues.[143] Bello's work identifies key technological pathways including carbon capture, utilization and storage (CCUS), renewable energy integration, and operational electrification, while noting that "enforcement has been challenging, and the NUPRC is working to strengthen penalties and compliance measures."[144]

There are also financial dimensions of oil and gas dependence in Africa, which highlights how hydrocarbon revenues create complex cycles of borrowing and vulnerability. For instance, Steadman et al comprehensive analysis shows that "oil and gas production locks nations into indebtedness and further dependency," with countries experiencing procyclical borrowing patterns linked to commodity price volatility.[145] For Nigeria specifically, the analysis shows debt levels more than doubled as a percentage of GDP between 2007 and 2022, with debt interest payments accounting for 45% of total government revenues by 2022.[146] This financial analysis reveals critical implications for policy coherence, as governments face constrained fiscal space that limits their ability to pursue diversification strategies or invest in climate mitigation measures. The ODI research identifies that countries dependent on oil and gas revenues experience "procyclical credit cycles in international debt markets, subject to

[139] (Yinbil 2025)
[140] (Yinbil 2025)
[141] Ibid.
[142] (O. D. Bello 2024)
[143] (O. D. Bello 2024)
[144] Ibid.
[145] (Steadman, et al. 2023)
[146] (Steadman, et al. 2023)

oil and gas prices," creating additional barriers to coherent policy implementation across climate and development objectives.[147]

Additionally, African gas producers provide a particularly sobering assessment of transition risks facing the continent's LNG investments. Ovadia's analysis, using detailed financial modeling of Mozambique's LNG projects, his work demonstrates that under net-zero energy scenarios, "the risk to government value could reach 92% of the expected value of revenues."[148] This analysis reveals what he terms "two visions of climate colonialism"—one that cuts off funding for African fossil fuel development without alternatives, and another that encourages costly investments in infrastructure likely to become stranded assets.[149]The stranded assets literature reveals fundamental policy coherence challenges, as governments must balance short-term revenue needs against long-term transition risks. Ovadia's analysis shows that even in business-as-usual scenarios, many African LNG projects offer marginal returns, raising questions about the wisdom of continued fossil fuel-dependent development strategies.[150] This demonstrates some of the concerns related to how governments are struggling to align immediate fiscal needs with longer-term sustainability objectives.

Technological pathways and institutional framework for decarbonization also remain a persistent barrier in Africa context. For instance, although Chidolue et al. asserts that African nations can pursue technological leapfrogging through decentralized renewable energy solutions, including off-grid solar and small-scale wind project that simultaneously address energy access challenges while minimizing carbon footprints; they also identify significant barriers including economic viability challenges, technological readiness and adoption constraints, and policy and regulatory uncertainties.[151] Furthermore, Bello's analysis of Nigeria's regulatory framework highlights the importance of institutional capacity for effective decarbonization policy implementation.[152] The work emphasizes the role of agencies like NUPRC in developing environmental guidelines, while noting persistent challenges in enforcement and compliance. This institutional dimension directly connects to issues related to policy coherence, demonstrating how institutional weaknesses can undermine coherent policy implementation across sectors.

Resource Dependence and Development Pathways

A further understanding of the decarbonization challenges facing oil and gas sectors in developing countries requires engagement with the extensive literature on resource dependence and its development implications. The seminal work of Auty on the "resource curse" provides a foundational framework for understanding why

[147] Ibid.
[148] (Ovadia 2025)
[149] (Ovadia 2025)
[150] Ibid.
[151] (Chidolue, Ngozichukwu and Ibekwe 2024)
[152] (O. D. Bello 2024)

countries rich in natural resources, particularly oil and gas, often struggle with sustainable development.[153] Auty's thesis suggests that resource abundance can lead to economic distortions, institutional weakness, and reduced incentives for economic diversification—challenges that are directly relevant to understanding the barriers facing oil-dependent economies in pursuing climate action and sustainable development.

The resource curse literature has evolved significantly since Auty's initial formulation, with scholars like Sachs and Warner providing empirical evidence for the relationship between resource dependence and slower economic growth.[154] Their analysis suggests that countries with high ratios of natural resource exports to GDP tend to experience lower growth rates than their resource-poor counterparts. This finding has particular relevance for understanding the policy coherence challenges facing countries like Ghana and Nigeria, as it suggests that their economic dependence on oil and gas exports may itself create structural barriers to pursuing diversified, sustainable development strategies. The comparative experience of Ghana and Nigeria provides particularly valuable insights into how different institutional contexts and timing of resource discovery can affect resource curse outcomes. Yamoah's comparative analysis of these two West African oil producers highlights the critical importance of institutional quality and governance capacity in determining whether resource wealth becomes a blessing or a curse.[155] His research reemphasizes that "developing nations endowed with natural resources tend not to benefit from the resource as compared to nations that are usually not endowed with natural resources," but also shows that the timing of resource discovery and the quality of existing institutions can significantly influence outcomes.[156] Nigeria's experience serves as a cautionary example of how oil dependence can undermine development outcomes and institutional capacity. Yamoah's analysis shows that Nigeria, which discovered oil prior to independence, has experienced many of the classic symptoms of the resource curse, including "curse receptive institutions and governance environment that enabled bad contracts, corruption, and lack of confidence."[157] This institutional deterioration has created what can be described as a vicious cycle: oil dependence weakened institutions, which in turn reduced the capacity for effective governance and policy coherence, further entrenching dependence on oil revenues.

In contrast, Ghana's more recent discovery of oil in large commercial quantities in 2007 presented both opportunities and risks. As Yamoah notes, when Ghana first discovered oil, it "was celebrated as a big economic win for the country; with ex-President John A. Kufuor, noting that it will transform the economy into an African tiger."[158] However, Yamoah's institutional analysis suggests that despite Ghana having some of the better governance indicators in Africa, the country remained "relatively

[153] (Auty 1993)
[154] (Sachs and Warner, The Curse of Natural Resources 2001)
[155] (Yamoah, How Can Ghana Avoid An Oil Curse? Lessons From Nigeria 2013)
[156] (Yamoah, How Can Ghana Avoid An Oil Curse? Lessons From Nigeria 2013), 16-52
[157] Ibid., 99
[158] Ibid., 1

mediocre" in terms of institutional quality, making it "susceptible to the resource curse theory."[159] This analysis highlights how even relatively well-governed countries can face significant challenges in managing resource wealth effectively.

Ross's comprehensive analysis provides a more nuanced understanding of how petroleum wealth specifically affects political and economic development, complementing the Ghana-Nigeria comparative insights.[160] He identifies several mechanisms through which oil dependence can undermine development outcomes: the "rentier effect" whereby governments become less accountable to citizens due to reduced reliance on taxation; the "repression effect" where oil revenues enable governments to suppress dissent; and the "modernization effect" where oil dependence slows the social and cultural changes that typically accompany economic development. Each of these effects has direct implications for policy coherence, as they can undermine the institutional capacity and political incentives necessary for integrated policymaking. These kinds of institutional dimensions of the resource curse are particularly relevant for understanding policy coherence challenges. As noted earlier, Yamoah's analysis emphasizes that Ghana's "institutional context—rule of law, effective governance, openness and accountability, although among the best in Africa, was relatively mediocre and hence made it susceptible to the resource curse theory."[161] This suggests that even countries with relatively strong institutions by regional standards may struggle to manage resource wealth in ways that support policy coherence and long-term development objectives.

Collier's analysis extends this understanding by examining how resource dependence interacts with other development traps.[162] He argues that resource-rich countries can become trapped in cycles of conflict, poor governance, and economic stagnation that make it particularly difficult to pursue coherent long-term development strategies. This analysis is particularly relevant for understanding the challenges facing Sub-Saharan African oil producers, as it highlights how resource dependence can interact with other governance and development challenges to create particularly complex barriers to policy coherence. The work of Karl on "petro-states" provides additional insights into how oil dependence can shape political and economic institutions in ways that impede effective governance.[163] She argues that petroleum wealth creates particular patterns of state-society relations characterized by weak institutions, limited accountability, and reduced capacity for effective policymaking. These institutional effects are directly relevant to policy coherence concerns, as they suggest that oil dependence may systematically undermine the governance capacity necessary for integrated climate and development planning. The Nigeria case, as analyzed by Yamoah, exemplifies many of these dynamics, showing how oil revenues

[159] Ibid. 99
[160] (Ross 2012)
[161] (Yamoah, How Can Ghana Avoid An Oil Curse? Lessons From Nigeria 2013), 99
[162] (Collier 2007)
[163] (Karl 1997 Reprint 2019. Vol. 26)

have produced what he describes as "a strain of 'rentier' politics, manifesting as corruption, embezzlement, and fortified patronage networks."[164]

Gelb et al early analysis of "oil windfalls" highlighted how sudden increases in resource revenues can create macroeconomic imbalances that undermine long-term development prospects.[165] Their analysis of "Dutch disease" effects—where resource booms lead to currency appreciation and reduced competitiveness in other economic sectors—provides important insights into the economic mechanisms that can make it difficult for resource-dependent countries to pursue economic diversification strategies that might support climate action. Additional contributions to the resource curse literature have identified conditions under which resource wealth might support rather than undermine development outcomes. Gylfason's analysis emphasizes the importance of human capital development and institutional quality in determining whether resource wealth becomes a "curse" or a "blessing."[166] His work suggests that countries with strong educational systems and effective institutions may be better positioned to leverage resource wealth for broader development purposes, including climate action and sustainable development. This insight is particularly relevant for countries like Ghana, which had the opportunity to develop some of its democratic institutions prior to discovering oil in large commercial quantities, potentially providing a better foundation for managing resource wealth effectively. Stevens' comprehensive literature survey on resource impacts provides a framework for understanding the conditions that determine whether resource wealth supports or undermines development outcomes.[167] He identifies several key factors: the quality of political institutions, the degree of economic diversification, the management of resource revenues, and the strength of civil society. Each of these factors has direct relevance for understanding the policy coherence challenges facing oil-dependent economies in pursuing climate action. Van der Ploeg's analysis also provides a synthesis of the resource curse literature that emphasizes the importance of institutional quality and policy choices in determining outcomes.[168] His work suggests that resource wealth is neither inherently good nor bad for development outcomes, but rather that its effects depend critically on the institutional and policy context within which it is managed.

This brief literature on resource dependence has direct implications for understanding the policy coherence challenges facing oil and gas dependent economies in pursuing climate action and sustainable development. The resource curse mechanisms identified by scholars like Ross, Karl, and others suggest that oil dependence can systematically undermine the institutional capacity and political incentives necessary for integrated policymaking. However, others suggest that these outcomes are not inevitable, and that countries with better institutional foundations and

[164] (Yamoah, How Can Ghana Avoid An Oil Curse? Lessons From Nigeria 2013), 56-95
[165] (Gelb and et tal 1988)
[166] (Gylfason 2001)
[167] (Stevens 2003)
[168] (van der Ploeg 2011)

more proactive policy approaches may be better positioned to manage resource wealth in ways that support rather than undermine policy coherence.

Policy and Technology Strategies for Decarbonizing Oil and Gas

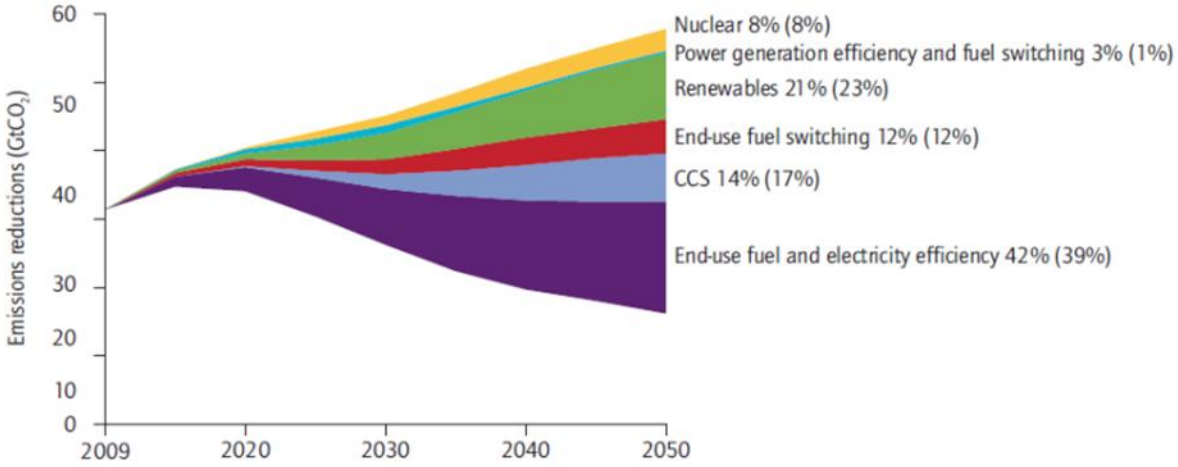
The brief literature review presented thus far offers some initial synergies on elements required for decarbonizing a heavy industry like oil and gas. First, is technological innovation; and second, policies and institutional behaviours. They offer additional insight into how transitions could effectively happen, and new forms of innovations adopted. When applied through a system thinking approach with detailed description, it can help society understand the long-term trajectory of emissions reductions, e.g., net zero by 2050. It elevates the value of the systems transitions framework as offered by Victor et al. There is a third aspect, which is resource demand and supply, but this is not covered in this research as I assume that all other things being equal, oil demand and supply will decrease, however natural gas might increase given its status as a bridge or transitional fuel toward renewables.

Technological Innovation

The IEAs World Energy Outlook special report 2020—The Oil and Gas Industry in Energy Transitions; observed that "every part of the [oil and industry] needs to consider how to respond to clean energy transitions."[169] That is "minimizing emissions from core oil and gas operations should be a first-order priority for all, whatever the transition pathway."[170] In focusing on the core operations of the oil and gas sector, McKinsey & Company provides current and evolving technologies that could address "most of the oil and gas industry's emissions."[171] It estimated that reducing emissions from the sector is not necessarily all that expensive; because in some cases, an operator—leveraging about 40 percent of its initiatives—saw a "positive net present value (NPV) at current prices and an additional 30 percent if it imposed an internal carbon price $40/Tco2e on its operations."[172] A big part of emission reductions, particularly across the upstream and downstream, is the use of carbon capture technologies. Miller et al notes that the IEA estimates about 14 percent of cumulative emissions reductions through 2050 will come from carbon capture technologies; "and 17 percent is the share of CCS in emissions reduction in 2050, compared with the 6DS."[173] (See Figure 7)

[169] (IEA 2020)
[170] (IEA 2020)
[171] (Beck, Rashidbeigl, et al. 2020)
[172] (Beck, Rashidbeigl, et al. 2020)
[173] (Miller, et al. 2015), 3

Figure 7: IEA: Contribution of Different Technologies to Achieving Target Emission Reduction Level by 2050



Note: numbers in brackets are shares in 2050. For example, 14% is the share of CCS in cumulative emission reductions through 2050, and 17% is the share of CCS in emission reductions in 2050, compared with the 6DS.

Carbon capture, utilization and storage (CC(U)S) technologies are prominent in many decarbonization scenarios presented by the IPCC—in order to limit to 1.5ºC or 2ºC.[174] To ensure that the world reaches a net-zero outcome by 2050, leveraging (CC(U)S) technologies to remove any remaining carbon emissions in the air is key. By definition, (CC(U)S) is:

> an emissions removal technology that captures carbon dioxide emitted during power generation or in industrial processes, compresses it, and then transports it to either store it permanently deep underground (in geological formations), or to use it a resource to create certain products.[175]

Carbon capture technologies can reportedly "remove 86 – 95 percent of the CO_2 contained in the waste gases produced by a power plant or industrial processes."[176] This does not negate the fact that the capture, use and storage process also requires energy to accomplish that.[177] The IEA approximates 35 million tonnes of CO_2 is captured from power and industrial facilities each year (2019).[178]

The capture of CO_2 (via chemical absorption), its transport (via pipelines often associated with enhanced oil recovery (EOR)), storage (via EORs or in depleted oil and gas field), and utilization (for various applications in food and beverage industry and in chemical production); are still largely in pilot and demonstration stages around the world

[174] (ESADEgeo Event Brief 2019), 1 -2
[175] (ESADEgeo Event Brief 2019), 2
[176] (Scott, et al. 2013), 105
[177] (Scott, et al. 2013), 105
[178] (IEA 2020)

in terms of technology readiness level (TRL).[179] Post-combustion amines (power plant capture), pre-combustion NG processing (capture), transport on-shore & off-shore pipelines (transport), transport ships (transport), saline formations (storage), and CO_2 – EOR (storage), are the few technologies that are currently in full commercial use.[180] These (CC(U)S) technologies and processes are however concentrated in few countries and regions of the world, with most operable ones in the US. [181]

The challenge is:

> even though CCS thus plays a central role in [integrated assessment models] IAM decarbonisation scenarios, deployment has barely reached the levels indicated by the projections of IAMs and roadmaps by the International Energy Agency. Looking into the future, only a few of the Intended Nationally Determined Contributions (INDCs), which countries pledged at the climate negotiations in Paris, feature CCS as a priority area.[182]

The power sector, "with only two-large scale CCUS power projects in operation at the end of 2018 and a combined capture of 2.4 million tonnes of CO_2 ($MtCO_2$) per year, CCUS…remains well off track to reach the 2030 [sustainable development scenario] SDS level of 350 $MtCO_2$ per year."[183]

A study by the IEA into the future of CCS—reflecting on 20 years of research and development—observed the following trends: first that although there is increased recognition for CCS, the support for it is not nearly as matched, hence making moving forward on CCS is slow. Secondly, and as already mentioned, CCS is evidently a critical part of the 2ºC pathway as part of the "least-cost portfolio for power and as essential mitigation solution in industry."[184] Last but certainly not the least, the need to accelerate the pace of CCS development over the next 20 years.[185] The slow pace of moving CCS into a mainstream technology for industry is also highlighted by Kern et al. They note the following:

> while there has been enthusiasm since at least 2005 when the IPCC published its special report on CCS and while many model run suggest that CCS could be part of the mitigation technology portfolio, progress on the ground in terms of large scale, integrated demonstration projects has been slow.[186]

[179] (Bui, et al. 2018), 1064
[180] (Bui, et al. 2018), 1064
[181] Ibid.
[182] Ibid.
[183] (IEA 2020)
[184] (IEA 2016), 10
[185] (IEA 2016), 11
[186] (Kern, et al. 2016), 250

Another challenge for CC(U)S is limited access to financing compared to technologies for renewables. According to Walker, "limited climate finance has been provided for CCUS."[187] So far much of that limited has been provided by governments from the UK, Australia, and Norway, with the primary mechanism through multilateral development banks (MDBs) like the World Bank CCUS Trust Fund.[188] The difficulties in launching and operating CCUS projects, case in point, China, has been highlighted via the work of Gao et al. They underscore that some of the main difficulties are high technology cost, lack of commercial viability, potential environmental risk, insufficient fund support, and lack of policy and regulations.[189] Tapia et al also notes that "due to the energy and economic penalties of carbon CO_2 it is then necessary to establish incentive scheme, or a CO_2 pricing mechanism to encourage implementation."[190] For major emitters from emerging economies with large reserves of fossil fuels, CCS in decarbonization will be key for them.[191] But affordability and access to capital will be a major barrier if the technology is not mainstreamed over the next decades. Current investments and operations around CCS are concentrated in advanced economies like the US.

Other technological innovations driving decarbonization in the oil and gas sector is through zero-emission production—which is critical for meeting Scope 1 emissions.[192] This is done via zero-emissions electrifications of the upstream activities of oil and gas and LNG production.[193] Some examples include the "the proposed use of hydroelectric power for shale gas production and liquefaction in British Columbia, and the 'power from shore' offshore production on the Norwegian Shelf in the Johan Sverdrup field."[194] In Norway for instance, 28 percent of its national CO_2 emissions occurs on offshore oil and gas activities.[195] Countries like Norway would have to make improvements in their operations of oil and gas activities in order to reach their national commitments under the Paris Agreement; this includes not just zero-emissions electrifications, but also "energy efficiency measures, power supply from offshore wind[broadly under renewable energy], fuel switching to hydrogen."[196]

Hydrogen has been identified as one of the promising means by which oil and gas activities could be decarbonized.[197] This includes "blue hydrogen," which combines naphtha or natural gas steam reforming and CCS, or "green hydrogen," which leverages "electricity to liquids" electrolysis from solar or hydro-electric power."[198] It is estimated that both processes creates zero-emissions liquid fuels that has greater energy density

[187] (Warren 2019), 872
[188] (Warren 2019), 872
[189] (Gao, et al. 2018), 3
[190] (Tapia, et al. 2018), 4
[191] (Kenyon and Jeyakumar 2015), 2
[192] (Johnston, Blakemore and Bell 2020), 17
[193] (Johnston, Blakemore and Bell 2020), 17
[194] Ibid.
[195] (Roussanaly, et al. 2019), 481
[196] (Roussanaly, et al. 2019), 481
[197] Ibid., 481
[198] Ibid., 481-482

and can power heavy transportation than batteries.[199] However the cost of leveraging existing hydrogen technologies has been questioned. Caserini et al claims that it is an affordable system as the "proposed technology aims at producing a valuable hydrogen-based commodity to partially offset the cost of generating negative emissions."[200] They argue that taking this path—with the ability to operate on coal—compared to the application of BECCS, "can reduce its two main limitations (i.e. the biomass availability and its impact on the ecosystems)."[201] Although there is ongoing research in the areas of life cycle assessment (LCA), feasibility and some of the implications from socio-political and environmental challenges, Caserini et al note the following:

> by producing metal hydroxides such as Ca (OH)2 and dissolving them in seawater to increase its alkalinity through ocean liming, the process also helps reduce the ongoing ocean acidification, thanks to the capture and storage of atmospheric CO2 in the seawater in the form of metal bicarbonates. Although industrial alternatives exist for the use of slaked lime (i.e., to capture CO2 from an industrial flue gas), for the massive quantities of negative emissions required in the next decades, it is necessary to exploit the large buffer power of the ocean.[202]

A report by the Rocky Mountain Institute also underscores the value of hydrogen as an important element of the 1.5ºC or 2ºC pathway.[203] They contend that "hydrogen consistently plays a critical role as a low-carbon fuel."[204] In fact, a lot of the players within the oil and gas sector—roughly a fifth of the sectors senior officials—are already entering the hydrogen market, with the proportion of those looking to enter the market doubling from 20% to 42% in the year leading up to 2020.[205] However, for Renssen, hydrogen offers opportunities as well as challenges.[206] The EU is embracing hydrogen, yet the question is not whether hydrogen is an option but rather if "society is willing to pay for climate neutrality."[207] One of the challenge to green hydrogen, Renssen contends, is that it will require enormous renewable power.[208] It raises a fundamental political and economic concern, whether society should invest vast amount of resources into it or straight into renewables in general? For the EU, the business case exists for many sectors, such as the steel and transport sector, however "the green hydrogen economy needs tailored support;" like what EU policy did for the success of renewables.[209]

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[199] Ibid.
[200] (Caserini, et al. 2019), 1245
[201] (Caserini, et al. 2019), 1245
[202] Ibid., 1245
[203] (Blank and Molly 2020), 1
[204] (Blank and Molly 2020), 1
[205] (Hydrogen Processing 2020)
[206] (Rensssen 2020)
[207] (Rensssen 2020), 801
[208] Ibid., 801
[209] Ibid., 801

Policy and Institutional Behaviours

Some scholars agree that pricing carbon "can produce important national co-benefits;" because "as carbon charges reduce use of coal, natural gas, and petroleum products, this reduces the amount of people killed by outdoor air pollution…"[210] Economist often support carbon tax or cap-and-trade system because they view it as the most optimal way to best tackle climate change-related externalities compared to the traditional "command-and-control" systems related to production quotas, regulations etc.[211] For Bowen, pricing carbon is in principle to correct and balance the harm resulting from activities, so therefore its main effect is to "alter the amount of the activity until this balances is obtained," while also enabling a change in the "pattern of incentives for future investment, consumption and innovation, directing all three away from harmful activities and towards beneficial ones."[212]

Carbon pricing is a price levied against carbon in order to "shift the burden for the damage back to those who are responsible for it, and who can reduce it."[213] This economic practice is a way to incentivize polluters to decide whether to cut their emissions, discontinue the activity that results in the pollution, or continue the activity but pay for it.[214] There are two main types of carbon pricing; that is carbon trading—often referred to as emissions trading systems (ETS) and carbon taxes.[215] A carbon trading system is essentially cap-and-trade; where it "caps the total level of greenhouse gas emissions and allows those industries with low emissions to sell their extra allowances to larger emitters." On the other hand, carbon tax is when a price is set on carbon via a tax regime on the carbon content of fossil fuels.[216] These two or a hybrid form of it exist in different countries and is reported to have gained significant momentum worldwide, even among oil and gas producing entities.[217] Groups like the International Association of Oil & Gas Producers—comprising of members who produce 40 percent of the world's oil and gas; supports some form of carbon pricing as they see it as an effective way to let the market incentivize them to keep emissions low by taking actions such as "adopting more energy efficient technologies and processes…"[218] At the national level, 81 of the 155 parties (as of September 2017) to the Parties agreement that had submitted their respective NDCs had committed to some form of carbon pricing.[219]

Yet, there remain some hurdles. According to Adbul-Manan, Arfaj and Babiker; the lack of a consistent global framework to enable efficient and effective way of doing businesses as well as greater uncertainties among businesses and investors, have led

[210] (Parry, Veung and Heine 2014), 2
[211] (Jenkins 2014), 468
[212] (Bowen 2011), 16
[213] (The Worl Bank 2014)
[214] (The Worl Bank 2014)
[215] Ibid
[216] Ibid
[217] (Abdul-Manan, Arfaj and Babiker 2017), 266
[218] (Jefferiss 2017)
[219] (The World Bank Group 2017), 22

to calls by some major oil and gas companies for effective pricing regimes.[220] Additionally, there are concerns that carbon pricing may not be an equitable way of addressing the externalities of climate change via the activities of the polluters.[221] This notion is rebuffed by other scholars, arguing that it can lead to compensating low-income households or transferring compensation from rich to poor countries.[222] And this holds true;

> not only for carbon taxation, but also for emissions trading, as revenues can be raised by selling or auctioning permits. Compensating for inequitable consequences of carbon pricing does not mean eliminating pre-existing inequality. It would evidently be unfair to impose such an ambitious condition on any climate policy.[223]

Grubb, Hourcade and Neuhoff also accentuate the complex undertaking of pricing carbon. However, they argue that although some energy-intensive sectors may be highly exposed, "the idea that CO_2 pricing at the current levels of ambition could do anything more than set back economic growth by a few months (at most) over a period of decades, is fanciful and wholly unsupported."[224] This is within the context of energy (in the EU) often accounting for about 5 percent of GDP, and understanding that the "the most basic modelling confirms that the costs of CO_2 prices at these levels are well under 1 percent of GDP."[225] On cap-and-trade, Grubb et al further elaborates how Europe has provided an experimental stage for the world. A few of the lessons worth highlighting for the purpose of this research are as follows: first is the fact that emissions trading system works—partial success so far, because of "over allocation and periodic price instability reduced its effectiveness..."[226] Second, that due to the complex nature of cutting carbon and the reality that "not all design choices will be right at the beginning…", learning by all stakeholders—from government to businesses—is a natural state of any new or creative system.[227] Third, having the expectation that prices can and will be impacted by numerous unforeseen factors—partly driven by optimism bias and level of price sensitivity.[228] Lastly is the fact that cap-and trade requires robust regulation, knowing that industry can certainly profit, and understanding that "there is compelling economic rationale to increase auctioning over time.[229]

Krogstrup and Oman also support carbon pricing as fundamentally central to climate change mitigation. They argue that an effective carbon price regime should

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[220] (Abdul-Manan, Arfaj and Babiker 2017), 266
[221] (C.J.M., et al. 2018), 10
[222] (C.J.M., et al. 2018), 10
[223] Ibid., 10
[224] (Grubb, Hourcade and Neuhoff, Planetary Economics: Energy, Climate Change and the Three Domains of Sustainable Development 2014) pp.217
[225] (Grubb, Hourcade and Neuhoff, Planetary Economics: Energy, Climate Change and the Three Domains of Sustainable Development 2014) pp.217
[226] Ibid. 248
[227] Ibid. 248
[228] Ibid. 249
[229] Ibid. 254

inherently demonstrate “the environmental cost of carbon emissions, including climate change, but also local air pollution, traffic congestion, accidents and road damage.”[230] However, they acknowledge that the use of carbon pricing may not always be effective in driving the preferred changes when low-carbon alternatives or long-term credibility are not present.[231] Krogstrup and Oman further introduces the idea that climate-related financial risks could be potentially large, hence “a better reflection of and accounting for climate risks can contribute to scaling up green market finance.”[232] That is some form of regulations are implemented and hence by default could help drive investment behaviours into some of the needed technological innovations like CCUS. They break these climate-related financial risks into three categories: (i) physical risk—highlighting examples of droughts and floods; (ii) transitional risk—related to transitions to low-carbon economy which will require about two-thirds of oil, gas, coal reserves to still be in the ground and lead huge write-offs on balances sheets; and lastly (iii), liability risk—highlighting the legal risk that firms face from parties that may be impacted by climate change.[233] These climate risks by Krogstrup and Oman are important for policy and driving institutional behavioural changes in the long term, especially when looking at oil and gas producing countries and how they could be impacted.

California’s Low Carbon Fuel Standards (LCFS) has been hailed as a “new policy approach designed to reduce carbon dioxide emissions by applying standards to all stages of motor fuel production.”[234] Although this regulatory system was designed and focused on the transportation sector, its elements provide a framework that other jurisdictions or national leaders could leverage. The LCFS, according to Huseynov and Palma “constitutes a bundle of standards that aim to incentivize technological advancements to generate low-carbon fuels.”[235] Additionally, it also affects the production of low-carbon fuels and ensures that “in order to prevent crude oil ‘shuffling’, refiners get the same [carbon intensity] rating for crude oil imported from different places.”[236] While the LCFS has yet to receive greater rigorous academic scrutiny; it has become an alternative policy tool that “attempts to bring the life cycle carbon dioxide emission concept into the policy framework”[237] to inherently drive behaviour changes across various economic actors—from consumers all the way up to the source of fuels that contributes to the transportation systems. As described by Parson et al, “LCFS controls emission from fuels over their entire life cycle, from the oil well or farm field through combustion in the vehicle engine, based on life-cycle analysis modelling.”[238] The LCFS still faces some challenges. Parson et al underscores the legal challenges

[230] (Krogstrup and Oman 2019). 19-20
[231] Ibid. 21
[232] Ibid. 24
[233] Ibid 24
[234] (Huseynov and Palma 2018), 1
[235] (Huseynov and Palma 2018), 2
[236] Ibid., 2
[237] Ibid., 3
[238] (Parson, et al. 2018), 2

that such imperfect regulatory face, as well as how to achieve the big reductions in place.[239]

The role institutions play in setting a policy agenda or responding to them have consequences—as could be inferred from the California LCFS. Joskow, reflecting on the evolvement of institutional economics post-World War II, wrote that:

> benevolent governments with "public interest goals and perfect information were available to make policies "in the public interest." Whilst it was recognized that governments could do things which could either improve or undermine economic performance, the economic and political considerations that led to alternative government policy initiatives and affected the structure and behaviour of government institutions which influenced economic growth, from legislatures to courts, were largely ignored.[240]

Nye also accurately depicted the relevance of institutional economic thinking as a way of seeing "the economy as a machine rather than as a living, organic entity."[241] Perhaps the most enduring argument from Nye, is equating our social and economic interactions to solving problems to that of the work of physicians; noting that "if it is difficult to prescribe social and economic cures as easily as a physician prescribes pills for a headache of flue, we can at least emulate those doctors who live by the dictum 'First, do no harm'."[242]

Institutions—legal, political, social, and economic—have enduring effects on economic performance; and "the effects of alternative public policies aimed at improving economic performance in various dimensions will vary along with the institutions that are available to respond to them."[243] The different types of institutions within any global or national context could set the trajectory of alignment or misalignment. Whether ensuring that regulations are conformed to by firms or society is nudged into improving choices about consumption, institutional thinking and interplay is fundamental to the process and outcome. This thinking goes for all forms of governance. As noted by Khalid in his work, the role of institutions in driving economic change; "an important aspect of economic transformation is the changing nature and degree of the state's involvement in the market."[244] This means that as national governments look to implement their respective post-2015 commitments, their responses and influences will be a critical part of how successful or not the overall global agenda becomes.

Parties in economic, social, or political transaction must make choices. Governments will often make policy and regulatory decisions deemed to be beneficial to

[239] (Parson, et al. 2018), 49
[240] (Joskow 2008), 3
[241] (Nye 2008), 68
[242] (Nye 2008), 80
[243] (Joskow 2008), 5
[244] (Khalid 2015), 185

society and the economy; at the same time, other institutional actors like industry will seek to respond in their own interest. These choices often emanate from each institutional actors' perception of risk and access to information. The work of Pénard—game theory and institutions—perhaps demonstrates this. According to Pénard, institutions can be characterized into two perspectives. First, is the notion that institutions are a set of political, social, and legal ground rules that sets the stage for the activities of production, exchange, and distribution; hence the rules of the game all actors must conform to.[245] The second perspective considers institutions in a more "endogenous manner"; that is a player—with specific status—can interact with others and can seek to "influence or modify the rules of the game and directly affect the outcome."[246] The latter, which Pénard examines in his work, provides a framework that allows a researcher to effectively explore the rationale of institutions and to rigorously question "the nature of interpersonal relationships;" including who are the decision makers? What sets of actions do they implement? What information is available?[247]

Additionally, Pénard applies classical game theory concepts like coordination to highlight the predictable nature of institutions in a strategic game as in the Nash equilibrium; commitment problem to demonstrate the ability of a decision maker to attempt manipulation of "a strategic situation by unilaterally changing some rules of the game, in particular the sequence of moves;" and the role of institutions and organizations themselves to establish credibility by committing.[248] Lastly, Pénard resurrects the role imperfect information play in a principal-agent game and highlights how institutions act as information-enhancing devices—essentially "to restore efficiency in relations characterized by imperfect information."[249]

Like Pénard, Arruñada attempts to provide a study on the relationship between human nature and institutional analysis, and how human beings have a cognitive niche—knowledge experts—that reinforces the complementariness of nature and nurture.[250] From the human ability to perceive comparative advantages and identify consequences; apply rationality instinctively (with emotions and reason), economically (making decision specific to local environment with general validity), and how emotional maladaptation (risk aversion and weakness of will) have economic consequences; to instincts to cooperate, reciprocate, and cheat; Arruñada argues that institutions are "grounded on our human nature: in a sense they 'recruit' and mould our instincts to build more effective mechanisms."[251] That is, institutions act as complements of human nature, enforcements of social control that allow for greater cooperation, and the use of human instincts (natural selection) as a building block of institutions.[252] However, he

[245] (Pénard 2008), 158
[246] (Pénard 2008), 159
[247] Ibid., 179
[248] (Pénard 2008), 160
[249] Ibid., 168
[250] (Arruñada 2008), 82; 97
[251] (Arruñada 2008), 82-95
[252] Ibid., 95-96

notes that “institutional change is different from natural selection. It is constrained by the genetic background, but it is influenced by learning, decision making, and imitation…to some extent, acquired behavioural features may also be transmitted from one generation to the next.”[253] Additionally, it can also be intentional, a consequence of individual decisions—although it does not mean success.[254]

Trying to change a state or multinational oil and gas company behaviour to meet the post-2015 agreement while protecting the job security, health, and education of citizens clearly presents some trades-offs—one that can possibly be represented in an institutional game theory and human behaviour framework to highlight decisional choices. As Grubb, Hourcade and Neuhoff describes—“economics, at its basic level, is about allocating resources in ways that seek to meet human needs and desires.”[255] These resources, which are not infinite, includes people, capital, land, mineral deposits or energy.[256] Unlike the concept of climate risk—physical, transitional and liability—provided by Krogstrup and Oman; Grubb et al conception of how to appropriately leverage the right policies to solicit effective responses is underlined by the fact that it is hard to quantify the benefits of reducing emissions by policies like the California LCFS, and it is even harder, “with results being wrapped in the mists of how much climate change societies can handle at what cost, and never-ending debates about how to weight the welfare of people in different places and in future generations.”[257] They argue that we need to understand the world in three different domains:

- three conceptions of risk—addressing the size of our collective security; three fields of theory—focusing on the behaviours of people and organizations that tend to evolve over decades by understand the psychology and interrelatedness.
- three economic processes— “from simply making better use of ‘win-win’ opportunities that involve no trade-offs, through to the development of new technologies and systems that expand the range of what is possible, and
- three realms of opportunity—addressing ways to save on energy and emissions at one end while on saving money “through blue skies options that would require extensive innovation.”[258]

These, according to Grubb et al, “underpin the three pillars of policy, grounded in the characteristics of the different domain, all of which are necessary to offer potential comprehensive long-run solutions.”[259]

[253] Ibid., 98
[254] Ibid. 98
[255] (Grubb, Hourcade and Neuhoff, Planetary Economics: Energy, Climate Change and the Three Domains of Sustainable Development 2014), 59
[256] (Grubb, Hourcade and Neuhoff, Planetary Economics: Energy, Climate Change and the Three Domains of Sustainable Development 2014), 59
[257] Ibid., 46
[258] Ibid., 47
[259] Ibid., 47

Climate Finance and Implementation Challenges

Most developing countries face challenges related to institutional capacity, financial resources, and competing development priorities that require careful attention to policy coherence considerations. It is therefore important to understand the differentiated climate finance responsibilities. The Paris Agreement is an example of how international financing mechanisms can either support or undermine policy coherence in recipient countries. A study by Pauw et al demonstrates that "fragmented climate finance delivery creates coordination challenges that can overwhelm limited institutional capacity and undermine recipient countries' ability to develop coherent climate strategies."[260] Additionally, Roberts et al notes that "the failure to deliver on climate finance promises has created uncertainty that undermines developing countries' ability to plan integrated climate and development strategies."[261] They argue that unpredictable and insufficient climate finance flows force countries into short-term, fragmented approaches rather than enabling the long-term, coherent planning necessary for effective climate action. The OECD's work on climate finance flows provides important empirical evidence about financing gaps facing developing countries.[262] Their regular reporting shows persistent shortfalls in climate finance commitments, which highlights the struggles of developing countries to access predictable, long-term financing necessary for integrated climate and development planning.

The relationship between institutional capacity and climate finance effectiveness has also emerged as a critical area of research. Scholars like Gomez-Echeverri emphasizes that "good and effective governance and strong institutional arrangements are key to the success of the Paris Agreement and the 2030 Agenda for Sustainable Development," noting that success depends on policymakers' capacity to develop integrated, coordinated approaches across sectors and geographies.[263] This governance challenge is particularly acute in energy systems, where distributed generation requires coordination among "a broad range of technologies and fuels, originating from various sectors, geographies and constituencies."[264] Empirical evidence from Africa supports these theoretical insights. According to extensive stakeholder interviews conducted across African countries by Adenle, Manning, and Arbiol, "a lack of institutional capacity is the most important barrier to project financing and implementation" for climate mitigation projects.[265] Their analysis reveals that countries with higher institutional capacity scores consistently demonstrate better performance in implementing climate finance projects, with statistically significant correlations between institutional quality measures and project success rates. Specifically, they found that "a 1-unit improvement in the mean CPIA rating corresponds to a 0.22 increase in the

[260] (Pauw, Mbeva and and van Asselt 2019)
[261] (Roberts, et al. 2021)
[262] (OECD 2024)
[263] (Gomez-Echeverri 2018)
[264] (Gomez-Echeverri 2018)
[265] (Adenle, Manning and and Arbiol 2017)

number of projects implemented in a country-year," suggesting that institutional strengthening can have measurable impacts on climate finance absorption.[266]

Inherently, it can be argued that global finance architecture has structural challenges that limit its effectiveness in supporting developing country transitions. As there is no agreed definition of climate finance, the IPCC has adopted a broad definition that includes "all financial flows whose expected effect is to reduce net greenhouse emissions or to enhance resilience to the impacts of climate variability and the projected climate change."[267] This definitional ambiguity creates challenges for tracking and coordinating financial flows, and also creates further uncertainties that undermine developing countries' ability to plan integrated climate and development strategies.[268] This uncertainty is compounded by what the OECD's climate finance reporting reveals as persistent shortfalls in commitments, creating particular challenges for policy coherence as countries struggle to access predictable, long-term financing.[269]

A comprehensive mapping of development finance for energy activities in Small Island Developing States (SIDS) between 2002-2016, analyzing nearly 5,700 energy-related transactions,[270] revealed several critical implementation challenges that resonate with broader climate finance literature. The study documents significant disbursement problems in the energy sector, finding that "disbursement ratios in the energy sector are consistently lower than those for total development aid" and showing "a declining trend over recent years."[271] This is particularly concerning given that energy infrastructure requires substantial upfront investment and long-term planning. The analysis reveals that transmission and distribution projects are especially challenging, with disbursement ratios averaging only 38% compared to 88% for non-renewable projects, suggesting that "donors, project developers and recipients are familiar with, and have the expertise necessary to execute" conventional energy projects but struggle with newer technologies and infrastructure.[272] The SIDS analysis also highlights the mismatch between aid allocation and development needs. Despite the focus on energy access in development goals, "donors and finance institutions have not strategically targeted their energy aid towards those countries with the greatest electricity access gaps."[273] Countries like Guinea Bissau and Papua New Guinea, with electricity access rates of 14% and 23% respectively, were not prioritized in aid allocation, echoing broader findings about the limited correlation between climate finance flows and adaptation needs.

The intersection of extractive industries and development banking presents a crucial pathway for sustainable development in resource-rich developing countries. As

[266] (Adenle, Manning and and Arbiol 2017)
[267] (Gomez-Echeverri 2018)
[268] (Roberts, et al. 2021)
[269] (OECD 2024)
[270] (Atteridge and and Savvidou 2019)
[271] (Atteridge and and Savvidou 2019)
[272] Ibid.
[273] Ibid.

noted by Roe, rather than pursuing blanket restrictions on fossil fuel and mineral extraction, lower-income countries with significant natural resource endowments should be allowed greater flexibility to leverage these assets for development while implementing responsible practices such as reducing gas flaring and investing in cleaner extraction technologies.[274] This approach aligns with framework for development banks as catalysts for sustainable finance, where Public Development Banks (PDBs) can play a pivotal role by integrating environmental and social criteria into their financing decisions while supporting projects that deliver multiple benefits—economic growth, improved energy access, and reduced emissions.[275] The combination of these perspectives suggests that development banks operating in resource-rich countries should develop specialized analytical tools to assess extractive projects not merely on financial returns, but on their contribution to the SDGs, their potential for reducing harmful emissions through improved technologies, and their capacity to generate fiscal resources that can fund broader sustainable development initiatives. This integrated approach recognizes that for many developing countries, particularly in Africa and other resource-abundant regions, extractive industries represent the most viable pathway to attract foreign direct investment and generate the economic growth necessary to support climate adaptation and transition to more diversified, sustainable economies over the long term.

Climate Governance in Developing Countries

The governance of climate policy in developing countries intersect fundamentally with questions of policy coherence. Unlike developed countries that often have established institutional frameworks and greater financial resources, developing nations must navigate complex trade-offs between immediate development needs and longer-term climate objectives. This intersection creates what Averchenkova, Fankhauser, and Nachmany describe as "institutional constraints that significantly affect the capacity to develop, implement and enforce climate policies across countries and regions."[276] These constraints are particularly relevant in the context of policy coherence, as they directly impact governments' ability to coordinate effectively across different policy domains. Dubash's comprehensive analysis of climate governance provides further insights into how developing countries navigate competing priorities between climate action and development imperatives. He argues that "climate policy in developing countries is necessarily embedded in broader development narratives," highlighting that climate governance cannot be understood in isolation from national development strategies.[277] This embedding creates both opportunities and tensions for policy coherence. On one hand, it allows for the integration of climate considerations into

[274] (Roe 2024)
[275] (Marodon 2022)
[276] (Averchenkova, Fankhauser and Nachmany 2017)
[277] (Dubash 2013)

existing development frameworks; on the other, it can lead to policy conflicts when climate objectives clash with immediate economic priorities.

The challenge of policy coherence in climate governance is further complicated by what Jordan and Huitema identify as the "multi-level governance" nature of climate policy.[278] Climate action requires coordination not only across sectors but also across different levels of government, from local to national to international. This multi-level requirement is particularly challenging for developing countries where institutional capacity may be limited and where different levels of government may have competing priorities or resources. Tosun and Lang's framework for understanding policy integration clarifies these challenges. They distinguish between different types of integration, noting that "horizontal integration across sectors is often more challenging than vertical integration within policy hierarchies."[279] This distinction is particularly relevant for climate policy in developing countries, where ministries responsible for environment, energy, finance, and development may operate with limited coordination and potentially conflicting mandates. The institutional dimensions of climate governance in developing countries are further complicated by what Lockwood terms "policy sustainability" challenges.[280] Unlike countries with established democratic institutions and strong rule of law, developing countries often face greater political volatility that can undermine long-term climate commitments. This volatility can manifest in several ways: changes in government priorities with electoral cycles, limited institutional memory across administrations, and competition between immediate political pressures and longer-term climate objectives.

Falkner's analysis of the post-Paris Agreement climate governance landscape highlights how these challenges have evolved with changing international frameworks.[281] He notes that the shift from top-down, legally binding targets to bottom-up, voluntary commitments under the Paris Agreement places greater emphasis on domestic governance capacity. For developing countries, this shift means that the effectiveness of climate action increasingly depends on their ability to develop coherent domestic policies that can integrate climate objectives with other development priorities. However, comparative analysis of climate policy in different political contexts suggests that developing countries face challenges in what is termed "policy durability."[282] Wheeler argues that effective climate policy requires not only initial political commitment but also sustained institutional support across different government cycles. This requirement for durability intersects directly with policy coherence concerns, as policies that are not well-integrated into broader government frameworks are more vulnerable to being reversed or undermined by subsequent administrations. The governance challenges are further compounded by what Rayner and Jordan identify as the

[278] (Jordan and and Huitema 2014)
[279] (Tosun and Lang 2017)
[280] (Lockwood 2013)
[281] (Falkner, The Paris Agreement and the New Logic of International Climate Politics. 2016)
[282] (D. Wheeler 2010)

"temporal mismatch" between climate policy timescales and political cycles.[283] Climate action requires long-term planning and sustained commitment, often spanning decades, while political systems in many developing countries operate on much shorter cycles. This mismatch creates challenges for policy coherence, as it requires institutional mechanisms that can maintain policy consistency across different political contexts and timeframes.

Conclusion

The above review, although arguably not exhaustive but significant for the purpose of this study, addresses some key relevant gaps and opportunities for this research. This includes:

1. Policy coherence:

The review clearly demonstrates the significant amount of research that exists around policy coherence, including in international development—when considering the concepts of PCD and PCSD. However, such investigation is very limited in the context of the post-2015 agreement and could threaten further progress toward achieving the unique objectives and goals of those agreements. Therefore, leveraging policy coherence for this study presents an opportunity to apply this in a manner that provides HRB economies—particularly in the global south—the ability to examine and implement the post-2015 agreements in a coherent manner. Another important finding is the lack of a universally agreed-upon definition of policy coherence. Although this review did not attempt to address the definitional challenges, the normative value approach, which focuses on ensuring that unique objectives, goals, and consequences of policies are not compromised or are at minimum well-considered, provides a good framing concept for how policy pathways for decarbonizing a sector like oil and gas—particularly in HRB economies—can coherently balance different development objectives. This definitional opportunity operationalizes how policy coherence can be intricately linked to policy integration, with both concepts playing crucial roles in effective governance.

The review also reveals that climate governance in developing countries faces unique institutional constraints that significantly affect the capacity to develop, implement, and enforce climate policies. The multi-level governance nature of climate policy, requiring coordination across sectors and different levels of government, is particularly challenging for developing countries where institutional capacity may be limited. The temporal mismatch between climate policy timescales and political cycles further complicates policy coherence efforts, as climate action requires long-term planning and sustained commitment that often spans decades, while political systems operate on much shorter cycles.

2. Decarbonizing an energy intensive sector—oil and gas:

[283] (Rayner and and Jordan 2016)

The oil and gas sector, accounting for a substantial portion of global emissions, is a critical target for global decarbonization efforts. Hence the socio-economic implication for HRB economies is greater, especially for developing economies. Under this review, I recognize the value of the Deep Decarbonization Pathways (DDPs) as a method that offers a structured approach to achieving significant emissions reductions, emphasizing country-specific contexts and long-term planning. Much like the normative definition of policy coherence—that objectives, goals and consequences of policies are not compromised or at minimum well-considered, one of the principles of DDP suggests that national technical, social and economic priorities and circumstances be explicitly considered.[284] This means that a DDP approach embraces the normative value of policy coherence.

However, the literature on resource dependence and development pathways reveals additional complexities for HRB economies. Extensive research on the "resource curse" demonstrates that countries rich in natural resources, particularly oil and gas, often struggle with sustainable development due to economic distortions, institutional weakness, and reduced incentives for economic diversification. The comparative experiences of Ghana and Nigeria illustrate how different institutional contexts and timing of resource discovery can significantly affect resource curse outcomes. Nigeria's experience serves as a cautionary example of how oil dependence can undermine development outcomes and institutional capacity, creating what can be described as a vicious cycle where oil dependence weakened institutions, which in turn reduced the capacity for effective governance and policy coherence.

Additionally, Africa's oil and gas decarbonization specifically highlights how hydrocarbon endowments create structural impediments to sustainable development transitions in the climate era. The financial vulnerabilities of oil-dependent African economies—evidenced by debt levels that more than doubled in countries like Nigeria between 2007 and 2022—demonstrate how commodity price volatility systematically undermines the stable fiscal conditions necessary for coherent long-term climate and development planning.[285] The technological and institutional barriers identified across multiple African contexts reflect deeper structural challenges, where the high costs of decarbonization technologies, combined with constrained fiscal space resulting from volatile commodity revenues, create conditions that systematically favor continued fossil fuel dependence over diversification strategies.[286] These dynamics create particular challenges for achieving policy coherence between climate commitments and immediate development needs, as governments must navigate competing pressures from international climate policies, domestic development aspirations, and the financial realities of resource dependence.

[284] (Bataille, Waisman, et al., The Deep Decarbonization Pathways Project (DDPP): insights and emerging issues 2016)
[285] (Steadman, et al. 2023)
[286] (Emenekwe, et al. 2022)

3. Policy and technology strategies for decarbonizing oil and gas:

Technologies, such as Carbon Capture, Utilization, and Storage (CC(U)S) and hydrogen production are identified as crucial for decarbonizing the oil and gas sector. However, these technologies face challenges in terms of cost, scalability, and geographical concentration in industrialized countries. Furthermore, although policies such as carbon pricing and regulatory regimes like California's Low Carbon Fuel Standards (LCFS) have shown potential in driving emissions reductions and behavioral changes, such policy innovations may not necessarily be appropriate for many HRB developing economies—driving home the notion that country context is key. Additionally, institutional behaviors, including the perceived risk and opportunities associated with policies for institutions—national and international actors, plays a significant role in shaping climate action and economic policies in many countries. These technological and innovative policies highlight the practical policy options that should be enabled during the policymaking process, particularly in HRB economies in the global south. It also highlights the dilemma faced by such countries as they seek to adopt policies and technologies that address both domestic and international priorities around climate change and sustainable development.

The review of climate finance and implementation challenges reveals additional barriers to effective technology deployment and policy implementation. Fragmented climate finance delivery creates coordination challenges that can overwhelm limited institutional capacity and undermine recipient countries' ability to develop coherent climate strategies. The failure to deliver on climate finance promises has created uncertainty that undermines developing countries' ability to plan integrated climate and development strategies, forcing countries into short-term, fragmented approaches rather than enabling the long-term, coherent planning necessary for effective climate action. The definitional ambiguity around climate finance creates challenges for tracking and coordinating financial flows, further undermining developing countries' ability to plan integrated climate and development strategies.

Empirical evidence from Africa demonstrates that institutional capacity is an important barrier to project financing and implementation for climate mitigation projects. Countries with higher institutional capacity scores consistently demonstrate better performance in implementing climate finance projects, suggesting that institutional strengthening can have measurable impacts on climate finance absorption. This finding underscores the critical importance of governance quality in determining the effectiveness of technology deployment and policy implementation efforts.

To recapitulate, although this review by no means settles the definitional challenges of policy coherence, the opportunity to narrowly offer definition that helps understand its purpose and operationalizes its conceptual application to deliver on the unique objectives and goals of the post-2015 agreements, is at minimum commendable. In the end, the path to decarbonization for HRB economies, particularly those in sub-Saharan Africa, will require careful navigation of competing priorities and potential

trade-offs that extend beyond technical and financial considerations to include fundamental questions of resource dependence, institutional capacity, governance quality, and development pathways. The resource curse suggests that oil dependence can systematically undermine the institutional capacity and political incentives necessary for integrated policymaking, creating what can be termed ***coherence traps*** where resource wealth paradoxically reduces the capacity for effective policy coordination. However, these outcomes are not inevitable, and that countries with better institutional foundations and more proactive policy approaches may be better positioned to manage resource wealth in ways that support rather than undermine policy coherence. Additionally, climate governance highlights that effective climate action in developing countries is necessarily embedded in broader development narratives, creating both opportunities for integration and potential conflicts when climate objectives clash with immediate economic priorities. The multi-level governance requirements of climate policy, combined with institutional constraints and temporal mismatches between climate and political timescales, create challenges for maintaining policy coherence across different sectors and levels of government.

Ultimately, by embracing policy coherence as a guiding principle, these countries can chart a course that addresses their most pressing development challenges while contributing to global climate goals. African energy systems requires approaches that are specifically adapted to country contexts rather than simply imported from other regions, echoing the DDP principle that national technical, social, and economic priorities and circumstances must be explicitly considered. By addressing the gap in policy coherence and leveraging relevant opportunities—via coherent policies, integrated climate finance approaches, and context-specific technological solutions—HRB economies can develop more effective, coherent policies that balance their development needs with global environmental commitments while building the institutional capacity necessary for long-term sustainable development.

Chapter III: Research Questions and Methods

Introduction

This chapter covers the research questions and methods. Both chapter 1 and II provides a good comprehensive analysis of the complex interplay between policy coherence, decarbonization efforts, and the unique dilemma faced by hydrocarbon resource based (HRB) economies, particularly those in the global south like sub-Saharan Africa. It underlines the need for a nuanced approach that balances economic development with environmental sustainability, while considering the specific contexts of these nations—as spelled out in the principles of Deep Decarbonization Pathways (DDPs). Given the identified gap in policy coherence in the implementation of the post-2015 agreements and noting the challenges in global progress toward the aims and objectives of both agreements thus far, it becomes crucial to frame research questions that can guide a deeper exploration of the coherence of the agreements and leads to options to mitigate challenges in sub-Saharan Africa oil and gas dependent economies.

Research Questions

The following research questions—Table 1, thus, aims to address the core challenges related to policy coherence of the Paris Agreement and the SDGs, along with potential options to addressing coherence gaps for HRB economies in sub-Saharan Africa—using Ghana and Nigeria as a case study—as they navigate the transition towards a low-carbon future while maintaining coherence with sustainable development priorities.

Table 1: Research Questions and Methods

Category	**Research Question (RQ)**	**Methods/Approach**
Policy implementation/mapping	**RQ1**: How are countries in Sub-Saharan Africa addressing climate and development agenda in policy and governance?	Content analysis Structure analytic techniques (SATs)
Barriers and Gaps	**RQ2**: What specific gaps and barriers exist that impede or supports transition away from hydrocarbons?	Case study PNA SATs ‘*Apply insights from case study to answer RQ2’*
Options for coherence	**RQ3**: What options are available to support coherence of climate ambitions and	*‘Apply insights from the first two research questions in a discussive approach’*

	sustainable development?	

The first research question; how are countries in Sub-Saharan Africa addressing climate and development agenda in policy and governance? maps, at a high level, conceptually aligned SDGs and Paris Agreement policies across the sub-Saharan African region. It identifies these policies across the 48 countries in the region using content analysis and validating those policies via structured analytic technique approach. The strength of this question lies in its emphasis on policy and governance. As already noted, the concept of policy coherence is crucial for effective governance, especially in the context of the post-2015 agreements. This question is also an entry to further examine—at the case study level—the institutional dynamics and capacities, which were identified as key factors in shaping decarbonization strategies. It generally provides a high-level opportunity to understand the trend of policy coherence—or not—between the post-2015 agreements in the region and the associated rationale.

The second question leverages the case study and policy network analysis (PNA) method to do a deeper examination on the two selected countries, Ghana, and Nigeria: to identify the differences and similarities in governance and policy process. The focus is to understand what barriers and gasp exist that impede or support transition away from hydrocarbons? It underlines that transition away from hydrocarbons for these countries is not straightforward, and factors into consideration the country context and their respective long term development aspirations—two common principles of the Deep Decarbonization Pathways (DDPs). By inquiring about "specific gaps and barriers," it encourages a detailed, granular analysis of the two countries faced by these countries. Additionally, by including factors that might "support" the transition, this question encourages the possibility of identifying positive elements that could be leveraged or replicated—thus leading to question three: What options are available to support coherence of climate ambitions and sustainable development?

This final question brings to together the themes of this study neatly by reinforcing the value of policy coherence in governance, the acknowledgement of the post-2015 agreements as integral to policymaking and implementation for many HRB countries in sub-Saharan Africa, and the consequential trade-offs that they face. It is suited because it focuses on solutions and opportunities, rather than just identifying problems. By asking about "options," it helps in identifying relevant framework or approaches that could enable a seamless transition with core regard for development aspirations.

Together, these questions provide a solid ground for this study to study meaningfully contribute to existing body of research on policy coherence, and more importantly, to the role it can play in advancing the goals and objectives of the post-

2015 agreements, particularly for HRB economies in the sub-Saharan African region. It offers such countries options to navigate the complex landscape of decarbonization while pursuing sustainable development.

Methods

This study adopts Mayring's definition of mixed-method approach; that is using qualitative content analysis (QCA) as it is inherently a mixed method approach containing both quantitative and qualitative steps of analysis.[287] The adoption of a mixed method approach to this research also stems from the nature of the research questions and components under study—mostly involves examination of policy documents and institutional interventions and behaviours that has social and economic implications. Additionally, the use of this methodological approach moves one away from simply theorizing and encourages an actual examination of actual economic system by effectively exploiting "evidence not accessible through statistical methods, evidence that is especially important for institutional analysis."[288]

As noted, the preferred method for this study is a qualitative approach given that the data assessed is mostly in text and the fact that qualitative methods are adopted in economic research areas that involves understanding institutions and social and environmental issues, such as poverty, environmental interventions, technological diffusion, etc.[289] To further strengthen the basis of the methodology selected in this study, it is important to consider several attributes:[290] is the nature of reality either objective or subjective? Is the relationship between the researcher and research objective independent or interactive? Is the language formal or informal? Is the research process deductive and focused on the cause and effect or is inductive with factors which mutually influence one another? Context dependent or not? Focus on explanation and prediction or regularities and theories built for understanding? And finally, is it evaluated in relation to validity and loyalty or for verification? Table 2 below adapts the work of Jemna to reiterates the value and relevance of qualitative research to exploring the research questions to this study.

Table 2: Qualitative/Quantitative Attributes of Research Questions (Adapted from Jemna, 2016)

Research Questions	**Important Attributes**	**Attributes Leaning: Quantitative (Quant) or Qualitative (Qual)**
How are countries in Sub-Saharan Africa addressing climate and development	It is subjective; value judgement; have factors that are mutually influencing each other, such as	Qual/Quant

[287] (Mayring, Qualitative content analysis: theoretical foundation, basic procedures and software solution 2014), 6
[288] (Shirley 2020), 429, 430
[289] (Starr 2012), 238
[290] (Jemna 2016), 156

objectives in policy and governance	institutional behaviours, and research process is inductive. It is also objective, requiring validation and formal examination of language with a deductive approach.	
What specific gaps and barriers exist that impede or supports transition away from hydrocarbons?	Is subjective, looks for interactions, value judgements, is context dependent, and looks at regularities and theories to build understanding.	Qual
What options are available to support coherence of climate ambitions and sustainable development?	Context dependent, looks for interactions, evaluated for verification, looks at regularities and theories to build understanding,	Qual

Content Analysis

Content analysis is a research technique that is considered good for discovering and describing "the focus of individual, group, institutional, or social attention;" and "useful for examining trends and patterns in documents."[291] It can be an effective process to "identifying and labelling conceptually significant features in text, referred to as 'coding'."[292] It provides a systematic and objective way of both describing and quantifying phenomena.[293] It is also considered a highly flexible methodology as it can be used within the context of quantitative or qualitative research, mixed approaches; and it "employs a wide range of analytical techniques to generate findings and put them into context."[294]

As a technique, it began as an exclusive approach for quantitative analysis—positivistic paradigm—but gradually shifted from a "counting game to a more interpretative approach within the qualitative paradigm."[295] Although there is no single definition of content analysis, the need to satisfy the basic principles of a scientific approach has led to the development of a number approach that has resulted in a few definitional frameworks. Berelson describes content analysis as a research technique for an objective, systematic, and quantitative description of the manifest content of communications; where objectivity mean creating precise categories of analysis, which other research could apply to the same content and obtain the same findings.[296]

[291] (Stemler 2000), 1
[292] (Yan, McCracken and Crowston 2014), 1128
[293] (Elo and Kyngäs 2008), 108
[294] (White and Marsh 2006), 41
[295] (Graneheim, Lindgren and Lundman 2017), 29
[296] (Berelson 1971)

However, a weakness is that content analysis lies in quantification as an expression of the objectivity of scientific knowledge. The requirement for quantification does not necessarily represent the marking of analytical categories with numeric values; rather, terms that express quantity or frequency (less, equally, more, sometimes, often, always, etc.) can be used instead. However, this quantification is less precise and only refers exclusively to the content of the message; meaning that valid conclusions can be reached about the motives and intentions of the sender of the message and its presumed effects on the recipients. Still, it is the separation of the content from the form of the message, that raises concerns about this definition and approach.[297]

On the other hand, Krippendorff emphasizes that the goal of applying content analysis is to describe the content of the communication and find out about the characteristics of the message's source. Thus, content analysis can be redefined as replicable and valid methods to draw specific conclusions from a text according to other states or properties of its source.[298] Replicability means obtaining the same results when the same procedure is applied to the same experiential material. Validity means supporting research findings independently of the available records. Weber on the other hand argues that content analysis is a research method that uses a set of procedures to draw valid conclusions from a text.[299] Conclusions may relate to the content of the studied message, its transmitter and receiver, and the rules of inference are conditioned by the theoretical and other interests of the researcher.[300] Mayring provides a qualitative thinking approach to content analysis; that content analysis implies an “approach of empirical, methodological controlled analysis of texts within their context of communication, following content analytical rules and step by step models without rash quantification.”[301] Kohlbacher, like Mayring sees the value in qualitative content analysis and provides the following comparison to quantitative based approach to content analysis:

> In fact, with its rule-based logic and methodologically controlled step-by-step procedures of analysis it manages to combine the advantages of classical quantitative content analysis with a qualitatively oriented approach taking also context and other important points into consideration. Therefore, qualitative content analysis can be viewed as a comprehensive approach to data analysis, which seems to be especially suitable for case study research. It can certainly contribute to adding and enhancing rigor, validity, and reliability of case study research.[302]

To Kohlbacher, content analysis is a qualitatively oriented method that systematically analyses texts and other content. The subject of qualitative content analysis can be all

[297] (Krippendorff 2018)
[298] (Krippendorff 2018)
[299] (Weber 1990)
[300] (Weber 1990)
[301] (Mayring, Qualitative Content Analysis 2000), 2
[302] (Kohlbacher 2006), 28

forms of recorded social communication, verbal, visual and acoustic, such as documents, interview transcripts, agreements, contracts, policies, etc. The analysis is based on the classification system developed based on experiential research material, but the relevant theory also guides it. Its use is suitable in research that is focused on the appropriate theoretical understanding.

Hsieh and Shannon also note content analysis as a widely used qualitative research method.[303] The authors—applying the technique in health studies, identify three types of content analysis: conventional, directed, and summative content analysis. By conventional, Hsieh and Shannon describe "a study design whose aim is to describe a phenomenon…" primarily used when existing literature or theory is limited on the phenomenon.[304] Directed content analysis on the other hand is applied when there is some information based on literature or theory, but it is incomplete or "would benefit further description."[305] Lastly, summative content analysis, points to the identification and quantification "certain words or content in text with the purpose of understanding the contextual use of the words or content."[306] They conclude that the use of the type of analysis requires a researcher to understand the purpose of his or her research purpose and the literature or theory behind it.[307]

Within international policy, content analysis is frequently used. Post-World War II gave a strong impetus for the development of content analysis, during which political propaganda was mostly studied. Larson examined content analysis problems in foreign-policy research using data from studies of the origin of the Cold War belief system. By applying content analysis, the author tried to determine the environment of policymakers, their interpretations of policies and the effects of the environment on policymakers' beliefs.[308] Larson applied content analysis to historical documents and determined the time and direction of changes in the beliefs of American policymakers about the Soviet Union. She noted that problems are likely to arise in verbal content studies to infer cognitive variables. This includes the lack of applicable theoretical categories, and difficulties in presenting both replicable and valid conclusions about people's beliefs, and the task of confirming inferences for psychological constructs.[309]

Howland, Becker, and Prelli also provide an approach to merging content analysis and policy science by bridging "a surprising methodological gap between two time-honoured research traditions— news media content analysis and the policy sciences analytic framework.[310] The authors analysed 90 national newspaper articles on the stratospheric ozone hole. After that, the authors compared the applied system with other systems used to review the news content. They argued that their system is better

[303] (Hsieh and Shannon 2005), 1277
[304] (Hsieh and Shannon 2005), 1279
[305] Ibid., 1281
[306] Ibid., 1283
[307] Ibid., 1287
[308] (Larson 1988)
[309] (Larson 1988)
[310] (Howland, Becker and Prelli 2006)

at fulfilling science's promises to politics by using a categorical coding system that draws, in part, from the work of Harold Lasswell—known for making a significant methodological contribution in the field of policy study.[311] Howland, Becker, and Prelli describe the categorical coding system as an enabler for human coders to do the following:

> Identify arguments in news articles bearing upon a specific policy problem and solutions to solve it; assess the direction of the arguments relative to a specific set of policy goals and principles; categorize the content of the arguments; note the stakeholders linked to the argument; and sort the arguments for relevance to one or more of five dimensions of the policymaking process that we call policy issue criteria.[312]

From their perspective, there is "no content analysis methodology with similar structure or purpose and none that unified the above elements of coding direction, substance, stakeholders and relevance to dimensions of the policy process."[313] On the challenges of applying this methodology, Howland, Becker, and Prelli argue that the findings can inherently be manipulated, wittingly or not; and the method itself does not represent what happens in the real world as it is "rigged to reduce complex ideas into neat little boxes for analysis."[314]

The evolution of technology in scientific research methods, particularly in advancing the use of content analysis is also worth highlighting. Modern computers and the evolution of text analytics within data science has proven effective and suitable for large-scale research. Kaefer, Roper and Sinha notes that many scholars have discussed the advantage and disadvantages of the use of qualitative data analysis software packages (QDAS).[315] They highlight its effectiveness in managing and organizing data as well as the ability to search and model while making new insights clearer.[316] On the other hand, they assert that critics:

> lament the high financial cost of some software packages and the considerable time and effort required to learn them, and that they might entice the researcher to put too much trust in the tools provided, thereby potentially generating unrealistic expectations.[317]

Perhaps, most relevant to this research is the distinction they make between qualitative data analysis (QDA) and qualitative content analysis (QCA). They argue that a major difference between the two is that QDA focuses on the "significance of observations, aiming for interpretations that do justice to a whole body of texts;" and QCA on the other hand "takes a somewhat more pragmatic approach by including quantitative

[311] Ibid., 206
[312] Ibid.
[313] Ibid.
[314] Ibid., 228
[315] (Kaefer, Roper and Sinha 2015), 4
[316] (Kaefer, Roper and Sinha 2015), 5-6
[317] Ibid., 6

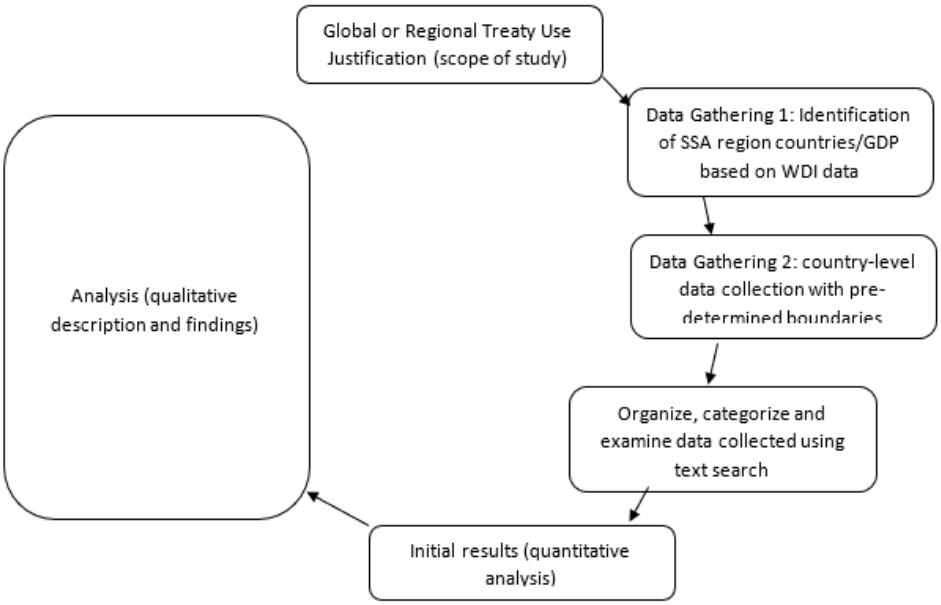
aspects."[318]Additionally, QDAs tend to suit a sole researcher, compared to QCAs that often require several researchers to be involved due to the structured approach—including the application of double coding as a means to underscore analytical reliability.[319]

Finally, Mayring provides further theoretical foundation, basic procedure, and software solution to qualitative content analysis. Mayring asserts that there are two main reasons to apply computer programs to qualitative content analysis. The first focuses on the nature of text files today—making it easy to transfer and use text files in software programs; and second, given that computer programs are good at structured design of analysis and QCAs tend to follow "systematic, controlled, step-by-step sort of text analysis, it could be helpful to use it.[320] However, the role that computers play in the QCA process compared to a pure quantitative analysis, is the fact that the researcher is still responsible for interpretation.[321] The computer is supposed to assist the researcher by organizing materials, steps of analysis and the rules for interpreting and the results; it provides a documentation centre for the analytical process and provides an important mechanism for reliability check in case of any reconstruction; and finally "the computer can prepare the results of analysis for further quantitative processing," if needed.[322] There are limitations to any methodological approach or enhancements, including the fact that some of the computer programs used in QCAs often are developed from grounded theory and some are also "constructed in a window design; that is, the "screen is divided in different windows (e.g. a window for the texts, a window for the codes, a window for the memos)."[323]

In this research, I argue that taking a QDA approach makes sense as there is a sole researcher. This means much of the focus is on making significant observations with the purpose of interpreting an entire body of text—e.g., policy instruments and institutional directives. To answer the first research question and a major part of the second research question—data collection and analysis for case study, wholesomely, I follow the process described in Figure 8 below, and partly captured in Appendix V—process for data collection. This exercise surveys conceptually aligned SDGs and climate change policies across the sub-Saharan region, including key themes, sectors, and institutional responsibilities. The process shown in Figure 8 below highlights the "iterative process of superficial examination (skimming), through examination (reading), and interpretation," with emphasis on thematic analysis"—referring to "identifying and interpreting, or 'extracting', patterns of meaning in the data."[324]

[318] Ibid.,
[319] Ibid.
[320] (Mayring, Qualitative content analysis: theoretical foundation, basic procedures and software solution 2014), 116
[321] (Mayring, Qualitative content analysis: theoretical foundation, basic procedures and software solution 2014), 116
[322] Ibid., 117
[323] Ibid.
[324] (Mackieson, Shlonsky and Connolly 2018)

Figure 8: Process for Data Collection and Analysis



Adapted from the work of Mckieson, Shlonsky and Connolly, 2018

Case Study

Asking for the definition of case study as a qualitative research technique can lead to varying responses.[325] Perhaps, the most relevant dichotomy of what is a 'case' is "whether they are seen as involving empirical units or theoretical constructs; and whether these, in turn, are understood as general or specific."[326] The theoretical construct is equivalent to the philosophical thinking of nominalist, where a case is a product of theories or convention; and the empirical view is that of a realist, where a case is "given or empirically discoverable."[327] On whether a case is general or specific, Ragin and Becker provides a fourfold division of case conceptions. Under empirical views, cases are either *found*—that is they are specific and determined during a research process; or are *objects*—that they are general and often based on existing literature.[328] The theoretical views have two conceptions: that cases are *made*—which is "specific theoretical constructs which coalesce in the course of the research—or cases are *conventions*—that is they are general and the "products of collective scholarly work and interaction and therefore as external to any particular research effort."[329] In Gerring's book, *Case Study Research: principles and practices,* he notes that the most experts view case study approach with "extreme circumspection."[330] He argues that the product of a good case study is the insights it produces.[331]

[325] (Ragin and Becker 1992)
[326] (Ragin and Becker 1992), 8
[327] Ibid. 8
[328] Ibid. 10
[329] Ibid. 10
[330] (Gerring, Case Study Research: Principles and Practices 2006), 5-6
[331] (Gerring, Case Study Research: Principles and Practices 2006), 7

Similarly, Yin shares that case study provides a research with an opportunity to glean for more insights and that it is a way to (a) explore, (b)explain or (c) describe context and various factors that affect the subject or phenomenon under study.[332] An important part of Yin definitional framework—the twofold definition of a case study as a research method, is the scope and features of a case study. He describes the scope as an empirical method that is designed to investigate and understand the real world "and assume that such an understanding is likely to involve important contextual conditions pertinent to [the] case."[333] The features include coping with technical distinctive situations, benefiting from prior development theoretical propositions, and relying on multiple sources that must eventually come together.[334] This study takes the theoretical construct approach with the idea that cases are 'made'—citing the work of Ragin and Becker. This is because this research already takes a nominal definitional approach to coherence, and additionally, adopts general scholarly conventions of global agreements, responsibilities of states and the different actions or concepts that could result in decarbonisation. The goal is to generate different instances of coherence or lack of coherence in policy and implementation in countries that are heavily dependent on oil and gas. This leads to a subset of countries based on a set of common or universal characteristics and helps generate better generalisation. This approach involves a diagnostic analysis of sources of documents, such as policies, legislations, and other instruments to "describe context and various factors that affect the subject or phenomenon under study."[335]

A major of concern for case study research is generalization. According to scholars like Gomm, Hammersley and Foster, "generalization is not an issue that can be dismissed as irrelevant by case study researchers."[336] They argue there are two ways to draw general conclusions; theoretical inference, referring to conclusions about what likely happens in certain theoretical boundaries; and empirical generalization, which is making conclusions based on "inferences about features of a larger but finite population of cases from the study of a sample drawn from that population."[337] In a nutshell, they encourage case study researchers to make a case for the general relevance of their work and note that "case study involves generalization within the case(s) investigated."[338] Another criticism of case study approach is that it lacks robustness—which can often lead to challenges in generalizing as noted above; hence the importance of crafting the design of case studies in a manner that is systematic and replicable.[339] Not having a good systematic and rigorous approach to case selection can lead to critiques opining on the biases in choosing samples. Because case study is a

[332] (Yin 2017), 36-37
[333] (Yin 2017), 43-44
[334] Ibid.
[335] (Yin 2017), 36-37
[336] (Gomm, et al. 2009)
[337] (Gomm, et al. 2009)
[338] Ibid.
[339] (Zainal 2007), 2

form of comparative research approach, its strength is partly dependent on how it builds concepts, theories and identifies causal mechanisms.[340]

The type of case study a researcher embarks on is has many dependencies that affects the rigor and quality of outcome. This is particularly significant when thinking of how to design case study research. Cunningham provides some insights into the principles for different types of cases, noting that there are three different types of case studies.[341] First, intensive cases, where a researcher develops theory from an intense exploration by understanding real setting and then identifying explanations or interpretations as well as comparisons with existing theories.[342] Such cases use approaches like narratives, tabulation, explanatory and interpretative analysis.[343] Second is the comparative cases. Cunningham describes this as the development of concepts based on comparison—usually by comparing one case to another.[344] This essentially leads to more useful theories as researcher focus on "testing the soundness of concepts" instead of performing in-depth work on a case; and it uses analytical approaches such as case surveys, interpretative and comparisons.[345] Lastly is the action research type of cases. This involves the development of concepts that help the process of change, as theory emanates from the change process itself.[346] Cunningham argues that the ideal situation is where the theory "assist practices and future social science."[347] Some of the analytical techniques includes experimental and diagnostic.[348] In this study, the goal is to provide a framework that supports practice as described under Cunningham's action research case type and by comparing once case to another—comparative cases.

Yin's approach to case study is widely acknowledged and utilized. He highlights the five components of a research design; case study questions, propositions (if any), case(s), the logic linking data to propositions, and the criteria for interpreting findings.[349] He notes that a good case study (a) answers how and why questions, (b) the research is unable to control behaviour of events, and (c) focuses on contemporary issues instead of "entirely historical events."[350] To follow Yin's approach to planning a case study research, this study answers a 'how' question, has no control over behaviour of events, and tackles a contemporary discussion—the implementation of climate and sustainable development agendas (see Table 4). The next is proposition. This, according to Yin, "directs attention to something that should be examined within the scope of the study."[351] In this case, this research is attempting to uncover the coherence

[340] (Bloemraad 2013), 29
[341] (Cunningham 1997), 403
[342] (Cunningham 1997), 403-404
[343] Ibid.
[344] Ibid.
[345] Ibid.
[346] Ibid.
[347] Ibid.
[348] Ibid.
[349] (Yin 2017), 54-55
[350] (Yin 2017), 40-41
[351] Ibid., 55-57

or not of two specific global agreements at the national level and what policies/institutional mechanisms are at play in that process. Identifying the case is about defining and setting the boundaries for the case.[352] The case is countries in sub-Saharan Africa with established and evolving democracies that allow for both political discourse and legislative instruments as well as institutional players (both public and private sector). Perhaps, the most relevant dichotomy of what is a 'case' is "whether they are seen as involving empirical units or theoretical constructs; and whether these, in turn, are understood as general or specific."[353]

The linkages of data to propositions are the analytical steps, and in this study, I utilize the policy network analysis (PNA) approach described later in this section. The criteria for interpretations rely on both the PNA and structured analytic techniques (SATs)—also described further in this section. Yin also argues that four test/conditions common to most social science methods are necessary to empirically judge quality: construct validity—valid operational measures, internal validity—for exploratory or causal studies looking for causal relationship, external validity—showing how findings can be generalized, and lastly reliability—showing the process including data collections can be repeated with same results.[354]

The formulation of a good case study queston is one of Yin's five components of a research design when looking at case study research. The table below—Table 3—highlights that the research questions under study here meets the attributes of a good case study question as provided by Yin.

Table 3: Yin's Approach to Research Design: Case Study Questions

Case Study Questions Component Attributes	Applied to this study
(a) Answers 'How' and 'why' questions	How are countries in Sub-Saharan Africa addressing climate and development objectives in policy and governance?
(b) Unable to control behaviour of events	Yes, this study has no control over behaviours and outcomes of events
(c) Focuses on contemporary issues instead of entirely historical events	Yes, this research primary focus is on climate change and sustainable development—highly important global issues. Historical events are factors (data) in answering the research questions.

The central tenet of the research question focuses on the policy coherence of sub-Saharan African countries in relation to the Paris Agreement and the SDGs; hence the

[352] Ibid
[353] (Ragin and Becker 1992), 8
[354] (Yin 2017), 69-71

importance of a country case study approach to perform an in-depth inquiry into domestic policies and institutional settings as it relates to decarbonizing the oil and gas sector. This approach also provides a means to use national context as part of a cross-country analysis and to ascertain detailed insights about each country that are unique and also different; including a prism to examine policy and institutional systems that exist in each country and could be used to validate some of the conclusions drawn from the sub-regional level data above.

The case study selection can largely be considered a diverse descriptive case study as it "focuses on several cases [in this case two primary cases] that, together, are intended to capture the diversity of a subject"[355]; but also, the potential outcome, which indicates a use of causal case study approach as well. These points noted above both addresses Yin's propositions and case(s) components of a research design. Some of the elements used in the selection of the countries (Ghana and Nigeria) under study are highlighted in Appendix II: Case Study Selection. The logic linking data proposition is applied via the PNA approach, and the criteria for interpretation leverages both the PNA and SATs (see Appendix III).

Structured Analytic Techniques (SATs)

SATs, are set of analytical techniques/frameworks designed to improve analytic thinking,[356] and they help reduce common biases in analytical work and decision making.[357] The tools and techniques codified under SATs are often used in the intelligence communities by intelligence analyst to address cognitive biases and capacity limitations.[358] They provide a means to challenge assumptions, develop alternative hypotheses, tackle inconsistent data, identify key drivers to explain events and "foretell what is about to happen, and "to stop and reflect on the overarching context for the analysis."[359] In the United States, the use of the techniques is said to be required by Intelligence Reform and Terrorism Prevention Act of 2004.[360] SATs reportedly first emerged in the 1970s as a set of methods called "alternative analysis."[361] It became what is now SATs in 2005—post-9/11 events, and taught in the "[Defense Intelligence Agencies] Professional Analyst Career Education (PACE) program and other [Intelligence Community] training courses (focusing on techniques used by individuals or small teams as opposed to prediction markets, crowdsourcing, and war-gaming)."[362]

There is not a large body of academic evidence to the extent of its effectiveness—obviously noting the secrecies to many intelligence agencies and what the public need to know. However, there are reported studies that have highlighted

[355] https://www3.nd.edu/~ggoertz/sgameth/Gerring_Cojocaru2016.pdf
[356] (van Gelder, et al. 2020)
[357] (Pherson 2019), 5
[358] (van Gelder, et al. 2020)
[359] (Pherson 2019), 6
[360] (van Gelder, et al. 2020)
[361] (Chang, et al. 2018)
[362] (Chang, et al. 2018)

some of its effectiveness. According to Coulthart, a systematic review of 261 studies that were sampled from about 1,629 studies based on the use of 12 SATs, showed 45 studies that applied 6 out of the 12 techniques: devils advocacy, analysis of competing hypotheses (ACH), brainstorming, alternative futures analysis, red team analysis, and team A/team B; "found mixed support for the claim that the techniques improve analysis, suggesting that SATs are not a panacea, though they can provide tangible benefits to analysts."[363] Additional claims of its benefits, includes the potential to often reduce the "frequency and severity of error in assessments and estimates," ability to help organize complex evidence, combined with its ability to provide rigor, transparency and a logically sound process and reasoning to analysis.[364] On the other hand, some of its potential weaknesses include that,

> [it] fail to address (a) the inherently bipolar nature of cognitive biases and the omnipresent risk that well-intentioned attempts to reduce one bias, say, over-confidence, will amplify its opposing bias, under-confidence; (b) the cumulative nature of error in multi-stage assessments, in which the noise in the conclusions from the one stage gets fed into the next—and the risk that well-intentioned efforts to reduce noise by decomposing complex judgments into sequences of simpler ones will make those judgments less, not more, consistent—an oversight we call noise neglect.[365]

To improve the technique and its efficiency, some have argued for it to be modelled after the medical profession—that is "develop standards to professionalize the field.[366] An approach includes developing an evidence-based analysis that follows an orderly systematic form of review.[367]

The CIA tradecraft primer on SATs breaks the techniques into 3 categories: the diagnostic, contrarian, and the imaginative thinking techniques.[368] The diagnostic techniques are designed to make "analytic arguments, assumption, or intelligence gaps more transparent," this includes techniques such as key assumptions check (KAC), quality of information check, indicators or signposts of change, and analysis of competing hypotheses (ACH).[369] The Contrarian techniques are designed to challenge existing thinking; this includes the devil's advocacy, team A/team B, high-impact/low-impact probability analysis, and "what if" analysis.[370] Lastly, the imaginative thinking techniques are aimed at "developing new insights, different perspectives and/or develop alternative outcomes."[371] The techniques include the following: brainstorming, outside-in

[363] (Coulthart 2017)
[364] Ibid.
[365] Ibid.
[366] Ibid.
[367] Ibid.
[368] (U.S Government 2009)
[369] (U.S Government 2009), 7-15
[370] Ibid., 17-24
[371] Ibid., 5

thinking, red team analysis and alternative future analysis.[372] However, a more expansive set of tools/techniques under SATs have been developed by Pherson. He breaks SATs into 5 distinct techniques; (1) the exploration techniques, which emphasizes on gathering and understanding data but also in expanding thinking, "discovering gaps, linkages and relationships;" (2) the diagnostic techniques which takes data and logic to effectively describe what has happened or happening; (3) reframing techniques allows a researcher or analyst to consider different alternatives; (4) foresights analysis techniques helps in gaining early warnings and reducing bad outcomes by anticipating and tracking future scenarios; and (5) decision support techniques help "decision makers identify optimal policies and preferred strategies to mitigate problems and capitalize on new opportunities."[373] Appendix II breaks down the various techniques/tools under each distinct grouping.

The use of SATs in this study is justified by two reasons: first, the research questions require the gathering, understanding and interpretation of data by a sole researcher. Relevant techniques help address some of the biases and pitfalls of independent research. Second, it provides a transparent and rigorous framework that is often a critique of many qualitative research methods, such as content analysis and case study.

In this study I adapt key assumptions check (KAC) technique—see Appendix IV: SATs Breakdown. This technique provides a systematic way for research to interpret evidence and provide the underlying rationale. The SAT is used across all three-research question by simply referencing existing evidence to validate an argument without necessarily using a tabulated structure to do so.

Policy Network Analysis (PNA)

PNA is a form of social network analysis.[374] Social network analysis conceptualizes actors (individuals or groups) as points and the relationship that exist amongst them as lines; hence, the goal is to study the "patterns formed by the points and lines and involves exploring these patterns, mathematically or visually, in order to assess their effects on the individuals and organizations that are member of the 'networks' formed by the intersecting lines that connect them."[375] In simple terms, social network analysis provides researchers with the needed theories and approach that enables them to study the "structural relations among social actors and for explaining the consequences of those connections."[376] The benefit of PNA is that it provides a framework to "understand how relationships between actors involved in policy-making determine the outcomes of collective policy decisions."[377] It is well suited for this study as it is a well-established approach for examining policy-making processes and the

[372] Ibid., 27-34
[373] (Pherson 2019)
[374] (Wu and Knoke 2012), 153-154
[375] (J. Scott 2012), 1
[376] (Wu and Knoke 2012), 153
[377] (Wu and Knoke 2012), 153

dynamic relationships between various actors and the issues at stake.[378] The use of it in this study for policy coherence and implementation of the SDGs and climate change is backed by the fact that some scholars believe:

> cross-sectoral policy integration and integrated natural resource management are increasingly regarded in both policy and scientific communities as promising governance and management principles in the endeavour to achieve sustainable development in general and in tackling climate change and degradation of natural resources in particular.[379]

Arguably, like many other qualitative approaches to social science studies, PNAs does come with its own set of critiques as a methodology. Some scholars have argued research has often failed to "develop testable theories of both policy development and outcomes;" that the "discourse of policy network theory is not only merely descriptive, but more importantly that the precise definitions of many concepts in policy network research have not been agreed upon universally by the scholars conduction this research;" and confusion around "whether policy networks should be treated as dependent or independent variables."[380] However, there has been some evolving approaches to addressing some of the shortcomings that some scholars point out. For instance, the lack of theoretical grounding in PNAs has led to some researchers proposing the concept of political capital as the equivalent of social capital in network analysis or the inclusion of advocacy coalition framework (ACF)—which "assumes that actors cooperate with allies who share similar policy preferences and outcomes" and allows for policy changes to be explained.[381] Furthermore, the critique that PNAs are note effective for explaining, causal generalizations and ultimately advice to policy-makes is addressed by the use of decentered research methods such as textual analysis—which is primarily the instruments used for analysis in this research, and ethnography; allowing "researcher to understand meaning behind traditions of networks..."[382] Both ACF and the decentered approach is recognized by Rhodes as an effort to address the examining of change in PNAs.[383] Another approach is the dialectical model, which is that "change is a function of the interaction between the structure of the network and the agents operating in its, the network and the context in which it operates, and the network and policy outcomes."[384]

According to Rhodes, existing literature on how policy network is used can be grouped into three different ways: description of how governments work, the theory of

[378] (Dowding 1995)
[379] (Baulenas, Kruse and Sotirov 2021), 432
[380] (Wu and Knoke 2012), 158-159
[381] (Wu and Knoke 2012), 161
[382] Ibid., 161
[383] (Rhodes 2008), 436-437
[384] (Rhodes 2008), 437

analysing government policy making, and finally a prescription of reforming public management.[385] Table 4 below summarizes his literature on policy network analysis.

Table 4: Rhode's: Three Main Ways Scholars Use Policy Networks[386]

Network Type Use	Sub-domain	Summary
Description of governments at work	Interest of intermediation	Focuses on subgovernment, primarily from American pluralism. E.g., "the iron triangle"—central government, congressional committee, and interest groups. Other attributes include the concept of policy communities—limited participants with exclusions.
	Interorganizational analysis	Unlike the American pluralism, this is of European literature; with emphasis on the "structural relationship between political institutions as the crucial element in policy network rather than the interpersonal relations between individuals in those institutions." E.g., is the concept of "organizational state"—blurred lines between state and society.
	Networks as governance	Argues that policy networks lie in the "sharing of power between public and private actors, most commonly between business, trade unions, and the government in policy making. E.g., this includes concepts such as "the negotiated economy", corporate pluralism, and of late, the state and civil society groups.
Policy network as theory (three geographical schools of thoughts: Britain, rest of Europe, and USA)	Power dependence	Sees networks as "sets of resource-dependent organizations," that is "any organization is dependent on the other organizations for resources," and "to achieve their goals, the organizations have to exchange resources." A key attribute is the that the relations are treated as a game—built on trust and regulated by rules—with 'advantage' being the goal; and the networks have "significant autonomy from government."
	Rational choice	This is a combination of rational choice and the new institutionalism to produce "actor-cantered institutionalism." This often consist

[385] (Rhodes 2008), 426
[386] Ibid.

		of a stable set of mainly public and private corporate actors, and the rules focuses on bargaining and sounding out.
Policy networks as reform (networks are now "joined-up government" or "whole-of-government" approach, driven by government constraints—ability to act.)	Instrumental approach	How government exercise its legitimate authority "by altering dependency relationships." A big challenge with this approach is the cost of government trying to steer the relationship; including loss of flexibility and control deficits.
	Interaction approach	This emphasizes management of relationships by negotiation instead of hierarchy. E.g., the CEOs "in public sector must have strong interpersonal, communication and listening skills; an ability to persuade; a readiness to trade and to engage in reciprocal rather than manipulative behaviour; an ability to conduct long-term relationships. Key challenge is the cost of cooperations, including that it can be time consuming, blurred objectives, and "decision making is satisficing, not maximizing."
	Institutional approach	The focus here is on "the institutional backcloth, the rules and structures against which the interactions take place;" with the aim "toward incremental changes in incentives, rules, and culture to promote joint problem solving." The challenge is that such changes, incentives, and rules are "notoriously resistant to change' because only certain privileged actors protect their sectional interests.

A good survey of the existing theory and advanced understanding and application of policy network analysis sits clearly in most of the western world (America and Europe) compared to developing economies—such as sub-Saharan African—with well-established points and lines of relationships and objectives. This rarity of PNA is non-western countries is corroborated by Wu and Knoke; arguing that it could be attributed to factors such as "the lack of cultural or political traditions of civic participation or, more basically, the inability to participate in civic life under certain forms of government."[387] Nonetheless, one could argue that the evolution of the literature on the use of policy network frameworks in addressing gaps around the complexity of relationships, the theory of change and the way governance work can still be applied in non-western states context—so long as the researcher provides deep understanding

[387] (Wu and Knoke 2012), 159

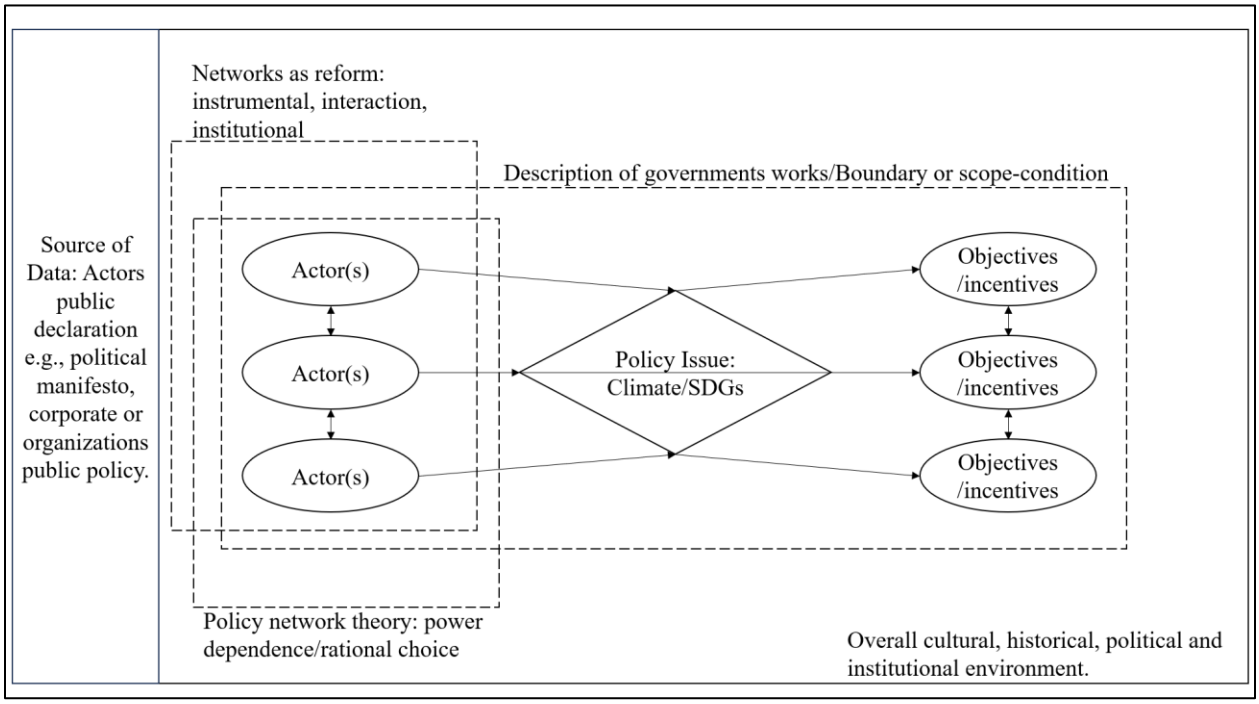
into such context via a historical, cultural, political and institutional dynamics. Moreover, many non-western developing economies—including sub-Saharan Africa, are continuously maturing their democratic institutions and the role that different actor play, including NGOs/CSOs, traditional societal structures—like chieftaincy systems, corporate actors, and even international development partners. Using Rhode's three ways scholars have used the policy network analysis in Table 3 above; this study, which is focused on sub-Saharan African region, will use the three main dimensions to analyse the policy coherence and implementation dynamic within the case studies. Additional support for the framework also leverages the work of Wu and Knoke in acknowledging that within PNA work, the relations among actors "involve the inequalities of power;" and that political power is inherently irrational.[388] Wuk and Knoke argues that,

> As a minimum a social network consists of a set of actors (people, groups, organizations, nations) and one or more relations that connect some of them (e.g., communication, trust, purchase, attack). A boundary- or scope-condition specifies which actors are included within a particular network; for example, by formal membership as in a social club; by residence as in a neighborhood; or by informal criteria such as attendance at flea markets. Network theories typically make three core assumptions about the mutual influences among actors: (1) the social structure of any complex system consists of the stable patterns of repeated interactions connecting actors to one another; (2) these social relations are the primary explanatory units of analysis, rather than the attributes and characteristics of the individual actors; and (3) the perceptions, attitudes, and actions of actors are shaped by the multiple structural networks within which they are embedded, and in turn their behaviours can change these networks' structures.[389]

Figure 9 below provides the overarching framework to examining the selected case study countries for this research. Application is demonstrated in the case study section of the paper.

[388] (Wu and Knoke 2012), 154
[389] Ibid.,154

Figure 9: PNA Framework – Adapted from Rhodes (2008)



Chapter IV: Climate and Sustainable Development Policies in Sub-Saharan Africa

Introduction

This chapter presents the initial high level findings of climate change and SDGs conceptually aligned policies across sub-Saharan Africa region—using the content analysis and structured analytic techniques identified in Chapter III and Appendix V (data collection process). The primary focus of this chapter is to help answer the research question (RQ1), *how are countries in Sub-Saharan Africa addressing climate and development agenda in policy and governance?* It starts with a brief background to the region, providing some key facts as well as the dual challenges it faces with climate change risks and sustainable developemnt aspirations. I then present the results of the content analysis execercise as well as a detailed analysis of the results.

Data Sources and Analytical Methods

To answer the research question; how are countries in sub-Saharan Africa addressing climate and development agenda? This analysis draws upon a systematic content analysis of national policy documents across 48 sub-Saharan African countries, employing the methodological framework detailed in Chapter III. The data collection process, as outlined in Appendix IV, utilized multiple complementary sources to ensure comprehensive coverage of climate and sustainable development policies adopted from 2013 onwards—a timeframe selected to capture policy developments preceding and following the adoption of both the SDGs and Paris Agreement in 2015.

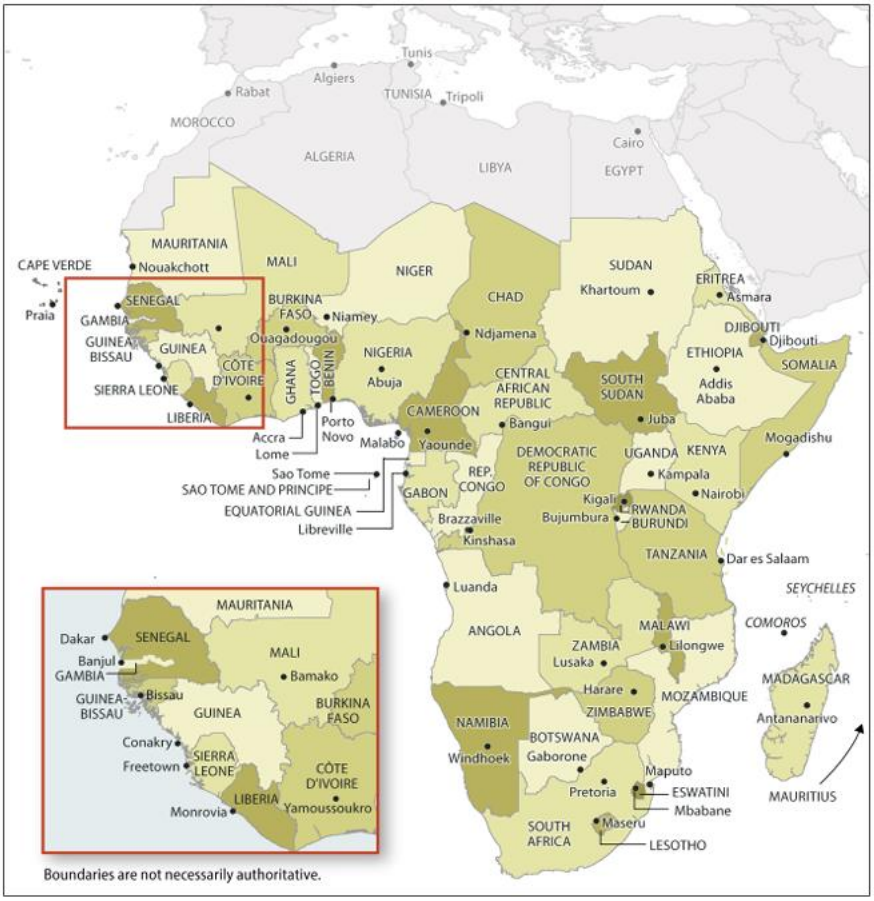
Primary data sources included: general search engines (Google), specialized academic databases (Science Direct, Web of Science, Google Scholar), international organization websites, and official national government portals. The systematic search employed targeted keywords in conjunction with country names, including terms such as "ecosystem legislation," "climate protection legislation," "climate change policy," "climate mitigation," "climate adaptation," "biodiversity legislation," and "sustainable development policy."

Economic contextualization was provided through World Development Indicators (WDI) data from the World Bank, specifically the Structure of Value Added dataset (2019), which enabled the identification of GDP composition by sector (agriculture, industry, manufacturing, and services) for each country. This economic data serves to contextualize policy emphasis against national economic drivers.

The analytical approach combined content analysis with structured analytic techniques (SATs), emphasizing thematic analysis to focus on the interpretive aspects of policy alignment while generating quantitative outputs on policy distribution and conceptual alignment. Documents were systematically categorized using standardized data collection fields, including policy language, translation availability, sectoral focus, and conceptual alignment with either the SDGs, Paris Agreement, or both frameworks.

About the sub-Saharan Africa region

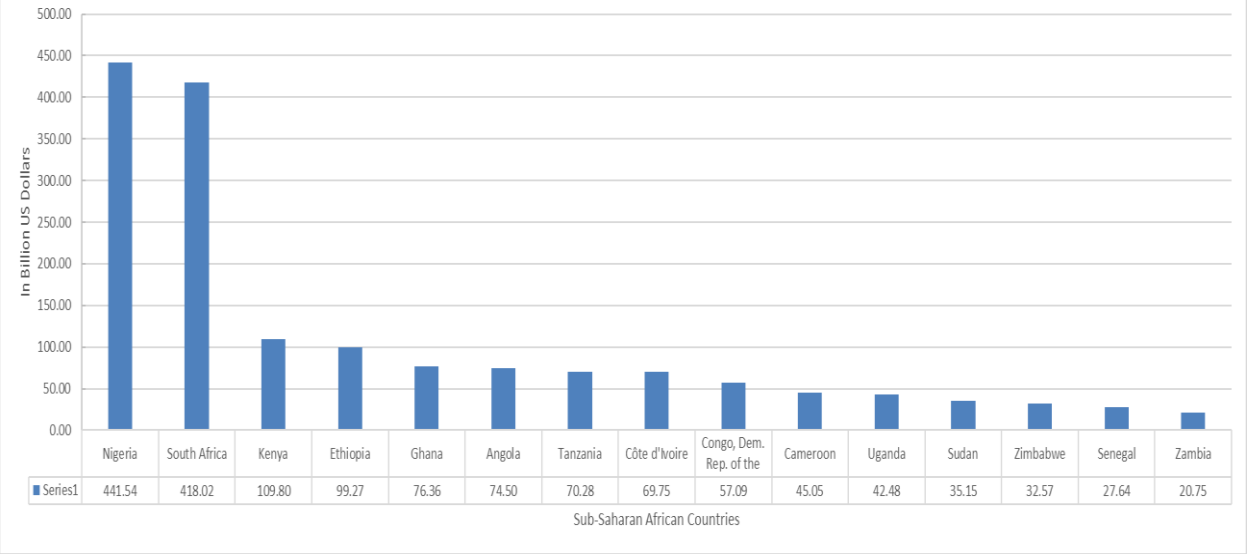
Figure 10: Political Map: sub-Saharan African Countries



Source: CRS graphic created using basemap from the Department of State.

Making up more than 85% of continental Africa—by number of countries, the Sub-Saharan African region has an estimated population of 1.17 billion people (2021);[390] about 15% of the world's population.[391] It's young and growing population is expected to be the primary catalyst of Africa's economic growth over the next century—as its population is expected to tripple in size by year 2100.[392] Complicating the development of the region is the fact that it is also home to some of the world's poorest people; those living in extreme poverty at or below US$1.90-a-day poverty line—about 38.3% (2019)[393] live in extreme poverty. The GDP of the region is estimated at US$1.92 trillion (2021), representing only 2% of the world's GDP (US$96.1 trillion).[394] Of the 20 countries in the world with the lowest GDP per capita (2021), 18 of those are Sub-Saharan countries.[395] The top 15 largest economies—highest GDP in the region, as shown in Figure 11 below, includes Nigeria, South Africa, Kenya, Ethiopia, Ghana, and Angola.[396]

Figure 11: Sub-Saharan African Countries with the Highest GDP (2021)—Statista data



Source: Graph based on data from statista, 2021

For much of region's post-colonial development, it faced various socio-economic and geopoloitical stresses that often stifled growth and opportunities to build sustained national wealth. The soci-economic shocks from the COVID-19 pandemic, the Russia-Ukraine conflict and ongoing tigtening of monetary policy by central banks due to inflation are exercebating weaknesses in the institutional and economic well-being of many of the countries in the region. The IMF noted in 2022 that the region was

[390] With global population at 7.84 billion.
[391] (The World Bank n.d.)
[392] (Cilluffo and Ruiz n.d.)
[393] (The World Bank n.d.)
[394] (The World Bank n.d.)
[395] (statista n.d.)
[396] (statista n.d.)

expected to have a modest economic growth as security challenges, inflation, food security, and "limited fiscal space constrain policy options further."[397]

Climate Change and Sustainable Development Challenges in sub-Saharan Africa

The sub-Saharan Africa region vulnerability to climate impacts is exacerbated by developmental challenges and also compounded by the fact that climate change itself poses additonal threats to the region's quest for sustainable growth. For instance, extreme weather events, including droughts, floods, and heatwaves, have increased in frequency and intensity across the region; with the IPCC noting that "mean temperatures and hot extremes have emerged above natural variability…", "relative sea level has increased increased at a higher rate than global mean sea level…".[398] These phyiscal climate risks tend to impact agricultural systems, threatening food security and rural livelihoods—main developmental challenges for Africa in general. Additionally, concers related to water stress, worsened by adjusted precipitation patterns and increased evaporation, affects both human consumption and agricultural productivity.[399] Coastal areas, particularly in West Africa—such as Ghana and Nigeria, face erosion and flooding due to rising sea levels, endangering communities and infrastructure.[400]

The sustainable development landscape in the region is equally challenging. Much of the region lacks access to affordable, reliable, and clean energy, which hinders efforts to "eradicate poverty, improve health, achieve gender equality, and enable communities to adapt to climate change and food security issues."[401] Climate induced-risks are impacting agricultural productivity, a mainstay of many sub-Saharan African economies; and reducing industrial outputs which in turn affects investments, political stability and undercuts poverty reduction efforts by many of the countries in the region.[402]

Despite these challenges, the region possesses significant opportunities; including its vast renewable energy potential, particularly in solar and wind, offers a path to both energy access and low-carbon development that could inherently benefit its agricultural productivity.[403] The ongoing global energy transition depicts an opportunity for the region to likely leapfrog to sustainable practices, potentially creating jobs and driving economic growth while minimizing environmental impacts. While the challenges are significant, the region could deploy transformative policies towards a more resilient and sustainable future by leveraging local and ingternational knowledge, and fostering innovation that ensures that climate action and development efforts are mutually reinforcing.

[397] (Internatioal Monetary Fund 2022), 5
[398] (IPCC n.d.)
[399] (Maino and Emrullahu 2022)
[400] (Maino and Emrullahu 2022)
[401] (Li, Bae and Rishi 2023)
[402] (Alagidede, Adu and Frimpong 2014)
[403] (Ngowa, Chen and Ireri 2024)

Regional Climate and Development Agenda

To address the climate and development challenges faced by the region—and largely continental Africa, the African Union (AU) adopted an aspirational vision to transform Africa into a gobal powerhouse of the future.[404] It called this Agenda 2063.[405] Unlike the UN's 2030 Sustainable Development Goals (SDGs)[406] and its predecessor, the Millenium Development Goals (MDGs)—both constructed at the global level; Agenda 2063 was described as an opportunity for Africans "to take ownership of their development agenda."[407] This was designed to be a development agenda crafted and inspired by Africans for the benefit of its people. However, like the SDGs, the Agenda 2063 is not a legally binding agreement and presents similar challenges beyond the aspirational goals and targets. Further steps to link the SDGs and Agenda 2063 offer the benefits of a robust follow-up and review mechansim of the fomer—the Voluntary National Reviews (VNRs) to help examine and measure the latters progress. The VNRs are designed as instruments for UN member states—as part of SDGs implementation, to "conduct regular and inclusive reviews of progress at the national and sub-natinonal levels, which are country-led and ocuntry-driven," and submit for review by the high-level political forum (HLPF), under the auspices of the UN Economic and Social Council (ECOSOC).[408] Through the HLPF, the VNRs "aim to facilitate the sharing of experiences, including successes, challenges and lessons learned, with a view to accelerating the implementation of the 2030 Agenda."[409]

As noted earlier, the sub-Saharan Africa is considered to be one of the most vulnerable regions to climate change, even thought it contributed little to the rising global temperatures we face today.[410] The region requires significant investments in adaptation initiatives to be resilient while also contributing toward global mitigation efforts.[411] The Paris Agreement,[412] also adopted in 2015, is a legally binding international treaty on climate change designed to help the world adapt and take mitigation actions against the threat of climate change. The African Development Bank (AfDB) has reported that all African countries have "signed the Paris Agreement and submitted ambitious Intended Nationally Determined Contributions (INDCs), while most of them have ratified these ambitious Nationally Determined Contributions (NDCs).[413] The submission of an NDC underscores a countries commitments to meet its national action plan.

[404] (African Union n.d.)
[405] (African Union n.d.)
[406] See Appendix V: Summary on SDGs and Paris Agreement.
[407] (Tella 2018), 716
[408] (United Nations n.d.)
[409] (United Nations High-Level Political Forum on Sustainable Development n.d.)
[410] (Internatioal Monetary Fund 2022), 17
[411] (Internatioal Monetary Fund 2022), 17
[412] See Appendix V: Summary on SDGs and Paris Agreement.
[413] (African Development Bank Group n.d.)

RQ1: How are Countries in sub-Saharan Africa Addressing Climate and Development Agenda?

Results

First, it is important to note that the policies identified are by no means the complete national sets of SDGs/Paris Agreement conceptually relevant policies/legislations in the region—infact, it is safe to argue that the number of policies may exceed what was uncovered. However, given the research process applied, the identified documents are considered to be sufficient, and normatively cover the extent to which data is available publicly without conducting additional verification. Such a process will be labor intensive, requiring more than a single researcher. Below are the intial quantitave descriptions on the data collectioned.

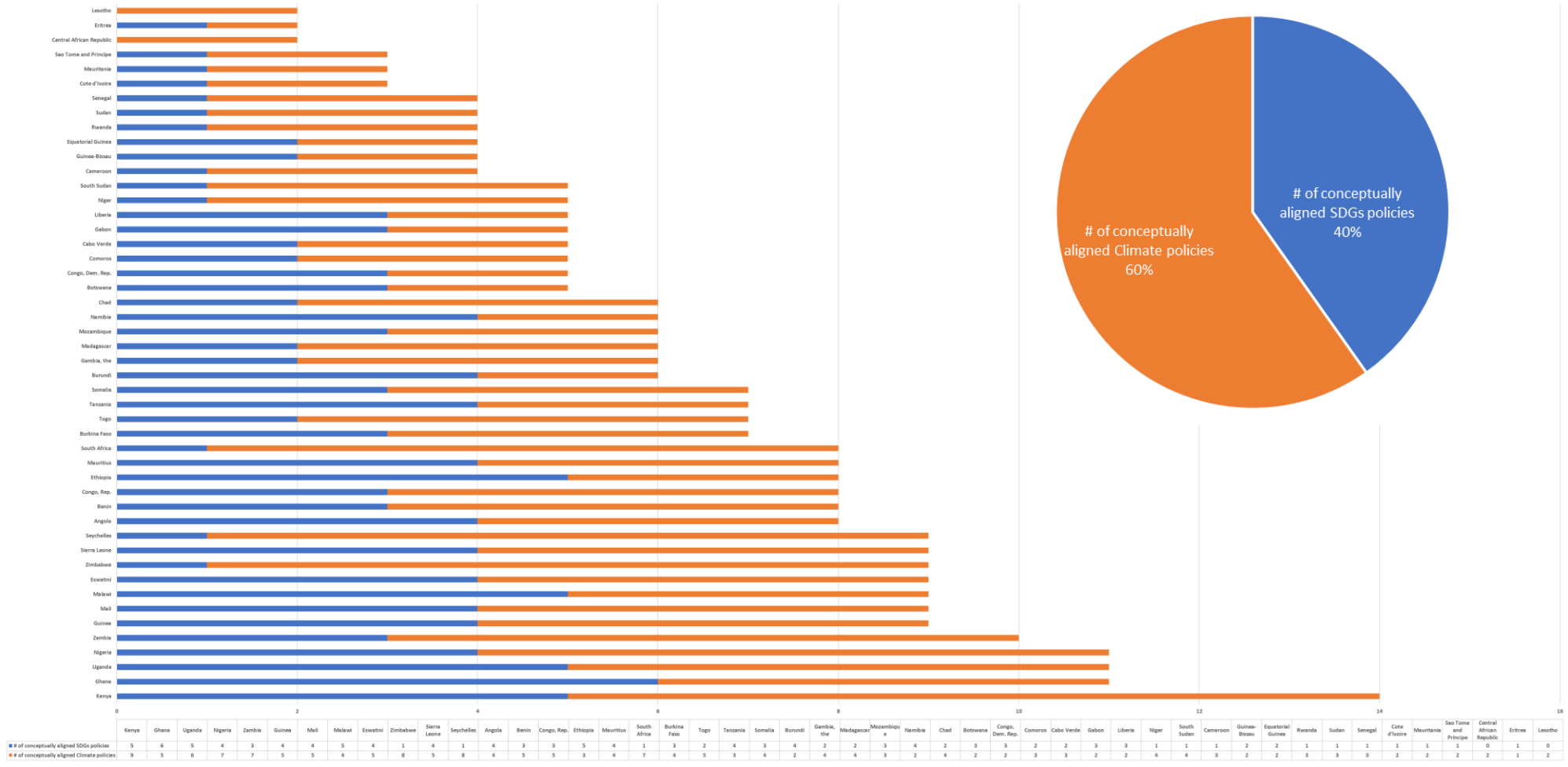
A total of 311 conceptually aligned SDGs/climate policies—including double counted shared policies—were identified for the 48 sub-Saharan African countries (see Figure 12 below). This includes a total of 125 (40%) conceptually aligned SDGs policies, and 186 (60%) climate change (Paris Agreement)—conceptually aligned climate policies. This higlights the significant number of climate related policies across the regions when compared to sustainable development policies.

The country with the most conceptually aligned policies is Kenya, with 14 combined policies; followed by Ghana (11), Uganda (11), Nigeria (11), Zambia (10), and Guinea (9). The countries with the least policies are Lesotho (2), Eritrea (2), Central African Republic (2), Sao Tome and Principe (3), Mauritania (3), and Cote d'Ivoire (3); see Table 5.

Table 5: Highest/Lowest Countries with Total Conceptually Aligned Policies (SDGs + Climate)

Highest 6 (Country)	Total Conceptually Aligned Policies	Lowest 6 (Country)	Total Conceptually Aligned Policies
Kenya	14	Cote d'Ivoire	3
Ghana	11	Mauritania	3
Uganda	11	Sao Tome and Principe	3
Nigeria	11	Central African Republic	2
Zambia	10	Eritrea	2
Guinea	9	Lesotho	2

Figure 12: Breakdown of Conceptually Aligned SDGs/Climate Policies by sub-Saharan African Countries



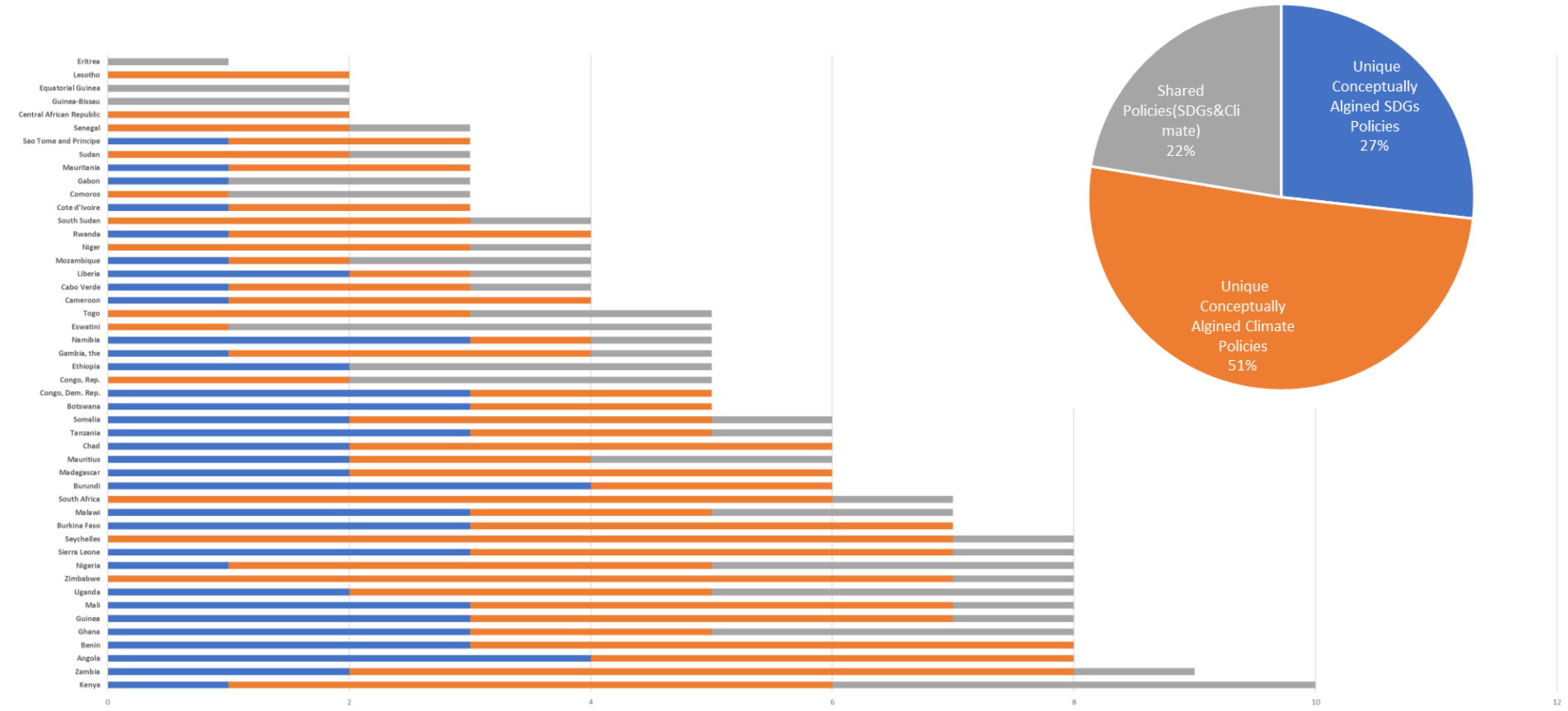
When the data is dissaggregated to uniquelly identify country policies that are only aligned with SDGs or climate policies, 51% of all sub-Saharan African policies are uniquely aligned only with climate change (Paris Agreement), 27% with the SDGs, and 22% are policies conceptually aligned with both climate and SDGs—See Figure 13. While most of the countries in the region at least has 1 conceptually algined SDGs policy compared to an average of 3 for climate aligned policies; there are 11 countries with no unique SDG aligned policy and 3 countries with no unique climate aligned policy. Similary, about 15 countries having no policy that reflects both the SDGs and climate change. This further confirms the overwhelming presence of climate change aligned policies in the region. And the relatively low number of shared policies might point to many countries not fully integrating their SDGs and climate policies.

The data also highlights a notable variation in policy adoption across countries. Some countries have a balanced approach across all three categories, while others focus more on specific policy types. The focus significant emphasis on climate change related policies in the region could perhaps also point to a stronger focus on climate-specific initiatives. It also underscores the diverse policy landscape across the region, reflecting different priorities, capacities, and challenges in addressing SDGs commitments and meeting climate related aspirations.

Analysis

Most of the policies in the region overwhelmingly emphasize regions manufacturing and industrial sector; an indication of the importance of such sectors to the growth and development of many of the countries in the region. Some of the common policy areas that impact these main sectors include energy—especially renewable energy, water resources management, disaster risk management, health, infrastructure development, forestry and land use and agriculture and food security. Many of the countries in the region have updated their Nationally Determined Contributions (NDCs) since their initial submissions with more comprehensive adaptation plans and often increased in emissions reductions targets—a contributing factor to the significant number of climate related policies of the region. Most countries also highlight the need for international support (financial, technological, and capacity building) to fully implement climate and sustainable development related agreements. Several countries have developed long-term visions or strategies (e.g., to 2050 or beyond) for low-carbon and climate-resilient development. A significant number of countries have also set up institutional frameworks dedicated to climate governance, such as climate change committees, and other also have inter-ministerial committee that coordinate policies; for example, Sudan has the Higher Council for Environment and Natural Resources, and Mali has the National Climate Change Committee. In some countries, like Ghana and Rwanda, climate change is integrated into national development planning:

Figure 13: Uniquely Aligned SDGs and Climate by sub-Saharan African Countries



	Kenya	Zambia	Angola	Benin	Ghana	Guinea	Mali	Uganda	Zimbabwe	Nigeria	Sierra Leone	Seychelles	Burkina Faso	Malawi	South Africa	Burundi	Madagascar	Mauritius	Chad	Tanzania	Somalia	Botswana	Congo, Dem. Rep.	Congo, Rep.	Ethiopia	Gambia, the	Namibia	Eswatini	Togo	Cameroon	Cabo Verde	Liberia	Mozambique	Niger	Rwanda	South Sudan	Cote d'Ivoire	Comoros	Gabon	Mauritania	Sudan	Sao Tome and Principe	Senegal	Central African Republic	Guinea-Bissau	Equatorial Guinea	Lesotho	Eritrea
Unique Conceptually Algined SDGs Policies	1	2	4	3	3	3	3	2	0	1	3	0	3	3	0	4	2	2	2	3	2	3	3	0	2	1	3	0	0	1	1	2	1	0	1	0	1	0	1	1	0	1	0	0	0	0	0	0
Unique Conceptually Algined Climate Policies	5	6	4	5	2	4	4	3	7	4	4	7	4	2	6	2	4	2	4	2	3	2	2	2	0	3	1	1	3	3	2	1	1	3	3	3	2	1	0	2	2	2	2	2	0	0	2	0
Shared Policies(SDGs&Climate)	4	1	0	0	3	1	1	3	1	3	1	1	0	2	1	0	0	2	0	1	1	0	0	3	3	1	1	4	2	0	1	1	2	1	0	1	0	2	2	0	1	0	1	0	2	2	0	1

- Ghana: National Development Planning Commission
- Rwanda: Ministry of Finance and Economic Planning

Countries like Keyna and Rwanda also emphasize the role of local governments in implementing policies. In many cases, countries with significant forest resources often have dedicated REDD+ institutions—e.g. Madagascar: National REDD+ Coordination Office.

Sub-regional and sector perspective

When the sub-Saharan Africa region is further broken into sub-regions, the following patterns are uncovered:

- East Africa: Countries like Kenya, Uganda, and Rwanda show a high concentration of both climate and SDG policies. This could be attributed to regional cooperation initiatives, shared ecosystems (e.g., Lake Victoria Basin), and similar climate vulnerabilities.
- West African Coastal Belt: Ghana, Nigeria, and Guinea form a cluster of countries with relatively high policy counts. This might be linked to shared coastal challenges, such as sea-level rise and coastal erosion, driving policy development.
- Southern African Block: Zambia, South Africa, and Botswana demonstrate a balanced approach between climate and SDG policies. This could be due to their relatively more developed economies and the influence of regional bodies like the Southern African Development Community (SADC).
- Sahel Region: Countries like Mali, Niger, and Chad show a stronger emphasis on climate policies, possibly due to acute desertification challenges and climate-induced conflicts over resources.

These sub-regional clusters suggest that geographical proximity, shared ecosystems, and regional economic ties play a crucial role in shaping policy landscapes across sub-Saharan Africa.

The data also shows emphasis on manufacturing and industrial sectors in many policies across the region. This includes:

- Economic diversification: The focus on these sectors might indicate a regional push towards economic diversification, moving away from primary resource extraction towards value-added industries.
- Job creation: Policies targeting manufacturing and industry likely aim to address high unemployment rates, especially among the youth, a pressing issue across the sub-Saharan Africa region.
- Technology transfer: Many policies in these sectors are geared towards attracting foreign direct investment and facilitating technology transfer, crucial for both economic development and climate mitigation.

- Urban-rural balance: The industrial focus could be an attempt to balance rapid urbanization with the need to create economic opportunities outside major cities.

Additionally, the finding of low conceptually aligned policies—22%—with both climate and SDGs global agreement—raises important questions about the policy integration and coherence in the region. This could be the result of a number of factors, including:

- Institutional silos: The low percentage of shared policies might indicate the existence of institutional silos, where different ministries or agencies work in isolation on climate and development issues.
- Capacity constraints: Limited human and financial resources might force countries to focus on either climate or SDG policies, rather than integrating both aspects.
- International funding streams: Separate funding mechanisms for climate action (e.g., Green Climate Fund) and sustainable development might inadvertently encourage the development of separate policy streams.
- Differing timeframes: Climate policies often focus on longer-term goals (2050 and beyond), while SDG policies might prioritize more immediate development needs, making integration challenging.

Conclusion

Examining the countries with the highest and lowest number of conceptually aligned policies provides insights into factors influencing policy development. Countries with high policy counts, such as Kenya, Ghana, and Uganda, often share characteristics like relative political stability, active roles in international climate and development forums, more diverse economies, strong civil society presence, and significant climate vulnerabilities. These factors drive more comprehensive policy development. On the other hand, countries with low policy counts, such as Lesotho, Eritrea, and the Central African Republic, often face challenges like political instability, resource constraints, and a need to focus on immediate development needs over long-term climate and sustainability policies. Limited international engagement might result in fewer policy initiatives aligned with global frameworks. It is also possible that some policies exist in these countries but are not readily accessible or well-documented, potentially skewing the analysis. On the other hand, the preponderance of climate policies over SDG policies in sub-Saharan Africa also highlights several consequences. On the positive side, it suggests a strong awareness of climate vulnerabilities and a commitment to building resilience. A robust climate policy framework might position sub-Saharan African countries better to access international climate finance. Many climate adaptation policies inherently address development issues, such as water management and agricultural resilience, indirectly contributing to SDG goals. Climate policies often necessitate long-term thinking, which can benefit overall development planning. However, this emphasis on climate policies also presents challenges. There is a risk of neglecting other crucial development areas not directly linked to climate change.

Focusing resources on climate policies might limit capacity to address other pressing development needs. The dominance of climate policies might lead to fragmented development strategies if not well-integrated with broader SDG objectives. Climate-focused policies might engage different stakeholders compared to broader development policies, potentially leaving some groups underrepresented.

The widespread adoption and updating of Nationally Determined Contributions (NDCs) across sub-Saharan African countries highlight several key points. The fact that many countries have updated their NDCs since initial submissions suggests an adaptive approach, incorporating new knowledge and changing circumstances. The trend of increased emission reduction targets in updated NDCs indicates growing commitment to climate action, despite the challenges faced by sub-Saharan African countries. The inclusion of more detailed adaptation plans in updated NDCs reflects a growing understanding of climate risks and the need for resilience-building. The consistent highlighting of need for international support (financial, technological, and capacity building) in NDCs underscores the importance of global partnerships in achieving climate goals. NDCs seem to serve as a catalyst for broader climate policy development in many sub-Saharan African countries, potentially explaining the dominance of climate-aligned policies. Furthermore, the establishment of dedicated climate governance institutions in many sub-Saharan African countries has important implications. These institutions can enhance coordination across different government departments, potentially improving policy coherence. They allow for the development of specialized climate expertise within government structures and can serve as focal points for engaging with civil society, private sector, and international partners on climate issues. Institutionalized structures for climate governance can help maintain policy continuity across political cycles and might lead to more dedicated resource allocation for climate action. However, the focus on climate-specific institutions might inadvertently reinforce the separation between climate and broader development governance.

It is also important to recognize the emphasis on local government implementation in countries like Kenya and Rwanda. Involving local governments can lead to more context-appropriate climate and development solutions and might be better positioned to implement and monitor certain initiatives. Local-level implementation can facilitate better community engagement and ownership of climate and development projects. However, this approach highlights the need for capacity building at sub-national levels of government and raises questions about how resources for climate and development action are distributed between national and local levels. Additionally, the prevalence of policies in sectors like energy, water resources, disaster risk management, health, infrastructure, forestry, land use, and agriculture reveal important trends. The range of sectors covered suggests an understanding of the cross-cutting nature of climate and development challenges. Many of these sector-specific policies align closely with adaptation needs, reflecting sub-Saharan Africa region vulnerability to climate impacts. Policies in sectors like energy and forestry highlight attempts to balance mitigation efforts with development needs. The inclusion of health policies in

climate frameworks indicates growing recognition of climate change as a health issue. Policies focusing on infrastructure underscore the need to climate-proof development gains. The combination of policies in water, agriculture, and energy sectors suggests an emerging understanding of the interconnections between these crucial areas.

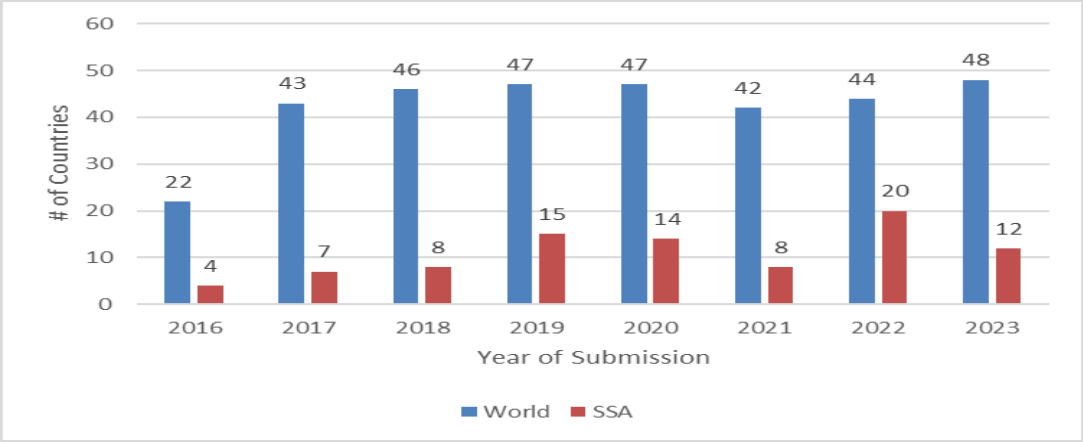
Overall, the analysis reveals significant variations in policy approaches across different parts of sub-Sahara Africa. Coastal countries often have more policies related to sea-level rise, coastal erosion, and marine resources management, while landlocked countries tend to focus more on policies related to land degradation, water resource management, and agricultural resilience. Countries with significant fossil fuel resources often have policies balancing resource exploitation with climate commitments, while resource-poor countries might focus more on renewable energy development and economic diversification in their policy mix. Countries in conflict-affected regions tend to have fewer and less comprehensive climate and development policies, reflecting the challenges of long-term planning in unstable contexts. More economically developed countries in the region often have more sophisticated and diverse policy landscapes, potentially due to greater institutional capacity and resources. The analysis also shows several challenges in achieving policy coherence between climate and development agendas. Institutional fragmentation, as suggested by the separation of climate and SDG policies, indicates potential fragmentation in institutional responsibilities. The temporal misalignment between climate policies, which often have longer-term horizons, and more immediate development priorities creates challenges in policy alignment. Separate international funding mechanisms for climate and development might inadvertently encourage policy silos. Limited human and financial resources may force countries to prioritize either climate or development policies rather than pursuing integrated approaches. Different data requirements and monitoring frameworks for climate and SDG policies can hinder integrated policy assessment.

To conclude—at a high level, there is a strong alignment of the regions policy with both the SDGs and Paris Agreement; and to some extent, some of the countries in the region recognizes the interconnectedness of climate action and sustainable development—a gap that must be improved. However, it must be noted that the effectiveness of these policies and the ability to implement them often depends on factors such as financial resources, technological capacity, and the scope of international support. The question that emerges is, why the strong emphasis on climate change in the sub-Saharan Africa region? This could summarily be due to several reasons.

First, that it could be driven by the very nature of the Paris Agreement framework—a legally binding agreement (see Appendix V for summary on SDGs and Paris Agreement); with the expectation that signatory parties (UN member nations) will ratify domestically; thus, enabling most countries in the region to have such policy along with other enabling policies.

Second, compared to the SDGs, which is not legally binding, the Paris Agreement also requires countries to submit respective NDCs with expectations to submit updated policies every 5 year. The SDGs have the VNRs. As noted earlier in this chapter, The VNRs are designed as instruments to assist with the monitoring and evaluation of the implementation of the SDGs via the review by the high-level political forum (HLPF), under the auspices of the UN Economic and Social Council (ECOSOC).[414] Figure 14 below shows the number of countries that have submitted their VNRs since 2016 by comparing Sub-Saharan African countries to the rest of the world—2023 data only identifies countries that have expressed interest in presenting VNRs. With a total submission of 88 VNRs, 47 count5ries in the region have at least submitted one VNR since 2016 shown in Figure 12 below. The highest number of submissions for Sub-Saharan African region occurred in 2022, with 20 countries presenting their VNRs—making up more than 45% of the entire global submissions and 41% of the sub-Saharan African region.

Figure 14: VNR Submissions by Year/Country



Source: based on data from the UN High-Level Political Forum on Sustainable Development[415]

On the other hand, all sub-Saharan Africa countries, at minimum, have submitted their first NDCs; thus, making the case for why the overarching number of policies conceptually aligned with climate exceed that of the SDGs.

Third, another reason could likely be the agenda setting of the global international community:

(a) the UNFCCC and its annual highly attended Conference of the Parties (COPs) that leverages the IPCCs climate change research to incentivize and hold nations accountable on climate change mitigation and adaptation; compared to the UN HLPF which meets annually for 8 days under the auspices of the UN

[414] (United Nations n.d.)
[415] (United Nations High-Level Political Forum on Sustainable Development n.d.)

Economic and Social Council (ECOSOC) and every 4 years for 2 days for heads of state under the UN General Assembly.[416] Under the climate regime, the IPCC sets the stage with a rigorous scientific work but also intense political debate that uniformly informs national agenda and effective monitoring and evaluation. Hence a system of accountability and feedback—with potentially a name a shame approach. The SDGs, although has a systematic set of goals and targets does not have one body/system of research and feedback and lacks accountability as much of it is voluntary. For instance, different goals and targets are measured by different indicators and institutions such as the World Bank/IMF providing feedback on WDI, or the World Health Organization on global health. Arguably, the SDG is all encompassing as even climate is covered as well—SDG 13: climate action. The fact is, no matter how elusive COPs may be, countries understand they are effectively making binding decisions within which they must create policies and programs to address—perhaps leading to the high number of climate aligned policies in sub-Sahara Africa region compared to SDGs.

(b) the evolution of global accounting and reporting standards/frameworks that has uniquely focused on climate risks and mitigation reporting by industries, including Carbon Disclosure Project (CDP) which is a disclosure system "for investors, companies, cities, states and regions to manage their environmental impacts—"[417] reporting GHG emissions, and the Task Force on Climate-Related Financial Disclosures (TCFD), which is to "improve and increase reporting on climate-related financial information."[418] Although, other reporting standards may appear to symbiotically reflect the efforts around the SDGs—thus sustainability in general, such as the Global Reporting Initiative exist to organizations "communicate and demonstrate accountability for their impact on the environment, economy, and people,"[419] these are broad and often not necessarily aligned to the SDGs. The argument is that there appears to be more intentionally designed institutional standards or framework that uniquely targets climate change hence the momentum behind agenda setting. I do examine this theory within the case study looking at the role of international actors—hence agenda setting.

Fourth reason why conceptually aligned climate policies may be more than SDGs in the region could be its susceptibility to physical climate risks—hence adaptation focus of policies. As already noted, Africa, in general, remains one of the most vulnerable continents to physical climate change risks. Many of the adaptation related parts are equally addressable within the SDGs. For instance, impact of climate change on health and well-being can be linked to SDG 3: good health and well-being; climate impact on biodiversity/ecosystem services and sea level rise and change can equally be linked

[416] (UN SDG Knowledge Platform n.d.)
[417] More on CDP: https://www.cdp.net/en
[418] More on TCFD: https://www.fsb-tcfd.org/
[419] More on GRI: https://www.globalreporting.org/

SDG 14: life below water, SDG 15: life on land. This also highlights why the NDCs is the singular policy that conceptually aligned with both climate and SDGs in most sub-Saharan African countries, and for that matter, similar institutions responsible for the implementation of such a policy.

These above rationales are not exhaustive as they only seek to explain a set of high-level findings based on the QDA analysis of national level policies across the sub-Saharan Africa region, in addition to the referenced characteristics of the Paris Agreement and the SDGs (see Appendix IV) and the interplay of global politics and accountability system. Validating these rationales will require a more in-depth analysis of select Sub-Saharan African countries to further underscore the importance and/or interplay of these rationales and the impact it is having on policy outcomes and trend in the region—coherence or not and how it is transforming oil and gas dependent countries in the region. Moreover, it is well understood that the region, much like every other regional block in the world, is not monolithic in culture, politics, and development. Understanding these seemingly obvious underlying dynamics could equally contribute to the validation of these high-level rationales and data analysis and ensure a better path for further coherence of climate and development agendas. Ultimately, a case study of a select Sub-Saharan African countries will limit the potential for overgeneralization in this study and provide a more institutional and political determinants approach to policy outcomes.

What is more apparent through the rationales presented above is the relevance of the following:

1. The dynamics and impact of global mandates (legal or simply aspirational):

the Paris Agreement ask for ratification by national governments via a national legislative agenda, ensuring a legal pathway at the national level to afford institutions a clear mandate. The SDGs were not designed in such manner. This is already well established in the nature and outcomes of the negotiations, goals, and objects of each agreement (see Appendix V). These findings align with Falkner's analysis demonstrating how the Paris Agreement acknowledges the primacy of domestic politics in climate change and allows countries to set their own level of ambition, while creating a framework for making voluntary pledges that can be compared and reviewed internationally, in the hope that global ambition can be increased through a process of 'naming and shaming.[420] The structured accountability mechanisms of international climate frameworks create institutional incentives for sustained policy development at the national level, particularly through the NDC submission and review processes.[421]

2. Actor influence, economic dependencies, and expectations:

[420] (Falkner, The Paris Agreement and the New Logic of International Climate Politics. 2016)
[421] (Falkner, The Paris Agreement and the New Logic of International Climate Politics. 2016)

This includes the institutional dynamics at the national and international level as well as are the ultimate priorities of national government and the challenges that informs such priorities. This can be deduced from the national objectives. As Rhodes' policy network analysis demonstrates, networks operate as sets of resource-dependent organizations where any organization is dependent on other organizations for resources, and to achieve their goals, the organizations have to exchange resources.[422] This dependency relationship is particularly evident in developing countries where, as the case studies in chapter V reveal, international organizations and donor agencies play a substantial role in shaping policy landscapes. The institutional dynamics are further complicated by what Khalid identifies as the changing nature and degree of the state's involvement in the market, where an important aspect of economic transformation is the changing nature and degree of the state's involvement in the market."[423] Pénard's institutional analysis highlights how parties in economic, social, or political transaction must make choices based on their perception of risk and access to information, creating complex webs of actor influence.[424] This is compounded by Arruñada's observation that institutions act as complements of human nature, enforcements of social control that allow for greater cooperation, but institutional change is constrained by the genetic background and influenced by learning, decision making, and imitation.[425]

3. Accountability regime:

This includes a system of formal review and feedback and set of global disclosure and reporting standards that reinforces the outcomes of the goals—including added pressure from non-government-based institutions. The climate regime demonstrates superior accountability mechanisms compared to the SDGs. As the analysis reveals, the UNFCCC and its annual highly attended Conference of the Parties (COPs) that leverages the IPCC's climate change research to incentivize and hold nations accountable on climate change mitigation and adaptation; compared to the UN HLPF which meets annually for 8 days under the auspices of the UN Economic and Social Council (ECOSOC). Under the climate regime, the IPCC sets the stage with rigorous scientific work but also intense political debate that uniformly informs national agenda and effective monitoring and evaluation. Hence a system of accountability and feedback—with potentially a name and shame approach. Furthermore, the evolution of global accounting and reporting standards/frameworks that has uniquely focused on climate risks and mitigation reporting by industries, including Carbon Disclosure Project (CDP) and the Task Force on Climate-Related Financial Disclosures (TCFD) creates additional pressure mechanisms. In contrast, the SDGs, although has a systematic set of goals and targets does not have one body/system of research and feedback and lacks accountability as much of it is voluntary. The VNRs, while designed as monitoring

[422] (Rhodes 2008)
[423] (Khalid 2015)
[424] (Pénard 2008)
[425] (Arruñada 2008)

instruments, lack the binding nature and systematic accountability of the NDC process, where Article 4 paragraph 12 of the agreement requires states NDCs to be communicated and recorded in a public registry maintained by the secretariat.

To further validate or invalidate some of the rationale and analysis provided above—policy mapping at the regional level—a case study on Ghana and Nigeria is performed to provide a deeper analysis that delivers a richer context than a broader regional trend or study might miss. It also enables further identification of common trends and unique approaches, offering insight into how different factors influence policy formation and implementation—especially when examined via the lens of a country's political economy. Furthermore, the case study on Ghana and Nigeria also offers a good balance between depth and breadth, allowing for a more meaningful comparative analysis without sacrificing detailed understanding. Lastly, by focusing on just two countries, it makes it feasible for a sole researcher to complete the study within typical constraints while still providing sufficient data to draw substantive conclusions—in this case policy coherence and associated barriers and gaps in the region. The case study fundamentally allows for a closer look at the not only policy coherence of the post-2015 agreements at a national level but also address the remaining two research questions: identify the barriers and opportunities, and the delivery of an options framework that could enable further coherence in the region.

Chapter V: Case Studies

Introduction

This chapter undertakes a detailed comparative case study analysis of Ghana and Nigeria, two significant West African democracies with established oil and gas sectors, to examine how political economy factors influence policy coherence between climate commitments and sustainable development goals. It helps answer the research quesiton (RQ2) *What specific gaps and barriers exist that impede or supports transition away from hydrocarbons? —detailed in chapter VI.* This chapter is structured in four main sections. Following this introduction, I provide a brief background to the data sources and analytical framework, then followed by a detailed justification for selecting Ghana and Nigeria as case studies, examining their political, economic, and governance contexts. The subsequent sections present systematic analyses of each country's political systems, policy formulation processes, and climate/SDG policy alignments. The chapter concludes with a comparative analysis identifying the specific barriers and gaps that impede transition away from hydrocarbons, directly addressing RQ2.

Data Sources and Analytical Framework

To answer the research question; *What specific gaps and barriers exist that impede or supports transition away from hydrocarbons?* This analysis draws upon a comprehensive comparative case study methodology examining Ghana and Nigeria, employing the mixed-method framework detailed in Chapter III. The data collection process, as outlined in Appendix IV, utilized multiple complementary sources to ensure systematic coverage of political structures, governance mechanisms, and policy implementation processes from 2015 onwards—a timeframe selected to capture policy developments following the adoption of both the SDGs and Paris Agreement.

Primary data sources included: official government policy documents from national ministries and agencies, specialized academic databases (Science Direct, Web of Science, Google Scholar), international organization reports and assessments (World Bank, UN agencies, African Development Bank), and grey literature from development partners and civil society organizations. The systematic search employed targeted keywords in conjunction with country-specific terms, including "climate change policy," "sustainable development strategy," "energy transition framework," "oil and gas policy," "governance structure," and "institutional coordination mechanisms."

Political and economic contextualization was provided through multiple datasets: World Bank governance indicators, World Development Indicators (WDI) focusing on economic structure and oil dependency metrics, and institutional assessment reports from development partners. For Ghana, key institutional sources included the National Development Planning Commission, Ministry of Environment Science Technology and Innovation, and Environmental Protection Agency. For Nigeria, primary institutional

sources encompassed the Federal Ministry of Environment, National Planning Commission, and relevant state-level agencies.

The analytical approach combined Policy Network Analysis (PNA) following Rhodes' adapted framework with Structured Analytic Techniques (SATs), specifically employing Key Assumptions Check (KAC) and comparative analysis matrices. The methodology emphasized systematic comparison of political structures, policy formulation processes, institutional capacities, and economic dependencies. Documents and data were systematically analyzed using standardized analytical frameworks, including political system classification, policy coherence assessment, institutional mapping, and barrier identification matrices. This approach enabled both within-case analysis of each country's governance dynamics and cross-case comparison to identify common patterns and distinctive approaches to climate-development policy integration.

This structure maintains the same systematic format as Chapter IV example while specifically addressing the case study methodology and data sources used for the Ghana-Nigeria comparative analysis.

Why Ghana and Nigeria?

Ghana and Nigeria are both former British colonies that gained independence in 1956 and 1960 respectively. Following independence, the two West African Nations experienced periods of political instabilities but have since maintained consistent democratic regimes underscored by the peaceful transfer of power from one political party to another. The selection of both countries is justified by several factors that make them both representative of broader regional trends and unique in their specific contexts.

In general, both Ghana and Nigeria are noted in the analysis as having a high number of conceptually aligned policies (11 each), placing them among the top countries in the sub-Saharan African region. This high policy count suggests a rich policy landscape that can provide substantial material for in-depth analysis. The diversity of these policies spans both climate and sustainable development domains, offering a comprehensive view of how these countries are addressing the dual challenges of climate change and sustainable development. Ghana and Nigeria also share similar geographical challenges, particularly related to sea-level rise and coastal erosion. This shared context allows for comparative analysis of how countries with similar environmental challenges might develop different policy approaches.

Nigeria and Ghana also represent two of the largest economies in West Africa, with Nigeria being the largest economy in the sub-Saharan Africa region. Their economic significance means that their policy choices have outsized impacts on the region. Studying these countries can provide insights into how economic powerhouses in the region are balancing economic growth with climate action and sustainable development goals. While both are significant regional economies, Ghana and Nigeria present

contrasting development contexts. Ghana is often cited as a model of stable democratic governance in the region, while Nigeria faces more complex governance challenges. This contrast allows for examination of how different governance contexts influence climate and development policy formation and implementation. Lastly, given their relatively higher policy counts and international engagement, Ghana and Nigeria have more accessible and comprehensive data available for analysis, which is crucial for in-depth case study research.

As the core focus of this study is the coherence of the post-2015 agreements in the context of oil and gas export-dependent sub-Saharan African countries, choosing two relative similar countries in the same region enables one to focus more specifically on the nuances of the institutional and political differences. The selection process for identifying Ghana and Nigeria—as presented in Appendix II—underscores that Ghana and Nigeria were the only two non-authoritarian regimes among the seven identified countries in sub-Saharan Africa with significant dependency on oil and gas rents. The following offers a more focused justification as to why Ghana and Nigeria make a compelling choice for the case studies to this research, in addition to the process provided in Appendix II (case study selection)—covering data pints on the two countries SDG/climate policy and commitment landscape, researcher language and experience in both countries and oil and gas rent as percent of GDP.

(i) Political systems:

Ghana and Nigeria are both former British colonies that gained independence in 1956 and 1960 respectively. Following independence, the two West African Nations experienced periods of political instabilities but have since maintained democratic regimes underscored by the peaceful transfer of power from one political entity to the other—[426] Ghana since the early 1990's and early 2000's for Nigeria. However, the two countries take a different approach to governance and policymaking. Table 6, using the KAC approach under SATs, highlights both countries political and governance approach.

Table 6: Ghana and Nigeria: Political and Governance Structure

Country	Key Assumption	Assessment
Ghana	Ghana's system of government is considered a unitary system[427] with three branches of government—the	The body of governance is derived from the country's 1992 constitution.[428]

[426] (Yamoah, How Can Ghana Avoid An Oil Curse? Lessons From Nigeria 2013), 16 and 56
[427] Described as the "concentration of governing power in the central government…the central government can opt to confer some of its governing authority to subnational units, but typically retains the authority to both dictate the scope of those power and to have the final authority on most State issues." See: (Williams, Sommadossi and and Mujais 2017)
[428] (Constitute Project n.d.)

	executive, legislative and judicial branches. It also has a presidential system.	
	The country has a multiple political party system with an estimated 27 registered political parties.	Current data from the Electoral Commission Ghana notes 27 political parties.[429]
Nigeria	Nigeria's system of government is based on the federal system[430] although others argue central government retains significant powers beyond the ideal balance between states and the federal government—describing it as a unitary Federalism.[431] It also maintains a presidential system.	The 1999 constitution, revised in 2011 remains fundamental law of the land and describes Nigeria as a "Federation consisting of States and a Federal Capital Territory."[432]
	Nigeria maintains a multi-party system and currently has a total of 19 registered political parties.	Current data from the Independent National Electoral Commission notes 19 registered political parties.[433]

The above table effectively characterizes how each country is governed and the system of political democracy, reinforcing an appreciation for some of the similarities but also key differences between the two West African oil exporting countries. This is important to note, as the nature or trajectory of economic development for many countries can often be examined by looking at the political eonomy; that is the networks and influence of various institutions—such as government, interest groups and markets—on policies and the impact it has on society; whether worse off or not.[434] Such an analysis often helps to understand the inefficiences and imperfections of systems and their relative impact on economic or political outcomes.[435] This thinking, which is equally embedded in the adapted PNA framework to this study explores not only the network of relationships—including power dynamics and rational behaviours, but also

[429] (Electoral Commission Ghana n.d.)
[430] Described as a system with "a minimum of two levels of government and are organized into self-governing federal units that are united through the central government…[which] allow federal states to impart a degree of regional autonomy to federal units, while also reserving control over certain areas of governance, like foreign affairs, for the central government." See: (Williams, Sommadossi and and Mujais 2017)
[431] (Campbell n.d.)
[432] (Constitute Project n.d.)
[433] (INEC Nigeria n.d.)
[434] (Keefer 2004), 247
[435] (Keefer 2004), 247

how governments work within the bounds of political systems, the role of actors, the historical and cultural underpinnings that often informs and impacts all actors.

In Ghana, the unitary system, with majority party in power—that is if it has majority in parliament, affords the executive branch a strong influence in governance and policymaking as it implements and determines law.[436] This is an ideal scenario for any unitary presidential system, unlike the federal system where power is shared with regional sub-national governments like in the United States. Although the Nigerian system is a federal type, the central government is known to hold significant power, with state powers often described as diminishing.[437] There continues to be a debate as to whether the federal or unitary system is better for delivering good governance and positive socio-economic outcomes, especially in the context of Africa; where a vast majority of countries have a unitary form of government with only a handful adopting federal-like systems—such as Nigeria, Ethiopia, and South Africa.[438] However, there has been a growing evidence to support that under the right constitutional structures, "unitary systems appear to a hold distinct advantages over federal ones."[439] In this context, Ghana and Nigeria could arguable be considered a good subset of Sub-Saharan African countries as both countries system of government accurately reflect the characteristics of the region.

Another area of governance is the nature of Ghana and Nigeria's judiciary and legislative bodies. In Ghana, the main legislative body is the parliament, with the mandate to make laws but also to oversee other issues on financial and oversight of the executive.[440] In Nigeria, the national assembly, which is a bicameral legislative body, encompasses two chambers; the senate and the house of representatives.[441] The senate—also referred to as the Red Chamber, is the highest lawmaking institution of the country and it is "constitutionally vested with the power of making laws…and also empowered to represent the interest, yearnings, aspiration and wellbeing of the citizenry."[442] The house, which is also called the Green Chamber, is also responsible for lawmaking but also responsible for "the resolution of industrial disputes between the federal, state governments and the labour unions."[443] The role the judiciaries play in both countries are similar, allowing for different actors, including the government, citizens, etc., to play a set of nationally constituted rules—if rule of law is devoid of systemic corruption and enhances accountability and transparency. Additionally, the presence of a multi-party system in both countries underscores that different political actors compete on ideas—that is in a perfect system—to win majority seats in the legislature and the presidency. Those ideas are inherently the objectives and incentives

[436] (Friedrich Bert Stifung 2011)
[437] (Campbell n.d.)
[438] (Gebeye 2020), 2
[439] (Gerring, Thacker and Moreno, Are Federal Systems Better than Unitary Systems? 2007)
[440] (Parliament of Ghana n.d.)
[441] (Nigerian's National Assembly n.d.)
[442] (Nigerian's National Assembly n.d.)
[443] Ibid.

that drive people in support or against the parties. Overall, Ghana, based on the democracy index ranking, is described as a flawed democracy and Nigeria a hybrid regime—see Appendix 1. Although much of the Sub-Saharan African region is made of authoritarian regimes compared to hybrid, flawed, or full democracies,[444] the use of Ghana and Nigeria represents a good that effectively provides a semblance of a stable democracy to efficiently discuss the importance of governance in relation to policy coherence within a democratic context. Additionally, this study needs a semblance of a stable regime to properly assess the research questions.

(ii) Oil and gas dependence and the resource curse:

A key component of this research leverages highlights how resource-dependent—specifically oil and gas economies—countries in Sub-Saharan could achieve better coherence in implementing the Paris Agreement and the SDGs at the national level. This is an aspect that further makes Ghana and Nigeria good case studies. As noted in Appendix II, Ghana and Nigeria's oil and gas rents as a percentage of GDP—Nigeria (7.4%/oil rent and 1%/gas rent) and Ghana (4.7%/oil rent and 0.2% gas rent), are in the top 10 in sub-Saharan Africa (see Appendix 1). Nigeria, which discovered oil prior to independence is well known in academic literature related to the resource curse—primarily driven by its curse receptive institutions and governance environment that enabled bad contracts, corruption, and lack of confidence.[445] Ghana which already had the opportunity to develop some of its democratic institutions prior to discovering oil in large commercial quantities in the early 2000's was hopeful that it would not experience the resource curse, even though its institutions were relatively susceptible to the demise of the Nigerian example.[446] Although the verdict on Ghana's status is still being written, some scholars believe that without accountability the country will likely follow the path of countries like Nigeria, where "oil revenues have produced a strain of 'rentier' politics, manifesting as corruption, embezzlement, and fortified patronage networks."[447] Additionally, Ghana and Nigeria faces significant challenges when it comes to the global call to transition away from fossil fuels in order to reduce global emissions to address climate change—further underlining the relevance of policy coherence for the two coherence and hence a good justification for case study selection. Such energy transition may lead to stranded fossil fuel assets and losses not only for investors in advanced economies[448] but also loss of revenue for rentier states like Ghana and Nigeria.

(iii) The Role of Other Actors

The role of other actors, particularly international organizations, such as the World Bank Group/IFC and other multi-lateral development organizations in Africa is

[444] (EIU 2020)
[445] (Yamoah, How Can Ghana Avoid An Oil Curse? Lessons From Nigeria 2013), 16-52
[446] (Yamoah, How Can Ghana Avoid An Oil Curse? Lessons From Nigeria 2013), 56-95
[447] (Akonnor and Ohemeng 2020)
[448] (Semieniuk, et al. 2022)

well documented in academic literature in the way they influence African policies and economies. Ghana and Nigeria are often described as emerging and developing economies,[449] and hence the role of international organizations to domestic affairs can be extensive along the lines of varying social and economic issues. The long history and impact of the Bretton Woods institutions on developing economies are equally well researched, and although others have argued that such influence may be waning, it is important to underscore how impactful they can be during economic crisis for countries like Ghana and Nigeria.[450] Multinational oil and gas companies and associated subcontractors also play significant role in respective countries. In Ghana, international oil companies like Tullow Ghana, Vitol, Kosmos Energy, and ENI conduct operations in the country; alongside subcontractors like Schlumberger, Baker Hughes, Weatherford, Ocean Rig, and Technip FMC.[451] Furthermore, the US Department of Commerce International Trade Administration, notes that Ghana's oil and gas sector is the "subject of investment disputes, such as the one between the Springfield Group and ENI/Vitol."[452] In Nigeria, the presence of multinational oil and gas companies in the country dates back to when it first discovered oil—when Shell/D'Arcy (Shell-BP) discovered oil in commercial quantities and quality in 1956.[453] Although recent laws in the country have led to significant reduction in investments by multinational oil and gas companies in the country, companies like Eni, Chevron, and ExxonMobil still operate in the country.[454] The extent of impact and role of multinational oil and gas companies can be seen through efforts to drive transparency and accountability in revenue payments to national governments via programs like the Extractive Industries Transparency Initiative (EITI), which seeks to "understanding of natural resource management, strengthen public and corporate governance and accountability, and provide data to inform policymaking and multi-stakeholder dialogue in the extractive sector."[455] As of 2023, news reporting indicated that Ghana was considering selling more oil and gas exploration blocks;[456] and in Nigeria, the country is considering raising oil, condensates output by 2026.[457]

(iv) SDGs and Climate Policies

Both Ghana and Nigeria have conceptually aligned SDGs and climate change policies. Ghana has a total of 8 unique policies— without double counting dual SDGs/climate change policy which will make it 9 in total. For Ghana that consist of 6 unique SDGs and 2 unique climate change conceptually aligned policies. Nigeria has 10, with 4 unique SDGs and 6 climate change conceptually aligned policies. Ghana's main implementation body when it comes to its SDGs is the National Development

[449] (International Monetary Fund 2023)
[450] (Mühleisen 2023)
[451] (International Trade Adminstration 2023)
[452] (International Trade Adminstration 2023)
[453] (Yamoah, How Can Ghana Avoid An Oil Curse? Lessons From Nigeria 2013), 18
[454] (International Trade Administration 2023)
[455] (EITI n.d.)
[456] (Offshore Technology 2023)
[457] (C. Eboh 2024)

Planning Commission; except for its Renewable Energy Master Plan, which is spearheaded by the Energy Commission Ghana. The country's Medium-Term Development Policy Framework 2022-2025 also appears to be conceptually aligned with the SDGs and climate change—see Appendix II, with the same implementation body. Its climate change policies are primarily implemented by the Environmental Protection Agency (EPA) and the Ministry of Environment, Science, Technology, and Innovation (MESTI). Nigeria on the other hand has a mix bag of implementation institutions across different SDGs and climate change policies—see Appendix II. Its Medium-Term National Development Plan 2021 – 2025, Nigeria First NDC (Updated submission), and National Action Plan on Gender and Climate Change for Nigeria are deemed conceptually aligned with both SDGs and climate change. However, each is being led by a different government agency. The Ministry of Finance, Budget & National Planning is the key implementation agency for its Medium-Term National Development Plan 2021 – 2025. The Ministry of Environment leads on Nigeria's First NDC (Updated submission), and the Ministry of Gender, leads on the National Action Plan on Gender and Climate Change for Nigeria. A report by the Sustainable Development Goals Center for Africa uncovered that in both Ghana and Nigeria, there is a concerted effort across different government levels coordinating the implementation of national SDGs policies—including at the executive brank, parliament and across different ministries—see Table 7.

Table 7: Ghana and Nigeria - SDGs Coordinating Units Across Government

Country	SDGs (Government Coordination)[458]
Ghana	- Lead unit for SDGs in the executive - Dedicated interministerial SDGs task force - SDG committee in parliament
Nigeria	- Lead unit for SDGs in the executive - Dedicated interministerial SDGs task force - SDG committee in parliament

To recapitulate, although Ghana and Nigeria are good case study choices for this study for the reasons stated above, it goes without saying that both countries are West African countries; and perhaps another country either in east, central, or southern Africa would have provided a more geographic diverse aspect to the study. However, consideration was also given to researcher's experience and working knowledge across the Sub-Saharan Africa region, which includes over a decade of academic research and professional working experience that allows the researcher to be able to understand the nuances and apply informed experience to add value to the research. This is perhaps the researcher's own assertion for acknowledging the value of ethnographic experience as important part of any socio-political and economic research.

[458] See Appendix 1

Ghana

Political system (actors, networks and power dynamic):

As noted earlier, Ghana is considered a unitary state[459] with three branches of government—the executive, legislative and judicial branches. It also has a presidential system with governance derived from the country's 1992 constitution.[460] Based on democratic principles, the country is often considered a flawed democracy—see Appendix I. It has had consistent peaceful elections and transfer of power, backed by a multi-political party system since 1992. [461]

i) Executive power dominance

In any typical demoncracy, the expectation for separation of powers and distinct roles of the three branches of government is inherently fundamental to ensuring a stable, transparent, and accountable system worthy of the trust and faith of the people.[462] However, this underlying philosophy of separation of powers has often been questioned in Ghana's constitutional democracy, where the framers of the constitution arguably "deliberately fused the functions and power of the executive and the legislature culminating in a hybdrisation of the presidential and parliamentary systems of governement"[463]—leading to this idea of absolute executive powers in the presidency. This marriage of the functions of the executive and the legislature is in part reflected in Artcile 78 (1) of the consitution; which calls for a majority of ministers, appointed by the president with prior approval of parliament, to come from among members of the parliament.[464] This article has also raised some concerns about the efficacy of the oversight role of the legislature since majority of miniterial appointments comes from parliament.[465] Others have also praised this consitutional provision as an effective way to "promote consensual politics and efficiency in the performance of parliamentaty duties…"[466]

ii) Politcal party patronage

Another area of conern is political competition and party patronage, which is often a key problem in new and emerging democracies like Ghana.[467] Although Ghana maintains a multiple political party system, it is largely dominated by two main political parties, the National Democratic Congress (NDC) and the New Patriotic Party (NPP)—

[459] Described as the "concentration of governing power in the central government…the central government can opt to confer some of its governing authority to subnational units, but typically retains the authority to both dictate the scope of those power and to have the final authority on most State issues." See: (Williams, Sommadossi and and Mujais 2017)
[460] (Constitute Project n.d.)
[461] (Electoral Commission Ghana n.d.)
[462] (Bellamy 2010), 437
[463] (Sakyi 2010), 264
[464] (Sakyi 2010), 264
[465] (Amoateng 2012)
[466] (Amoateng 2012), 27
[467] (Kopecký 2011)

creating a political duopoly with abysmal performance by smaller parties in elections.[468] This is not unusual even in more established democracies in the West. The presence of such smaller parties does benefits Ghana's multi-party democracy and ultimately provides additonal idealogical paths for electorate. Political parties in any democracy competes on ideas, providing electorates their respective visions of the country they would like to see. Political manifestos have arguably played important roles in electoral activities all over the world;[469] and to a larger extent, serves as the de facto agenda of governments—to which electorates will often assess them when it comes to performance. However, state exploitation by political parties in many democracies can be concerning.[470] The pervasiveness of party patronage in Ghana combined with the perceived absolute power of the presidency, highlights some of the power dynamics in the country when it comes to policy direction and implementation. In a study by Kopecký, comparing political competion and party patronage in Ghana vs South Africa, he noted that patronage practices between the two political parties; NDC and NPP in Ghana, are more so the same; with both parties—when in power, behaving the exactly same "with respect to politicisation of appointments within the public sector."[471] Additionally, the author notes that "clientelistics practices seem to have been an integral feature of candidate selection, budget allocations and consitutuency representation" in Ghana.[472]

iii) Judicial oversight

The judicial system in Ghana, by and large, is considered to be one of the best in Africa, although not without problems, including perception of corruption, intimdation, bias, high cost, and delays.[473] In 2018, it was alleged that a number of judges were caught on tape engaging in corrupt behaviors—such as collecting bribes.[474] A 2022 report by the U.S. Department of State noted the pervasiveness of corruption in Ghana and the lack of transparency in government.[475] The report highlighted that

> the law provides criminal penalties for corruption by government officials, but the government did not implement the law effectively, and officials frequently engaged in corrupt practices with impunity. There were numerous reports of government corruption. Corruption was present in all sectors of government, according to media and NGOs, including recruitment into the security services.[476]

Regardless, it is worth noting the impact of the judiciary in Ghana's democratic consolidation process—especially revolving around the country's electoral system and

[468] (Owusu-Mensah and Ateku n.d.)
[469] (Ayee 2017), 84
[470] (Kopecký 2011)
[471] (Kopecký 2011)
[472] Ibid.
[473] (Amagnya 2023) and (Osse and Asiamah 2020)
[474] (Boadi 2021)
[475] (U.S. Deparment of State 2022)
[476] (U.S. Deparment of State 2022)

perception of judicial independence.[477] In its last 8 electoray cycles, the judicial system has managed to restore sanity in the county's elections by tackling disputes related to election malpractices and irregularities, two of which—2012 and 2020 presidential elections—almost destablized the nation.[478]

Public policy process:

Like many other countries, democratic or undemocratic, policymaking in itself can be complex and often uncertain in nature. Ghana is no exception. The agenda development—that is agenda setting, often emanates from the competivite electoral process, where different political parties or groups propose fixes to problems they've identfiied to sell the electorate on.[479] The concept of a policy cycle in policymaking is often discussed in many academic literature. This consist of the formulation (where the governnment of the day engineer policies via its bureaucracies), adoption (via authortiative policy actors, including parliament), implementation (such as by ministries and departments) and evaluations of policies (in some cases undertaken by adminstrative officers or third parties).[480] Other scholars point to the concept of participatory policymaking within governance framework, where citizens are actively enaged in the policy process, or civil society serves as a platform for participation.[481]

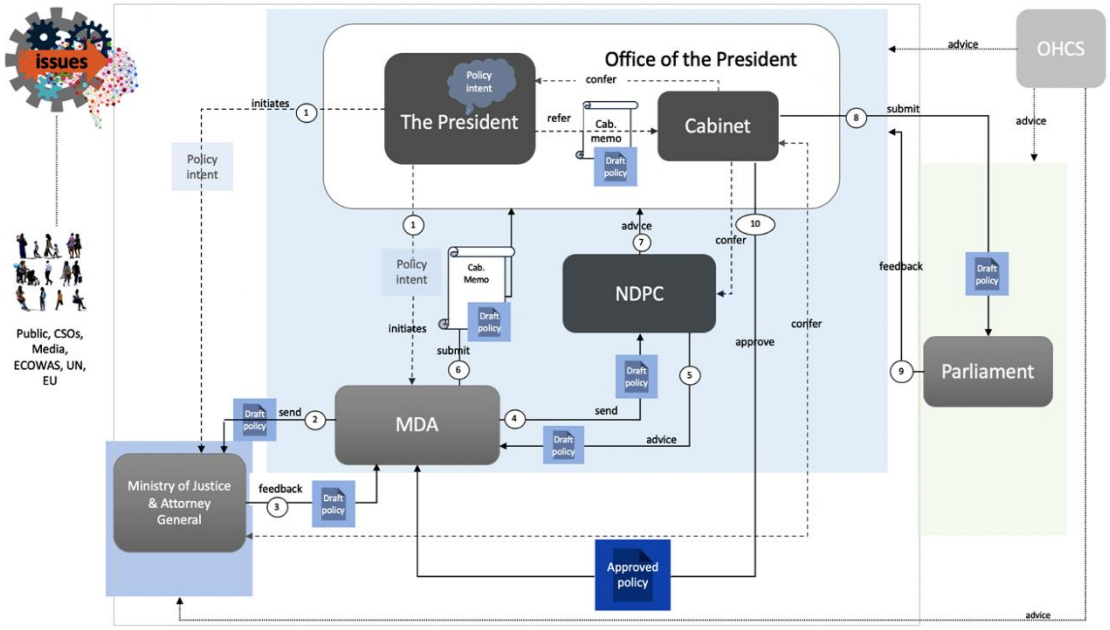
Ghana, in the past, has not necessarily follow a prescribed policy cycle or process.[482] However, in 2020, the National Development Planning Commission (NDPC)[483] of the Republic of Ghana, released its first edition of of the national public policy formulation guidelines.[484] The rationale for such guideliness emanated from challenges related to the

> processes and procedures used in the formulation and approval of policies; differneces in policy formats and structure; limited stakeholder engagement; weak implementation arrangements; weak policy ownership; financial constraints, as well as policy conflicts, contradictions, incosistencies and duplications.[485]

[477] (Adams and Asante 2020)
[478] (Benson 2022), 58
[479] (A. K. Mohammed 2020), 4
[480] (A. K. Mohammed 2020), 4-5
[481] (Kpessa 2011), 34-38
[482] Ibidi. 6
[483] Established under Articles 86 and 87 of the 1992 Constitution as part of the Executive via the National Development Planning Commission Act 1994 (Act 479) and the National Development Planning System Act, 1994 (480); it is mandated to coordinate the decentralized development planning system in Ghana. See: (National Development Planning Commission n.d.)
[484] (National Development Planning Commission 2020)
[485] (National Development Planning Commission 2020), 1

The guidelines provides a means to standardise the development format for public policy while also streamlining the process, “strengthenning coordination, collaboration, hormoisation and implementation…, and preventing “overlaps, duplications, conflicts and contradictions in public policies.”[486] Figure 15 below provides a schematic overview of what the NDPC describes as the key actors and instituions in the process of public policy formulation. Under this framework, the policy intent must emanate from the presidency based on issues that are derived from the public, civil society groups and other third parties such as the UN, EU and ECOWAS. In the guidelines, the NDPC notes that the “Office of the President (OoP) is reponsible for the determination of general policy…”[487] The presidency checks its policy intent with the Ministry of Justice & Attorney General to ensure that consitutional laws and regulations are followed as well as relevant Ministries, Deparments and Agecies (MDAs) for research and input; and then confers with its cabinet and take further advise from the NDPC.[488]

Figure 15: NDPC Public Policy Formulation Guidelines: Key Actors in the Process of Public Policy Formulation



Source: NDPC, Republic of Ghana.

In additon to the Ministry of Justice & Attorney General that is specifically called out in the guidelines, the Parliament—evaluate and dabate policies; Ministry of Finance—assess financial implication and fiscal sustainability; and the Office of the Head of Civil Service (OHCS)—provide managerial audits and review; are also uniquely noted in the key stakholers and their roles in the formulation of policy.[489] Furthermore, one thing that is clear from the schematic of the guideline is the understanding that the

[486] Ibid. 3
[487] Ibid. 17
[488] Ibid. 17-19
[489] Ibid 16-20

citizenry participation only comes from the development of the intent and no other pathway in current scheme is there additional feedback sought—unless such is raised within the judicial system to challenge any policy. For instance, in the U.S. the guideline to the rulemaking process ensures that there is a perod for the public to register comments/feedback before a proposed rule is made, finalized and issued—in addtion to the judicial opportunities to challenge such rules/policies/regulations.[490] Given that this guidelines was published in 2020, it would be fair to assume that such process could not have been recognized back when the country set up its Paris climate and SDGs aligned policy regimes; and whatever the practice was then, was only based on permissible legal framework and norms.

Influence of non-government actors:

As evidenced by the NDCP guidelines, policymaking can emanate from different issues raised by citizens, media and other international organizations such as the UN, ECOWAS or the EU. This recognition fundamentally acknowledges the influence or impact of these actors as an important part of the policymaking process. It is also not unusal given the historical evidence of how entities like the World Bank, the International Monetary Fund (IMF) and other international interest groups/actors have formulated the economic policies of countries like Ghana.[491] This is also backed by historical examples about the nature of aid conditionalities or paternalism that has often incentivised reciepient countries into developping policies that suits the interest of donor contries.[492]

It is also important to understand that bad management of domestic affairs coupled with critical junctures in global affairs often lead developing countrlies like Ghana into the policy hands of international organizations like the IMF and World Bank to seeke solutions that often come with conditions; sometimes not so pleasant. For instance, when the NPP took power in 2017, after heavily criticizing the previous government of the NDC for “poor and incompetent management” of the economy; it embarked on massive public spending intiatitives that was financed by increased borrowing.[493] With the onset the COVID-19 crisis in 2020 and the Russia-Ukraine war in 2022, the economic stresses of the country pushed the government—that had promised not to go back to the the IMF—to seek IMF help in tackling domestic economic challenges.[494] This led to the IMF asking the country to pass certain domestic reforms, including areas focused on governance and tax and financial management reforms.[495] Some have argued that Ghana’s economic woes started way before the COVID-19 ad

[490] (Federal Register n.d.)
[491] (Libby 1976), 67
[492] (Rafoss 2014)
[493] (Hlovor 2023)
[494] (Hlovor 2023)
[495] (International Monetary Fund 2024)

Russia-Ukraine wars, and that it was the result of politcians desire for overspending in part driven by a desure also to fulfil unfunded political campaign promises.[496]

Ghana's conceptually aligned Paris Climate and SDGs policies:

As noted in the analysis on how sub-Saharan African countries policies are conceptually aligned with the Paris Climate Agreement or the SDGs, Ghana selected policies— See Appendix II and Table 8—are fairly conceptually aligned to the SDGs and Paris Climate Agreement, with some policies conceptually aligned to both international agreements. The main implementation and coordinating agency in the case of Ghana when it comes to its policies is the National Development Planning Commission. Its climate change policies are primarily implemented by the Environmental Protection Agency (EPA) and the Ministry of Environment, Science, Technology, and Innovation (MESTI). The Ghana Renewable Energy Master Plan is primarily facilitated by the Energy Commission. The key policies and legislations as shown below were established between 2016-2021. The data collection used the benchmark year of 2015—when both the international agreements related to climate and the SDGs were adopted. It is also important to reiterate that this is not an exhaustive list of all relevant policies in Ghana but a representation for the purpose of this research.

Table 8: Ghana – Summary of Key Conceptually Aligned SDGs/Climate Change Policies

Key policies/legislation	**Year**	**Conceptually aligned SDGs or Climate Change Policy/Legislation**	**Key implementing Institution(s)**
Medium-Term Development Policy Framework 2022-2025	2021	SDGs/Climate Change	National Development Planning Commission
Ghana Beyond Aid Charter Strategy	2019	SDGs	National Development Planning Commission
Coordinated Programme of Economic and Social Development Policies (2017-2024)	2017	SDGs/Climate Change	National Development Planning Commission
Ghana@100	2019	SDGs	National Development Planning Commission

[496] (Donkor 2023)

Long-Term National Development Plan (2018-2057)	2017	SDGs/Climate Change	National Development Planning Commission
Ghana Renewable Energy Master Plan	2019	SDGs	Energy Commission Ghana
Ghana First NDC	2016	Climate Change	Environmental Protection Agency (EPA) and the Ministry of Environment, Science, Technology, and Innovation (MESTI)
Ghana Revised NDC (Updated submission)	2021	Climate Change	Environmental Protection Agency (EPA) and the Ministry of Environment, Science, Technology, and Innovation (MESTI)

Although the National Development Planning Commission (NDPC) did not publish its first edition of of the national public policy formulation guidelines until 2020—predating the policy formulation framework identified in Figure 15—5 out of 8 policies were adopted before 2020, one could assume that given the constitutional requirements and expectations of some of the institutions identified within the national policy framework guidelines, much of the process existed and were simply codified to address inefficiences among different policy objectives.

Ghana's Medium-Term Development Policy Framework (MTDPF) 2022-2025

Published in 2021 by the National Development Planning Commission, it demonstrates a strong conceptual alignment with both the Sustainable Development Goals (SDGs) and the Paris Climate Agreement. The policy was informed by Ghana's long-term national development framework (Agenda 2057), the Ghana Beyond Aid Charter and Strategy, and other national and international commitments, including the SDGs, Paris Agreement, and African Union Agenda 2063.[497] The MTDPF includes a commitment to safeguard the natural environment and built environment as one of its key objectives, alongside five other sustainable development goals.[498] This environmental focus reflects Ghana's recognition of climate change as a critical issue,

[497] (National Development Planning Commission 2021), x
[498] (National Development Planning Commission 2021), x

with the policy noting that climate change adaptation strategies have been mainstreamed into both sector and district level planning. The proportion of sectors with climate change adaptation strategies increased from 35% in 2017 to 54% in 2020, indicating progress in this area.[499]

The policy's emphasis on adaptation strategies aligns with the priorities of many developing economies seeking support to adapt to climate change impacts while holding industrialized countries primarily responsible for its causes. This approach is consistent with Ghana's position in international climate negotiations and its commitments under the Paris Agreement. The MTDPF also addresses broader sustainable development issues beyond climate change. It sets out goals and objectives related to economic growth, social development, and environmental protection, reflecting the integrated nature of the SDGs. The policy's holistic approach demonstrates Ghana's commitment to balancing economic development with environmental sustainability and social progress. However, the MTDPF faces challenges in implementation, particularly regarding Ghana's economic dependence on oil and gas exports. While the policy promotes sustainable development and climate action, Ghana's continued investments in fossil fuel infrastructure and exploration create tensions with its climate commitments. This highlights the complex trade-offs developing countries like Ghana face in pursuing economic growth while addressing global environmental challenges.

Overall, the MTDPF 2022-2025 represents a significant effort by Ghana to align its national development strategy with global sustainability and climate goals. Its success will depend on effective implementation, adequate financing, and the ability to navigate competing economic and environmental priorities. . According to the MTNDF document, the NDPC approved the policy after it was approved by the presidency and presented to the Parliament of Ghana.[500]

Ghana Beyond Aid Charter Strategy

The Ghana Beyond Aid Charter Strategy, published in 2019, represents a significant shift in Ghana's development approach, emphasizing self-reliance and sustainable development. While not explicitly framed as a climate policy, the strategy demonstrates strong conceptual alignment with the Sustainable Development Goals (SDGs) and indirectly addresses climate-related issues. In the foreword, President Nana Akufo-Addo outlines a vision that resonates with multiple SDGs:

> "We can, and should build a country where everyone has opportunities to develop to their fullest God-given potential; a Ghana where everyone has access to education, training, and productive employment; a Ghana where no one goes hungry and everyone has access to the necessities of life

[499] Ibid. xii
[500] Ibdi.

including good health care, water, sanitation, and decent housing in line with the Sustainable Development Goals (SDGs)."[501]

This statement encapsulates the strategy's holistic approach to development, touching on SDGs related to poverty elimination, quality education, decent work, and access to basic services. By explicitly referencing the SDGs, the strategy signals Ghana's commitment to aligning its national development agenda with global sustainability goals. While climate change is not a central focus of the Ghana Beyond Aid Strategy, its emphasis on sustainable development inherently addresses climate-related concerns. The strategy's focus on building a resilient and self-reliant economy indirectly supports climate adaptation efforts by reducing dependency on external aid and fostering domestic capacity to address environmental challenges.The strategy's approach to economic transformation, which emphasizes value addition and industrialization, presents both opportunities and challenges for climate action. On one hand, it could lead to increased emissions if not managed sustainably. On the other, it provides a framework for developing green industries and technologies that could support climate mitigation efforts. The Ghana Beyond Aid Strategy's alignment with the SDGs suggests a recognition of the interconnectedness between social, economic, and environmental issues.

This integrated approach is crucial for addressing complex challenges like climate change, which require coordinated action across multiple sectors. However, the strategy's primary focus on economic self-reliance and reduced dependency on foreign aid may present challenges for accessing international climate finance. As Ghana seeks to implement its climate commitments under the Paris Agreement, balancing the "Beyond Aid" approach with the need for climate-specific international support will be crucial. In conclusion, while not explicitly focused on climate action, the Ghana Beyond Aid Charter Strategy demonstrates significant alignment with sustainable development principles. Its holistic approach to national development provides a foundation for addressing climate-related issues within the broader context of economic and social progress. The strategy's success in supporting climate action will depend on how its principles are translated into specific policies and actions that balance economic growth with environmental sustainability.

Coordinated Programme of Economic and Social Development Policies (2017-2024)

The Coordinated Programme of Economic and Social Development Policies (CPESDP) for 2017-2024, presented by President Nana Akufo-Addo to the 7th Parliament of the 4th Republic in 2017, outlines Ghana's development strategy with significant alignment to sustainable development principles and climate considerations. While primarily focused on economic growth and job creation, the policy demonstrates conceptual alignment with both the Sustainable Development Goals (SDGs) and the Paris Climate Agreement.

[501] (Government of Ghana 2019)

The CPESDP reiterates goals that later became part of the Medium-Term National Development Policy Framework (MTNDF), including building a prosperous nation and safeguarding the natural environment. This dual focus reflects an understanding of the interconnectedness between economic development and environmental sustainability, a key principle of the SDGs. President Akufo-Addo emphasized the policy's people-centric approach, stating that it "places people at the centre of development, and lays the foundation for a safe Ghana that works, and gives each and every one of us the opportunity to improve our lives, irrespective of our socio-economic background, gender, status, tribe or geographical location."[502] This inclusive vision aligns with the SDGs' core principle of "leaving no one behind" and addresses multiple SDG targets related to poverty reduction, gender equality, and reducing inequalities.

Regarding climate change, the CPESDP explicitly references Ghana's National Climate Change Policy, launched in 2014. It highlights Ghana's commitment to reducing greenhouse gas emissions by 15 percent by 2030 relative to the business-as-usual scenario.[503] This commitment aligns with the Paris Agreement's goal of limiting global temperature increase. The policy further notes that "an additional 30 percent reduction is attainable on condition that Ghana receives external support in the form of finance, technology transfer and capacity building to cover the full cost of implementing the identified mitigation action."[504] This statement underscores the importance of international cooperation in achieving climate goals, a key aspect of the Paris Agreement.

The CPESDP's acknowledgment of climate change and inclusion of specific emission reduction targets demonstrates Ghana's recognition of the importance of climate action within its broader development agenda. By integrating climate considerations into its national development strategy, Ghana shows alignment with the Paris Agreement's call for countries to incorporate climate action into their national policies. However, the policy's primary focus on economic growth and job creation may present challenges in balancing development needs with environmental sustainability. The success of the CPESDP in addressing climate change and sustainable development will depend on how effectively these commitments are translated into concrete actions and how well Ghana navigates the potential tensions between rapid economic development and environmental protection.

Ghana@100 and Long-Term National Development Plan (2018-2057)

Ghana@100, first published by the National Development Planning Commission (NDPC) in 2019, sets out a long-term vision for the country as it looks toward celebrating its centenary in 2057. This strategic policy, designed to transcend different administrations over the years, demonstrates significant conceptual alignment with the

[502] (Government of Ghana 2017), ii
[503] (Government of Ghana 2017), 40
[504] Ibid.

Sustainable Development Goals (SDGs) and, to a lesser extent, the Paris Climate Agreement.

The policy outlines several key drivers of transformation, including infrastructure development, human capital management, and maintaining macroeconomic stability.[505] These focus areas align closely with multiple SDGs, particularly those related to economic growth, education, and infrastructure development. Additionally, Ghana@100 explicitly includes peace and security and clean and affordable energy as priority areas, directly corresponding to SDG 16 (Peace, Justice and Strong Institutions) and SDG 7 (Affordable and Clean Energy) respectively.[506] While climate change is not a central focus of Ghana@100, the inclusion of clean and affordable energy as a key driver of transformation indicates an awareness of the need for sustainable energy solutions. This aligns with both the SDGs and the broader goals of the Paris Climate Agreement, though specific climate mitigation or adaptation strategies are not prominently featured in the policy.

Ghana@100 also builds upon and refines the aspirations outlined in its predecessor, the Long-term National Development Plan of Ghana. The latter policy provided more detailed context on climate variability and change, including Ghana's emissions profile in terms of contributions of gases to national emissions.[507] It highlighted that while Ghana's emissions accounted for only about 0.1% of global emissions, the country ranked in the top 10 of countries most globally impacted by extreme weather events.[508] This recognition of Ghana's vulnerability to climate change impacts, despite its relatively small contribution to global emissions, aligns with the principle of common but differentiated responsibilities central to the Paris Agreement. The long-term perspective of Ghana@100 provides a framework for integrating sustainable development principles into the country's growth trajectory over an extended period. This approach is consistent with the SDGs' vision of long-term, sustainable transformation and the Paris Agreement's call for long-term low greenhouse gas emission development strategies. However, the policy's primary focus on economic transformation and development may present challenges in balancing growth objectives with environmental sustainability. The success of Ghana@100 in supporting climate action and sustainable development will depend on how its broad vision is translated into specific policies and actions that integrate environmental considerations into economic planning.

In conclusion, while Ghana@100 demonstrates strong alignment with the SDGs, particularly in areas of economic and social development, its treatment of climate change and environmental sustainability is less explicit. As Ghana moves forward with implementing this long-term vision, integrating more robust climate considerations into

[505] (NDPC 2019)
[506] (NDPC 2019), v
[507] (NDPC 2017), 295
[508] (NDPC 2017), 296

its development strategy will be crucial for ensuring true alignment with global sustainability goals.

Ghana Renewable Energy Master Plan

The Ghana Renewable Energy Master Plan (REMP), published in 2019, represents a significant step towards sustainable energy development in Ghana. While not explicitly framed as a climate policy, the REMP demonstrates strong conceptual alignment with the Sustainable Development Goals (SDGs), particularly SDG 7 (Affordable and Clean Energy). The REMP was developed through a collaborative effort, funded by the China-Ghana South-South Cooperation, with participation from the Energy Commission of Ghana, the Ministry of Science and Technology in China, and the UNDP country offices in Ghana and China.[509] This international cooperation in developing the plan aligns with SDG 17 (Partnerships for the Goals), highlighting Ghana's engagement with global sustainable development efforts.

The REMP sets ambitious targets for renewable energy integration by 2030, aiming to:

1. Increase the proportion of renewable energy in the generation mix
2. Reduce dependency on biomass
3. Provide renewable energy-based decentralized electrification options
4. Promote local content and participation in the renewable energy industry[510]

These objectives align closely with SDG 7 targets, particularly 7.1 (universal access to modern energy services), 7.2 (increase share of renewable energy), and 7.3 (improve energy efficiency). The focus on decentralized electrification options also supports SDG 10 (Reduced Inequalities) by potentially improving energy access in underserved areas.

While the REMP does not explicitly reference the Paris Climate Agreement, its focus on renewable energy development inherently supports climate change mitigation efforts. Increasing the share of renewable energy in Ghana's energy mix would contribute to reducing greenhouse gas emissions from the energy sector, aligning with the Paris Agreement's goals. The plan's emphasis on promoting local content and participation in the renewable energy industry also aligns with SDG 8 (Decent Work and Economic Growth) and SDG 9 (Industry, Innovation, and Infrastructure). This approach could foster green job creation and technological innovation in the renewable energy sector. Interestingly, despite its relevance to climate change mitigation, the REMP does not explicitly highlight any policy framework, domestic or international, related to the post-2015 Paris Agreement.[511] This omission may reflect a primary focus on energy security and economic development rather than climate change per se.

[509] (Energy Comission 2019), i
[510] (Energy Comission 2019), iv
[511] Ibid.

In conclusion, the Ghana Renewable Energy Master Plan demonstrates significant alignment with the SDGs, particularly in relation to sustainable energy development. While not framed explicitly as a climate policy, its implementation would contribute to Ghana's climate change mitigation efforts. The plan's success will depend on effective implementation and integration with other national policies, including those more directly focused on climate change and environmental protection.

Ghana first NDCs (2016) and Ghana Revised NDC (Updated submission)

Ghana's Nationally Determined Contributions (NDCs), both the initial 2016 submission and the 2021 update, demonstrate the country's commitment to global climate action in alignment with the Paris Agreement. These documents also show conceptual alignment with broader sustainable development goals.

The First NDC (2016) outlined Ghana's initial climate commitments, highlighting a pledge to unconditionally reduce greenhouse gas (GHG) emissions by 15% relative to a business-as-usual (BAU) scenario of 73.95MtCO2e by 2030.[512] This commitment covered key sectors including energy, transport, industrial processes and product use, agriculture, forestry, and other land use (AFOLU), and waste.[513] The broad sectoral coverage indicates an understanding of the cross-cutting nature of climate action, aligning with the integrated approach of the Sustainable Development Goals (SDGs).

The Updated NDC submission in 2021 significantly expanded on these commitments, outlining 19 policy actions aimed at achieving multiple outcomes by 2030. These include:

1. Generating absolute GHG emission reductions of 64 MtCO2e
2. Avoiding at least 2,900 premature deaths per year through improved air quality
3. Creating over one million decent and green jobs
4. Benefiting nearly 38 million people, with a focus on youth and women[514]

The updated NDC divides its commitments into adaptation and mitigation measures. For adaptation, it outlines 13 measures, including seven unconditional and six conditional programmes of action. On the mitigation front, Ghana aims to implement 34 measures, including nine unconditional programmes of action targeting 8.5 MtCO2e GHG reductions by 2025 and 24.6 MtCO2e by 2030 compared to the 2020-2030 baseline scenario.[515] Notably, the updated NDC also includes 25 conditional programmes of action, which could achieve additional reductions of 16.7 MtCO2e by 2025 and 39.4 MtCO2e by 2030, contingent on financial support from international and private sector sources.[516] This approach aligns with the Paris Agreement's principle of

[512] (NDC Partnership n.d.)
[513] (NDC Partnership n.d.)
[514] Ibid.
[515] Ibid.
[516] Ibid.

common but differentiated responsibilities and respective capabilities. The expanded scope and ambition of the updated NDC demonstrate stronger alignment with both climate goals and broader sustainable development objectives. The focus on green job creation, air quality improvement, and benefits for vulnerable populations (youth and women) shows clear links to multiple SDGs, including SDG 8 (Decent Work and Economic Growth), SDG 3 (Good Health and Well-being), and SDG 5 (Gender Equality). However, it's worth noting that while the NDCs cover energy and industrial sectors consistent with IPCC guidelines, they do not explicitly address Ghana's expanding oil and gas sector. This omission highlights the ongoing challenge of balancing climate commitments with economic dependence on fossil fuel exports.

In conclusion, Ghana's NDCs, particularly the 2021 update, show strong alignment with the Paris Agreement and conceptual links to the SDGs. They represent a comprehensive approach to climate action that integrates mitigation, adaptation, and sustainable development objectives.

Oil and Gas Economic Dependence

When Ghana discovered oil in large commercial quantities in 2007, it was celebrated as a big economic win for the country; with ex-President John A. Kufuor, noting that it will transform the economy into an African tiger.[517] Since 2011, when Ghana first officially entered the oil market as a producing coungtry, lots of academic studies have explored how Ghana can avoid the oil curse; that “developing nations endowed with natureal resources tend not to benefit from the resource as compared to nations that are usually not endowed with natural resources.”[518] In a study I conducted back in 2013, I noted that Ghana’s institutional context—rule of law, effective governane, openness and accountability, although among the best in Africa, was relatively mediocre and hence made it susceptible to the resource curse theory.[519] Although the fate of Ghana is yet to be determined when it comes to its resistance to the oil curse, the country has gradually put in place a number of policies and measures to address institutional risks and susceptibility, particularly around accountability and transparency.[520] More still needs to be done around the fiscal responsibility and revenue management in order to beat the resource curse.[521] Based on 2022 data from the OECD, Ghana ranks the 27th largest exporter of crude petroleum in the world; estimated at $5.12 billion.[522] It also ranked the second “most exported product in Ghana” after Gold.[523]

As the world seeks to transition away from fossil fuel dependence in order to mitigate climate change and adapt to associated physical risks, concerns about the

[517] (Yamoah, How Can Ghana Avoid An Oil Curse? Lessons From Nigeria 2013), 1
[518] (Yamoah, How Can Ghana Avoid An Oil Curse? Lessons From Nigeria 2013), 2
[519] Ibid. 99
[520] (Alagic 2023)
[521] (Asenso and Ackah 2022)
[522] (OECD 2022)
[523] (OECD 2022) and (OECD 2022)

future of oil and gas producing nations—related to stranded assets, remains a big focus at the international level; and as countries like Ghana commits to various goals and objectives under the SDGs and Paris Climate Agreements, the balance between maintaining a strong economic performance via its second most exported product and achieiving the respective global goals and targets becomes complex. In Ghana's 2024 budget statement, it noted that it was advocating for a fit-for-climate financial system that included "systemic changes in global climate financing."[524] It also highlighted commitments under the Green Climate Fund with potential to earn US$4.8 million from carbon credits "by reducing nearly one million tons of carbon emissions through forest conservation and degradation prevention."[525]

The plan also underscores Ghana's interest in transitioning away from fossil fuels into clean energy, and in 2023, the President of Ghana, at the 78th UN General Assembly presented the countries National Energy Transition (NET) investment plan for how it intends to achieve a net zero future.[526] However, its budget presentation also noted that the government was equally committed to improviing infrastructure and support for oil and gas production across existing fields.[527] The country's energy transiton framwork also calls for "significant investment in compressed natural gas infrastructure for transport by 2030, and in carbon capture, utilization and storage (CCUS) for both electricity generation and oil & gas production by 2040."[528] Such commitment definitely requires a reliance on technology transfer for western countries—especially CCUS, along side capital investments. It also underscores the country's commitment to support the oil and gas industry. The country is reportedly expected to commerce 17 oil and gas projects between 2023 and 2027, including 3 offshore field development project in the upstream, 9 projects in development in midstream, and the downstream seeing the "development of 2 refineries and 3 petrochemical processing facilities."[529]The energy transition policies of the government alongside its expansion and investments to expand of oil exploration and production, clearly signals much of the energy transition challenges for many countries; and particularly for those whose economies rely heavily on petreoluem exports.

Summary

Ghana's policy landscape is characterized by significant executive dominance, with the presidency playing a central and influential role in policy formulation and implementation. This concentration of power in the executive branch is evident through multiple institutional and procedural mechanisms. The NDPC's policy formulation guidelines, published in 2020, explicitly position the Office of the President as the primary source of policy intent and a key actor throughout the policy development

[524] (Ministry of Finance Republic of Ghana 2024), 96
[525] (Ministry of Finance Republic of Ghana 2024), 96-97
[526] This initiative was not collected as part of the original data set used in the analysis, happening after data was collected. See: (Ministry of Finance Republic of Ghana 2024)
[527] (Ministry of Finance Republic of Ghana 2024), 127
[528] (Government of Canada n.d.)
[529] (Energy Capital Power 2023)

process. This framework institutionalizes the presidency's central role in shaping the country's policy agenda. The guidelines outline a process where:

- The presidency initiates policy intent based on issues derived from various stakeholders, including the public, civil society groups, and international organizations.
- The Office of the President is responsible for determining general policy direction.
- The presidency consults with the Ministry of Justice & Attorney General, relevant Ministries, Departments, and Agencies (MDAs), the cabinet, and the NDPC before finalizing policy decisions.

This structured approach, while potentially promoting policy coherence, also reinforces the executive's control over the policy agenda. The executive's central role is further evidenced in the presentation and ownership of major policy documents:

- The Medium-Term National Development Policy Framework (MTDPF) 2022-2025 was approved by the presidency before presentation to Parliament.
- The Ghana Beyond Aid Charter and Strategy features a foreword by President Nana Akufo-Addo, signaling direct presidential involvement in its development.
- The Coordinated Programme of Economic and Social Development Policies (CPESDP) 2017-2024 was personally presented by President Akufo-Addo to the 7th Parliament of the 4th Republic.

This direct presidential association with key policy documents reinforces the executive's role as the primary driver of the national policy agenda. While executive leadership in policy formulation can promote coherence and decisive action, it also presents several challenges, including the potential for policy discontinuity. Despite the challenges posed by executive dominance, Ghana's policy environment demonstrates efforts toward coordination and coherence, primarily through the role of the National Development Planning Commission (NDPC). Its role in policy formulation and coordination is designed to promote coherence across various sectors and levels of government. Several key policy documents demonstrate attempts at comprehensive and integrated approaches to national development:

- MTDPF 2022-2025: This framework integrates various national and international commitments, including the SDGs, Paris Agreement, and African Union Agenda 2063, into a coherent national development strategy.
- Ghana Beyond Aid Charter and Strategy: While focusing on economic self-reliance, this policy demonstrates alignment with multiple SDGs, indicating an effort to integrate global sustainability principles into national planning.

- CPESDP 2017-2024: This programme explicitly incorporates climate change considerations and emission reduction targets alongside broader economic and social development goals.

Ghana's policy environment shows significant openness to external influences, particularly in aligning with international agreements and development agendas. This is fully recognized and explicitly acknowledged in the NDPCs guidelines; including the UN, ECOWAS, and the EU, in shaping policy intent. This formal recognition institutionalizes the consideration of international perspectives in domestic policy formulation. Several key policies demonstrate conceptual alignment with global frameworks, particularly the Sustainable Development Goals (SDGs) and the Paris Climate Agreement:

- MTDPF 2022-2025: Explicitly references and incorporates goals from the SDGs, Paris Agreement, and African Union Agenda 2063.
- Ghana Beyond Aid Charter and Strategy: While focused on national self-reliance, the strategy's vision aligns with multiple SDGs, indicating an integration of global sustainability principles into domestic planning.
- CPESDP 2017-2024: Incorporates specific climate change considerations and emission reduction targets aligned with Ghana's commitments under the Paris Agreement.
- Nationally Determined Contributions (NDCs): Both the 2016 initial submission and 2021 update demonstrate increasing ambition in climate action, aligning with the Paris Agreement's goals and reflecting responsiveness to international climate diplomacy.

Ghana's alignment with international climate and sustainability agreements presents significant challenges when juxtaposed with its economic dependence on fossil fuel exports, particularly crude petroleum. This tension highlights the complex trade-offs faced by developing economies in pursuing global climate action while maintaining economic growth. As noted earlier, Ghana ranks as the 27th largest exporter of crude petroleum globally, with exports valued at $5.12 billion in 2022, and its Crude petroleum is the second most exported product from Ghana, after gold. The sector's importance is reflected in continued government support for infrastructure development and production across existing fields. While Ghana's climate policies and NDCs cover energy and industrial sectors broadly, they do not explicitly address or provide justification for continued investments in the oil and gas sector:

- NDC coverage: The updated NDC submission covers energy and industrial sectors consistent with IPCC guidelines but lacks specific attribution or mitigation strategies for the oil and gas sector.
- Energy transition framework: Ghana's National Energy Transition (NET) investment plan, presented at the 78th UN General Assembly, outlines a path to a net-zero future. However, it also includes significant investments in natural gas infrastructure and carbon capture technologies, indicating a continued reliance on fossil fuel infrastructure.

- Budget priorities: The 2024 budget statement simultaneously commits to transitioning away from fossil fuels and improving infrastructure for oil and gas production, highlighting the conflicting priorities.

Ghana's continued investment in oil and gas infrastructure, including plans for 17 new projects between 2023 and 2027, may increase vulnerability to the stranded asset scenario. As the world moves towards decarbonization, there is a risk that Ghana's fossil fuel assets may become stranded, leading to unrecoverable investments and economic challenges. The focus on expanding oil and gas production may also divert resources from developing more sustainable economic sectors, potentially hampering long-term economic diversification efforts. Its climate policies emphasize adaptation, reflecting the country's high vulnerability to climate impacts. Ghana ranks among the top 10 countries globally impacted by extreme weather events, despite contributing only about 0.1% of global emissions. This vulnerability drives a focus on adaptation strategies, potentially at the expense of more robust mitigation efforts, particularly in the oil and gas sector. Its energy transition ambitions, particularly in advanced technologies, highlight significant gaps

While Ghana demonstrates policy coherence between select domestic policies and international agreements, implementation inconsistencies persist:

- Sectoral disparities: Strong alignment in some sectors (e.g., renewable energy) contrasts with continued fossil fuel development, highlighting the challenge of comprehensive policy implementation.
- Capacity constraints: Limited financial, technical, and human resources may impede full implementation of aligned policies across all sectors.
- Political economy factors: Vested interests in the fossil fuel sector may resist or slow the implementation of climate-aligned policies.

In conclusion, Ghana's experience highlights the complex challenges faced by developing countries in navigating the intersection of domestic development needs, economic realities, and global sustainability commitments. While the country has made significant strides in aligning its policies with international agreements, the tension between these commitments and economic dependence on fossil fuels remains a critical challenge. Addressing this will require not only domestic policy innovations and institutional strengthening but also enhanced international support and a global economic system more conducive to sustainable development in the Global South. The lessons from Ghana's experience offer valuable insights for other developing countries and for the international community in designing more effective and equitable approaches to global climate action and sustainable development.

Nigeria

Political system (actors, networks and power dynamic):

Nigeria operates as a federal presidential republic, with its political structure defined by the 1999 Constitution.[530] The country's governance system is characterized by a separation of powers among three branches: executive, legislative, and judicial. However, like many emerging democracies, Nigeria faces significant challenges in maintaining the balance and effectiveness of these institutions.

1. Executive power dominance

Nigeria's federal system consists of 36 states and the Federal Capital Territory, with power shared between the federal government and state governments.[531] Despite this federal structure, there is a strong tendency towards centralization, with the federal government wielding considerable influence over state affairs. This centralization is partly a legacy of military rule and partly due to the country's heavy reliance on oil revenues, which are controlled by the federal government.[532] Similar to Ghana, Nigeria's 1999 Constitution "provides for enormous executive power;"[533] with most Nigerians often ascribing "the appellation of government to the executive."[534] This is further validated in how section 130(2) of the 1999 constitution "uses the president to symbolise the artificial entity of the state"…and also explains why "the constitution grants the President absolute immunity from all court processes."[535] However, it is important to establish that much of the entrenched executive dominance in Nigeria's political history has been partly also due to "abuses and encroachments into the jurisdictions of both the legislature and the judiciary…;" further emboldening the office and weakening the principles of separation of powers.[536] Unlike Ghana, where the constitution specifically calls for a majority of ministers to come from among members of its parliament, the Fifth Alteration (No. 23)—amended section 147 of the 1999 Constitution; now notes that:

> Where a member of the National Assembly or of a House of Assembly is appointed as Minister of the Government of the Federation, he shall be deemed to have resigned his membership of the National Assembly or of the House of Assembly on his taking the oath of office as Minister.[537]

2. Legislative dynamics and party politics

Nigeria's National Assembly, consisting of the Senate and House of Representatives, is tasked with lawmaking and oversight of the executive branch. However, the effectiveness of this oversight role has been questioned by scholars who point to the dominance of the ruling party—especially interference from the executive

[530] (Federal Republic of Nigeria n.d.)
[531] (Suberu 2009)
[532] (Omotola 2008)
[533] (Baba 2018)
[534] (A. A. Mohammed 2016), 10
[535] (Diala 2013), 146
[536] (Baba 2018)
[537] (Legal500 2023)

office, and the influence of patronage networks.[538] Nigeria's National Assembly, according to Section 4(2) of the 1999 constitution is expected to "make laws for the peace, order and good government of the federation with respect to any matter included in the exclusive Legislative List."[539] The ineffectiveness of the legislature in performing proper oversight has also been the result of "crippling internal conflict, inexperience and high rate of members turnover…"[540] Nigeria—much like Ghana, is known to have elite and elite clientelism which creates "limited efforts for constituency service and weak legislator-vote ties."[541] Although, the country operates a multi-party system, political competition has been largely dominated by a few major parties since the return to civilian rule in 1999. The All-Progressives Congress (APC) and the People's Democratic Party (PDP) have been the main contenders in recent years.[542] Party politics in Nigeria is often characterized by "godfatherism" – a system of political patronage where powerful individuals or groups exert significant influence over party nominations and electoral outcomes.[543]

iii) Judicial challenges and anti-corruption efforts

The Nigerian judiciary, while constitutionally independent, faces numerous challenges that affect its ability to serve as an effective check on executive and legislative power. These challenges include inadequate funding, political interference by the executive arm, and corruption. For instance, according to Okaisabor, "despite the Nigerian judiciary being granted fiscal self-autonomy by the court in 2014, it continues to fall short of one of the main criteria for judicial independence due to inadequate budgetary support."[544] Efforts to combat corruption have been a recurring theme in Nigerian politics, with the establishment of agencies such as the Economic and Financial Crimes Commission (EFCC) and the Independent Corrupt Practices Commission (ICPC). However, the effectiveness of these institutions has been questioned, with critics arguing that anti-corruption efforts are often politicized and selectively applied.[545] A 2022 study by Transparency International ranked Nigeria 150 out of 180 countries in its Corruption Perceptions Index, highlighting the persistent nature of this challenge.[546]

Public policy process

The public policy process in Nigeria is complex and often opaque, influenced by a variety of actors and interests. While there are formal structures and procedures for policy formulation and implementation, reality often deviates from these ideals due to political, economic, and social factors. In theory, policy formulation in Nigeria should

[538] (Fashagba 2009)
[539] (Odalonu 2020), 153
[540] (Fashagba 2009)
[541] (Demarest 2022), 940
[542] (Clowes 2023)
[543] (Albert 2005)
[544] (Okaisabor 2024)
[545] (Ogundiya 2009)
[546] (Transparency International 2022)

follow a structured process involving various stakeholders. For instance, the National Economic Council (NEC), chaired by the Vice President and including state governors, has a constitutional mandate to "advise the President concerning economic affairs of the Federation, and in particular on measures necessary for the coordination of the economic planning efforts or economic programmes of the various Governments of the Federation."[547] However, in practice, agenda-setting is often driven by a combination of executive priorities, party manifestos, and external pressures from international organizations and donors. Some scholars have noted the disconnect between policy formulation and implementation in Nigeria. As Obona notes in his study of the effective implementation of public policies in Nigeria:

> public policy making objectives in Nigeria are directed towards personal rewards and interests of the political leaders and their colleagues with the result that a policy is judged more on its political merits with the real development need rarely factored into consideration, and for these, most public policies in Nigeria are either inappropriate or lack well defined objectives for their effective implementation.[548]

The federal ministries and agencies—the bureaucracy—also play a crucial role in policy development and implementation; hence an understanding of the roles and politics of these institutions are necessary—in addition to the constitutional requirements, relationship among these institutions and their respective operations. [549] However, it has been argued that "the dominant feature of policy making process in Nigeria is the principle of federal supremacy which is a constitutional conditionality in Nigeria."[550] As noted earlier, the NEC is one of the institutions that provides initial advisory services to the President—on matters of economic affairs; but in addition to the NEC, institutions that are often also involved in early stage policy making process includes the ministries of Finance and National Planning.[551] The process is summarized by Philip and Peter:

> Policy input comes from the various ministries and departments of [the] ministry of National Planning in the National planning office. Here policy alternatives are examined and evaluated and then translated into programs within the financial parameters stated by the ministry of Finance. The key agency in the Ministry of National Planning is the National Planning office, which is divided into four directorates, each headed by a director who is responsible to the permanent secretary of the ministry. Besides the National Planning office, there two other offices or boards that report to the Ministry of National Planning: The National Manpower Board (NMB) and the Federal Office of Statistics (FOS). The functions of

[547] (President of the Federal Republic of Nigeria n.d.)
[548] (Obona 2016)
[549] (Anyebe 2018), 14
[550] (Philip and Peter 2013), 60
[551] (Philip and Peter 2013), 60

> National Manpower Board consist of determining personnel needs and formulating programs for personnel development. The Federal Office of Statistics is the national agency responsible for collecting social and economic data throughout the federation. A number of other interdepartmental and intergovernmental agencies and institutions also participate in the [decision-making process]. The most notable among them are (a) the Joint Planning Board (JPB) and (b) the conference of Ministers and Commissioners for National and Economic Planning. Thereafter, proposals from various ministries, parastatals, agencies, commissions, and departments are carefully studied and forwarded to the President sometimes as budget proposal who finally presents them to the legislature for vetting and passage. When they are passed by the legislative, Mr. President finally give assent to them and the bureaucrats are directed for the implementation of such programs, policies, and activities.[552]

The challenge of policy formulation, coordination, and implementation at the federal level, and between and federal is particularly notable, and has always created a perception of "disconnect in policy formulation and implementation in Nigeria."[553] This is also further complicated by postcolonial symptoms, wherein ethnic, regional—like the north vs south, and religious tensions also create further division and challenges in policy development and implementation in Nigeria.[554]

Influence of non-government actors:

Non-governmental actors play a significant role in shaping policy and governance in Nigeria, although their influence varies depending on the sector and the specific issues at hand. Nigeria has a vibrant civil society sector, with organizations working on issues ranging from human rights and democracy to environmental protection and social welfare. These groups often serve as watchdogs, advocates, and partners in policy formulation and implementation.[555] However, the relationship between civil society organizations (CSOs) and the government is often complex and sometimes adversarial. While some CSOs have been effective in influencing policy through advocacy and public campaigns, others face challenges and are often "more reactive than proactive due to daunting challenges of leadership, internal democracy, autonomy, finance and cohesion which have affected the manner it conflates and or co-operates with the state and society at large."[556]

Like Ghana and many other developing economies, international organizations and donor agencies have historically played a significant role in shaping Nigeria's policy

[552] Ibid.
[553] Ibid.
[554] (Ugoh and Ukpere 2011), 9806
[555] (Ikelegbe 2001)
[556] (Igbokwe-Ibeto, et al. 2014)

landscape, particularly in areas such as economic reform, healthcare, and education. The World Bank, International Monetary Fund (IMF), and various UN agencies have been influential in promoting policy reforms and providing technical assistance. The influence of these external actors is particularly evident in economic policy. For instance, Nigeria's adoption of the Structural Adjustment Program (SAP) in the 1980s was largely driven by IMF and World Bank prescriptions.[557] The private sector, particularly the oil and gas industry, wields considerable influence in Nigerian policymaking due to the size of contribution to the country's economy. Business associations such as the Nigerian Association of Chambers of Commerce, Industry, Mines and Agriculture (NACCIMA) and the Manufacturers Association of Nigeria (MAN) also often engage in policy advocacy on issues affecting their members; and have often been deemed serious institutions by the government—including getting input into matter related to budget, exchange rate mechanisms, credit allocation, interest rates, wages, and issues on industrial relations.[558] However, the relationship between business interests and policymaking in Nigeria is often criticized for lack of transparency and the potential for corruption. The close ties between political elites and business interests in Nigeria often result in policies that favor certain sectors or companies, sometimes at the expense of broader economic development and public interest, and politicians have often appointed "their cronies as board members of government agencies and use them to award bogus and over inflated contracts to private sector corporations in which they have controlling interest, influence or powers to extract bribes from.[559]

In conclusion, a complex interplay of formal institutions, informal networks, and various domestic and international actors characterize Nigeria's political system and policy-making processes. While the country faces significant challenges in governance and policy implementation, there are also opportunities for reform and improvement. Addressing these challenges will require sustained effort, political will, and the active engagement of all stakeholders in the Nigerian polity.

Nigeria's conceptually aligned Paris Climate and SDGs policies:

As shown in Table 9 and Appendix II, the 3 of the select key policies are fairly conceptually aligned to both the SDGs and Paris Climate Agreement, with some policies conceptually aligned to only one of the international agreements. On the implementation front, the Ministry of Finance, Budget & National Planning and the Ministry of Environment appear to hold key policy formulation and implementation responsibilities when it comes to the policies/legislations. Like Ghana, the key policies and legislations as shown below were established between 2016-2021. Additionally, the data collection used the benchmark year of 2015—when both the international agreements related to climate and the SDGs were adopted. It is also important to

[557] (Mkandawire 2001), 296
[558] (U. M. Bello 2015), 109
[559] (Adekoya 2011), 44

reiterate that this is not an exhaustive list of all relevant policies in Ghana but a representation for the purpose of this research.

Table 9: Nigeria – Summary of Key Conceptually Aligned SDGs/Climate Change Policies

Key policies/legislation	Year	Conceptually aligned SDGs or Climate Change Policy/Legislation	Key implementing Institution(s)
Medium Term National Development Plan 2021 - 2025	2021	SDGs/Climate Change	Ministry of Finance, Budget & National Planning
Nigeria First NDC (Updated submission)	2021	Climate Change	Ministry of Environment
Nigeria First NDC (formerly INDC)	2015	Climate Change	Ministry of Environment
National Integrated Infrastructure Master Plan	2020	SDGs	Federal Ministry of Finance, Budget and National Planning
National Action Plan on Gender and Climate Change for Nigeria	2020	SDGs/Climate Change	Department of Climate Change, Federal Ministry of Environment
Nigeria's Climate Change Act	2021	Climate Change	National Council on Climate Change (the "Council")
Nigeria's National Action Plan to reduce short-lived climate pollutants	2018	SDGs/Climate Change	Ministry of Environment
The Flare Gas (Prevention of Waste and Pollution) Regulations, 2018	2018	Climate Change	Ministry of Petroleum and Resources

Nigeria Medium Term National Development Plan 2021 - 2025

The Nigeria NDP 2021-2025 demonstrates strong conceptual alignment with the Sustainable Development Goals (SDGs) and climate change objectives, while also emphasizing the central role of the executive in driving implementation. The plan explicitly references the SDGs as a key framework informing its development, stating that it has "the capacity to accelerate the attainment of various regional and global Agendas, including the AU Agenda 2063, ECOWAS integration Agenda and the Sustainable Development Goals 2030.[560] This indicates a deliberate effort to align national planning with global sustainable development priorities. Specific SDG-aligned goals are evident throughout the document, including targets related to poverty reduction (SDG 1), food security (SDG 2), health (SDG 3), education (SDG 4), gender equality (SDG 5), clean water and sanitation (SDG 6), affordable energy (SDG 7), economic growth and decent work (SDG 8), industry and innovation (SDG 9), reduced inequalities (SDG 10), sustainable cities (SDG 11), responsible consumption (SDG 12), climate action (SDG 13), and partnerships (SDG 17).

On climate change, the plan commits to "take bold steps to facilitate the growth of the social sector for the realization of this plan's goals" including pursuing a "green economy which reduces the harmful effects from industrial and household activities through initiatives such as climate adaptation, preserving biodiversity and adoption of renewable energy."[561] It also aims to "address the long-term effects of the COVID-19 pandemic on the creative sector by introducing a 10-year recovery plan in partnership with the private sector actors,"[562] demonstrating integration of climate resilience and pandemic recovery. The plan emphasizes the central role of the executive, particularly the Presidency and Federal Executive Council, in driving implementation. It states that the "President appointed the Minister of State for Finance, Budget and National Planning, Prince Clem Ikanade Agba in 2019 to draft a vision and national development plan" and that "His Excellency President Muhammadu Buhari, GCFR inaugurated the National Steering Committee (NSC) for the preparation of the National Development Plan."[563]

The NSC is co-chaired by the Minister of Finance, Budget and National Planning and a private sector representative, indicating an effort to balance government leadership with private sector engagement. The institutional framework includes multiple levels, from the NSC down to Technical Working Groups, demonstrating a whole-of-government approach. However, unlike the Ghana which had direct presidential approval, this plan does not explicitly state presidential endorsement, though the president's role in initiating and inaugurating the process is clear. The plan does emphasize that "Government will demonstrate its commitment towards creating an

[560] (Federal Ministry of Finance, Budget and National Planning 2021), 28
[561] (Federal Ministry of Finance, Budget and National Planning 2021), 133
[562] Ibid., 69
[563] Ibid., 28

enabling environment for private investment to thrive in the country,"[564] indicating executive prioritization.

Nigeria First NDC and Nigeria First NDC (Updated submission)

Nigeria's INDC (2015) and Updated NDC (2021) reflects the countries commitments to global climate change policy and aspirations. Although the SDGs are not directly referenced in each document, one can deduce the importance achieving climate commitments with a lens toward issues related to sustainable socio-economic development; including indirect linkages to SDGs such as SDG 13 (Climate Action), SDG 7 (Affordable and Clean Energy), SDG 9 (Industry, Innovation and Infrastructure), SDG 11 (Sustainable Cities and Communities), and SDG 15 (Life on Land).[565] In the 2015 INDC, the country noted that prior to the development of the document, its prior development strategy documents—Vision 20:2020 and Transformation Agenda 2011-2015, “did not adequately address issuess of climate change.[566] This is worth noting, as the country’s Federal Executive Council approved the Nigeria Climate Change Policy Response and Stratey back in 2012.[567] This perhaps highlights the gap in policy coherence and the role of international policy environment in incentivizing the government to find ways to coordinate and cohere on policies.

Both documents commit Nigeria to emissions reductions in line with the Paris Agreement goals. The INDC sets an unconditional 20% emissions reduction target below business-as-usual by 2030, with a conditional 45% reduction target.[568] The Updated NDC strengthens this to a 20% unconditional and 47% conditional target.[569] These targets demonstrate increased ambition over time, consistent with the Paris Agreement's ratchet mechanism. The documents also align with key principles of international climate policy, including common but differentiated responsibilities and respective capabilities. Nigeria frames its contributions as fair and ambitious given its status as a developing country, while also acknowledging the need for international support to achieve more ambitious targets. Both the INDC and NDC all major economic sectors and provides policy initiatives that tackles both mitigation and adaptation. Key focus areas include renewable energy, energy efficiency, agriculture, and forestry align well with international best practices for climate action.

However, given Nigeria’s role as a big oil and producing country in the world, the document does not appear to specifically address Nigeria’s oil and gas sector nor higlights overall contributions from the sector. Although Nigeria’s current policy regimes are rated by Climate Action Tracker as 1.5°C compatible when assessed against its fair contribution;[570] the assessment does highlight the need for the country to “implement

[564] Ibid., 56
[565] (Federal Government of Nigeria 2021) and (Federal Government of Nigeria 2015)
[566] (Federal Government of Nigeria 2015)
[567] (Federal Government of Nigeria 2015), 1
[568] (Federal Government of Nigeria 2015)
[569] Ibid.
[570] (Climate Action Tracker n.d.)

additional policies with its own resources to meet its unconditional target, but will also need international support to implement policies in line with full decarbonisation to meet and exceed its conditional target."[571]

National Integrated Infrastructure Master Plan (NIIMP)

With a forward by the President, the NIIMP or as it is also referred to as the revised NIIMP (2020-2043) sets out a strategy—thus blueprint, to boost and "modernize the nation's stock of infrastructure…" over a 23 year period.[572] It underscored that it will raise Nigeria's infrastructure stock to at least 70 percent by 2043; and when achieved, "its impact on nation-buiilding cannot be overemphasized as it will stimulated desired economic growth and development in sociual and human capital of the nation."[573] Additionally, it highlighted the platform or both the public and private sector to partner, including the duspport of donor agencies.

The plan does specifically call out the SDGs, noting the importance of the addressing issues related to water access as part of commitment under the SDGs—to be achieved by the Partnership for Expanded Water, Sanitation, and Hygiene (PEWASH); healthcare outocomes focused on reducing deaths per live births; and addressing girl child education to meet the SDG 4 (quality in education), SDG 5 (gender equality) and SDG 10 (reducing inequality).[574] There are climate change considerations, including a reference to the National Action Plan on Gender and Climate Change for Nigeria (see below). However, a clear alignment to the Paris climate agreement is not identified. Much of the consideration is based on the impact of climate change, sucha as how it could make "food, energy, and water security more difficult for Nigeria to achieve."[575]

Oil and gas infrastucture is also discussed, given its significance to the country's economy. The plan notes that the country will open up the sector to further investment with a goal to increase "national reserves to 40 billion barrels" and it also plan to focus on its downstream oil and gas value chain by "creating the necessary business environment through price liberation and strong independent regulations."[576]

National Action Plan on Gender and Climate Change for Nigeria

This action plan produced for the the Nigerian government was supported by nongovernemntal organizations such as UNDP, Women Environmental Programme, and the International Livestock Research Institute.[577] The purpose of the action plan is to ensure that gender issues are factored into national approach to climate change planning and mainstreamed across all stages of policy development, research, project

[571] (Climate Action Tracker n.d.)
[572] (Federal Republic of Nigeria 2020), i
[573] (Federal Republic of Nigeria 2020), i
[574] Ibid.
[575] Ibid., 24
[576] Ibid., 65
[577] (Federal Republic of Nigeria 2020)

development and implementation, and associated monitoring and evaluation.[578] The plan pormotes gender equality and advocates for increased participation; while creating opportunities to effectively mobilize climate finance and strengthening capacity and uniform implementation guide and platform for partnerships and coordination. Although it does not specifically mention the SDGs, the document does provde a broader aligned with the SDGs, including goal 5 (gender equality) goal 13 (climate action), goal 15 (life on land), and goal 17 (partnerships for the goals).[579]

On climate, the plan references NDCs—the INDC in this case, and notes the developmentof Nigeria's National Climate Change Strategy and Action Plan.[580] It also advocates for gendeer mainstreaming and the empowerment of women in climate action, which is in line with Paris Agreement; thus the Paris Agreement prioritizes gender equality, and advocates for promoting international cooperations.[581] Within the action plan, it notes that the implementation of the plan will be "governed by a participatory research involving the government at all level, academic and research institutions, CSOs, particularly owmen and youth groups, private sector and other non-state actions, as well as development partners."[582] This underscores how policy implementation equally captures the breadth of coordination even with international partners. It is also important to note that Nigeria ratified the Convemntion on the Elimination of All Forms of Discrimination Against Women (CEDAW) in 1984; and although such policy influence and outcomes are yet to be achieved at a broader scale in the country, its recognition in this action plan is a good highlight when it comes to policy coherence.[583]

Nigeria's Climate Change Act

Unlike earlier policies desribed above, this act is a leglislative measure enacted by the Nigerian National Assembly with goal of mainstreaming climatge actions and also establishing the National Council on Climate Change; including:

> (a) ensuring that Nigeria formulates programmes for achieving its long-term goals on climate change mitigation and adaptation; (b) facilitating the coordination of climate change action needed to achieve long-term climate objectives; mainstreaming climate change actions in line with national development priorities; facilitating the mobilisation of finance and other resources necessary to ensure effective action on climate change.[584]

Although the act does not explicity mention the SDGs, it does provide a range of text that reflects the aspirations of the SDGs, including on climate mitigatgion and

[578] (Federal Republic of Nigeria 2020), 10
[579] (Federal Republic of Nigeria 2020), 4
[580] Ibid., 9
[581] Ibid.
[582] Ibid.
[583] Ibid., 21
[584] (National Assembly of the Federal Republic of Nigeria 2021), 1-2

adaptation that aligns with SDG 13 (climate action); but as the title of the act indicates, the focus is clearly on climate related matters. In effect, the act established the necessary legal framework to enhance the institutional environment to address Nigeria's climate change actions.

It conceptually aligns with the Paris Agreement's goals by setting a target for net-zero greenhouse gas emissions between 2050-2070,[585] consistent with global efforts to limit temperature rise to well below 2°C. The National Council on Climate Change is chaired by the President,[586] which effectively demonstrates the necessary high-level political comittment the reflects—even if symbolic—a greater collaboration and coherence of policy support and recognition across the two arms of governement—executive and legislature. The Act's provisions on carbon budgeting.[587] national climate change action plans,[588] and obligations for public and private entities[589] reflect a comprehensive approach to climate governance. It also includes provisions on nature-based solutions, climate change education, and consideration of gender impacts and social inclusion,[590] which could arguably aligning with various SDGs such as SDG 4 (Quality Education), SDG 5 (Gender Equality), and SDG 15 (Life on Land); although not necessarily the emphasis of this policy formulation but ultimately its impacts and potential outcomes.

Nigeria's National Action Plan to reduce short-lived climate pollutants

Nigeria's Action Plan to reduce short-lived climate pollutants (SLCPs) represents the country's plan to "document the major sources of short-lived climate pollution, the priority SLCP mitigation measures, and implementation pathways for the reduction of SLCPs emissions within our borders."[591] The document notes the importance of the robust collaboration that happened across multiple government ministris as well as other stakeholders,[592] and higlights its partnership to the Climate and Clean Air Coalitions (CCAC)—a partnernership consisting of ~160 governments and organizations working to reduce short-lived climate pollutants (SCLPs) like methane, black carbon and hydrofluorocarbons (HFCs) that contribuets to both climate change and polution.[593]

The action plan identifies 22 mitigation measures across 8 different sectors, inlcuding transport and oil and gas, provides an analysis of current and projected SLCP emissions in Nigeria, and highlights potential emissions reductions from implementing mitigation measures.[594] Additionally it indicates a commitment to align with existing

[585] (National Assembly of the Federal Republic of Nigeria 2021), 1
[586] Ibid., 3-4
[587] Ibid., 11-12
[588] Ibid., 12-14
[589] Ibid., 15-17
[590] Ibid., 16-18
[591] (Federal Republic of Nigeria 2018)
[592] (Federal Republic of Nigeria 2018), i
[593] (Climate & Clean Air Coalition n.d.)
[594] (Federal Republic of Nigeria 2018), 33-46; 53-59

national plans and international commitments like Nigeria's NDC under the Parisl Agreement.[595] It specifically notes that reducing SLCPs can contribute to "limiting global temperature increases in the near-term on the pathway to achieving the global temperature targets set out in the Paris Agreement."[596] However, the action plan notes that for Nigeria to meet its commitments under the NDC, international funds would be needed to support its effots;[597] underscoring the importance of an effective international climate finance regime for developing nations like Nigeria.

On the SDGs, it references the importance of SLCP emissions reduction for the environement and peoples' health and notes that it is well aligned with the strategic focus of the SDGs as "they relate to good health and well-being; clean water and sanitation; affordable and clean energy; sustainable cities and communities; and climate action.[598] This is further validated , when examining some of linkages between SLCP abatement and measures, such as transport , residential, waste management and agriculture measures—SDG 2 (zero hunger).[599] Additionally it highlights that its measures have the ability ot develiver "sustainable development benefits as envisaged in the SDGs."[600]

The Flare Gas (Prevention of Waste and Pollution) Regulations 2018

This is a regulatory requirement issued in 2018 my the Minister of Petroleum Resources with the objectives to address flaring impact on the environment and society as well as protect the environment, prevent waste of natural resources and create "social and economic benefits from flare capture."[601] The regulations lays out the permitting requirements, asscoaited payments for flaring gas, and mechanisms for reporting of gas flare data. For instance, producers can be permitted to falre gas under certain provisions, however, "an operator that producces more than 10,000 or more barrels of oil per day…must pay the government USD $2.00 for each 28.317 cubic metres of gas flared, irrespective of whether the falring is routine or non-rountine."[602]

As this regulations focuses on the oil and gas sector and its associated activities with a focus on flaring gas, it is narrow and primarily aiming to address waste and pollution effect on the environment and society. Although not necessarily mentioned, the association of flare gas to GHG emissions reduction are an important part of climate change mitigation as the gases contribute to climate change due to the release of carbon dioxide and methane via flaring or venting.

Oil and Gas Dependence

[595] (Federal Republic of Nigeria 2018), 64-66
[596] Ibid., 2
[597] Ibid., 66
[598] Ibid., 47
[599] Ibid., 117-118
[600] Ibid., 47
[601] (Federal Republic of Nigeria Offical Gazette 2018), B 99
[602] (IEA n.d.)

Despite its significant oil wealth, the country has struggled with issues typical of the resource curse, including economic volatility, corruption, and underdevelopment in non-oil sectors. The country has made efforts to address these challenges through various policies and initiatives, such as the Nigerian Extractive Industries Transparency Initiative (NEITI) and the Petroleum Industry Act of 2021, which aims to improve transparency and accountability in the sector.[603] Nigeria, which has "struggled with high deficits over the years due to low tax revenue and falling production of oil, its biggest export, forcing the government to borrow more," passed its 2024 budget in in December 2023.[604] Budget highlights shows aggregate revenue from oil changing by 247.12%; from N2.29trn in 2023 to N7.94trn in 2024.[605] This is still indicative of the country's heavy reliance on its petroleum exports; in addition to the establishment of the Dangote's oil refinery which is expected to process 650,000 barrels per day (bpd).[606]

As one of Africa's top emitter of GHGs, a major source of Nigeria's emissions comes from gas flaring. [607] It is for that reason the government has committed to ending gas flaring under its climate change plan, although some note that such efforts are constantly undermined.[608] The Nigerian government plans to invest in infrastructure that will enable further exploration.[609] Following the passage of the Petroluem Industry Act of 2021, the government supported the restructuring of the Nigerian National Petroluem Corporation (NNPC) into the NNPC Limited, with the goal of attracting more investment.[610] The Nigerian Upstream Petroleum Regulatory Commission (NUPRC) reported in 2023 that the country had attracted new investments for upstream oil and gas projects.[611] This includes investments in both onshore and offshore fields. It also highligted that about 571 oil spill incidents were reported with an estimated 59% of those a result of sabotage.[612]

However, Nigeria's energy sector-particularly oil and gas, faces the global energy transition risks. Similar to Ghana, as the global community pushes for a transition away from fossil fuels to combat climate change, the country's heavy reliance on oil and gas exports makes it particularly vulnerable to the risks associated with stranded assets and declining global demand for fossil fuels. For a struggling economy with added pressure of a growing population to address increasing unemployment and poverty, Nigeria's ability to transition away from oil and gas will require significant investment in emerging and new alternative forms of revenue generation industries. For that to happen, the international financing regieme, just like in Ghana, will need to increase investment support to drive "lower cost renewable energy and climate-smart architecture…"[613] The

[603] (EITI n.d.)
[604] (C. Eboh 2023)
[605] (PWC Bulletin n.d.)
[606] (Reuters 2024)
[607] (Afinotan 2022)
[608] (Ojewale 2021)
[609] (Chinery and George-Ikoli 2022)
[610] (Energy Capital Power 2022)
[611] (Nigerian Upstream Petroleum Regulatory Commission 2023)
[612] (Nigerian Upstream Petroleum Regulatory Commission 2023)
[613] (Archibong and Osafo-Kwaako 2023)

country is actively seeking international support and investments to help fund its transition plans, estimated to cost $1.9 trillion by 2060.[614]

Table 10 below hihgliths the key reform domains of the policies and legislations discussed on the case study of Ghana and Nigeria.

[614] (Federal Government of Nigeria 2021)

Table 10: Summary of Ghana and Nigeria Key Conceptually Aligned Policies

Key policies/legislation	Year	Conceptually aligned SDGs or Climate Change Policy/Legislation	Reform domains	Key implementing Institution(s)
Medium-Term Development Policy Framework 2022-2025	2021	SDGs/Climate Change	• To create an optimistic, self-confident, and prosperous nation, through the creative exploitation of our human and natural resources, and operating within a democratic, open, and fair society in which mutual trust and economic opportunities exist for all. • To realize this vision, the document defines the following priorities: economic growth; digitization; science, technology, and innovation; urbanization and infrastructural deficits; youth unemployment; public health; emergency preparedness, the fight against pandemics; and climate change.	National Development Planning Commission
Ghana Beyond Aid Charter Strategy	2019	SDGs	• To achieve a WISER (Wealthy, Inclusive, Sustainable, Empowered, and resilient) Ghana by 2028. • The strategy envisions a move towards renewable energy, the end of single-use plastics by 2023, and recycling-intensive waste management.	National Development Planning Commission

			• The strategy also outlines objectives and programs to modernise the agriculture sector through self-sufficiency, promotion of climate resilient farming, irrigation schemes, and capitalizing on Ghana's cocoa value chain.	
Coordinated Programme of Economic and Social Development Policies (2017-2024).	2017	SDGs/Climate Change	• The overall objectives of the Coordinated Programme of Economic and Social Development Policies are (i) building a prosperous country, (ii) creating opportunities for all Ghanaians, (iii) safeguarding the natural environment and ensuring a resilient built environment, and (iv) maintaining a stable, united, and safe country.	National Development Planning Commission
Ghana@100	2019	SDGs	• Addresses infrastructure, energy, waste, agriculture, poverty, and healthcare in Ghana.	National Development Planning Commission
Long-Term National Development Plan (2018-2057)	2017	SDGs/Climate Change	• Build an industrialized, inclusive, and resilient economy • Create an equitable, healthy, and disciplined society • Build safe, well planned, and sustainable communities • Build effective, efficient, and dynamic institutions Strengthen Ghana’s role in international affair.	National Development Planning Commission

Ghana Renewable Energy Master Plan	2019	SDGs	Focuses on renewable energy development for electricity.	Energy Commission Ghana
Ghana First NDC	2016	Climate Change	• Unconditional 15% emission reduction by 2030 compared to BAU; 45% reduction by 2030 compared to BAU conditional on international support.	Environmental Protection Agency (EPA) and the Ministry of Environment, Science, Technology, and Innovation (MESTI)
Ghana Revised NDC (Updated submission)	2021	Climate Change	• With more ambition across sectors and the inclusion of new greenhouse gases, Ghana raised its target to cut emissions by 64 MtCO2e by 2030. • Ghana commits to implementing unconditional actions that would result in 24.6 MtCO2e, and conditional actions which have the potential to reduce emissions by 39.4 MtCO2e by 2030. • The updated NDC lists 47 ways in which the country will mitigate and adapt to climate change, with each examined for its socioeconomic outcomes, job prospects, funding, number of beneficiaries and gender responsiveness. • Through climate action, Ghana expects to create over one million	Environmental Protection Agency (EPA) and the Ministry of Environment, Science, Technology, and Innovation (MESTI)

			jobs and avoid 2,900 deaths due to better air quality.	

Nigeria - Key Conceptually Aligned SDGs/Climate Change Policies[615]

Key policies/legislation	Year	Conceptually aligned SDGs or Climate Change Policy/Legislation	Reform domains	Key implementing Institution(s)
Medium Term National Development Plan 2021 - 2025	2021	SDGs/Climate Change	This plan succeeds the Economic Recovery and Growth Plan (2017-2020) to implement the government's 2050 agenda over the period 2021-2025. It focuses on economic growth and development, infrastructure, public administration, human capital development, social development, and regional development. It notably seeks to increase awareness to climate issues, boost the production and use of renewable energy sources, and generally create the conditions for making the economy sustainable.	Ministry of Finance, Budget & National Planning
Nigeria First NDC (Updated submission)	2021	SDGs/Climate Change	Nigeria’s updated NDC reiterated the country's unconditional economy-wide target to reduce emissions by 20% relative to business-as-usual by 2030, increasing its conditional target	Ministry of Environment

[615] Refer to Master Data Sheet for source and references.

			from 45% to 47%. While the targets appear like those of the initial NDC, revised baseline conditions – based on more accurate economic growth projections – mean that they represent a rise in ambition. Updates include an analysis of the potential of Nature-Based Solutions (NBS) to contribute to mitigation efforts and the integration of the water and waste sectors to the adaptation component. The NDC now also integrates gender concerns and youth engagement.	
Nigeria First NDC	2015	Climate Change	Reductions of 20% unconditionally, and 40% conditionally below BAU. BAU not specified other than in Figure.	Ministry of Environment
National Integrated Infrastructure Master Plan	2021	SDGs	This document is Nigeria's blueprint for infrastructure development. It notably seeks to make the country's infrastructures resilient to the adverse impacts of climate change, enable a low carbon development of the transport sector, and prepare the country to natural disasters.	Federal Ministry of Finance, Budget and National Planning
National Action Plan on Gender and Climate Change for Nigeria	2020	SDGs/Climate Change	This document focuses on effective strategies for integrating gender into the implementation of national climate change initiatives.	Department of Climate Change, Federal Ministry of Environment

Nigeria's Climate Change Act	2021	Climate Change	It mandates the government to set a National Climate Change Action Plan and a five-year carbon budget (with quantified annual objectives) accordingly. Both are to be validated by the Federal Executive Council. The first carbon budget should be approved by November 2022. It creates the National Council on Climate Change and defines its members and attributions. The Council oversees implementing the National Climate Change Action Plan. The institution will be responsible for managing the newly instituted Climate Change Fund. The Fund will be provisioned according to debates in Parliament and enable the running of the Council itself as well as subventions. The Council will work with the environment ministry to organise climate action globally and for each economic sector. It will also work on identifying and implementing priority adaptation actions.	National Council on Climate Change (the "Council")
Nigeria's National Action Plan to reduce short-lived climate pollutants	2018	Climate Change	This document lays the country's strategy to reduce the emission of short-lived climate pollutants (SLCPs), most prominently black carbon and methane, from a range of socioeconomic sectors. It sets	Ministry of Environment

			22 measures aiming at lowering SLCPs emissions while improving local air quality. MtCO2e, and conditional actions which have the potential to reduce emissions by 39.4 MtCO2e by 2030. • The updated NDC lists 47 ways in which the country will mitigate and adapt to climate change, with each examined for its socioeconomic outcomes, job prospects, funding, number of beneficiaries and gender responsiveness. • Through climate action, Ghana expects to create over one million jobs and avoid 2,900 deaths due to better air quality.	
The flare gas (prevention of waste and pollution) regulations 2018	2018	Climate Change	The flare gas regulations establish a legal framework to pursue the objectives of the Federal Government for the reductions of GHG emissions by the flaring and venting of natural gas. The main objectives of the regulations are 1) to reduce the environmental and social impact caused by the flare of natural gas, 2) to prevent the waste of natural resources, 3) to create social and economic benefits from gas flare capture. The document introduces several facts: 1) the legal basis for the	Ministry of Petroleum and Resources

			implementation of the Nigerian Gas Flare Commercialisation Programme (NGFCP), 2) a new payment regime for gas flaring - "polluter pays" principle 3) obligations on producers and gas flare out projects for the reporting of data.	

Conclusion

This chapter has presented detailed case studies of Ghana and Nigeria, examining their political structures, governance systems, and policy landscapes related to climate change and sustainable development. Through systematic analysis of each country's institutional frameworks, policy instruments, and implementation challenges, this research reveals a complex landscape of both opportunities and constraints that characterize hydrocarbon resource-based economies' efforts to align with global climate and sustainability objectives.

The analysis reveals significant similarities between Ghana and Nigeria in their democratic governance structures and oil dependence, while highlighting important differences in their federal versus unitary systems and policy coordination mechanisms. Both countries demonstrate substantial policy activity with 11 conceptually aligned policies each, positioning them among the highest-performing countries in sub-Saharan Africa in terms of documented policy responses to the post-2015 agreements. However, as the detailed analysis shows, of the policies identified in both countries, only 3 in each case could be determined as aligned to both SDGs and climate change, with Ghana showing 3 unique SDGs policies and 2 unique climate policies, while Nigeria demonstrates 1 unique SDGs policy and 4 unique climate policies. This policy distribution pattern reflects broader challenges in achieving integrated approaches to climate and development objectives.

Comparative Political and Economic Contexts

The comparative analysis reveals that both Ghana and Nigeria operate systems of government that can be likened to presidential systems with separation of powers between executive, legislative, and judicial branches. However, in both countries, there is a notable concentration of power within the executive branch, particularly the presidency. This executive dominance has profound implications for policy formulation and implementation, as detailed in the theoretical framework of policy coherence discussed in Chapter II, particularly the concept of horizontal coherence. As Carbone noted, horizontal coherence refers to the consistency between policy subsystems, and in both Ghana and Nigeria, the strong role of the executive can potentially facilitate more rapid policy development and implementation, allowing for quick responses to emerging challenges or international commitments. In Ghana, the 1992 Constitution grants significant powers to the president, including the authority to appoint ministers, with a majority required to come from parliament. This unique arrangement creates a fusion of executive and legislative functions that have been criticized for potentially compromising the legislature's oversight role. It creates a situation where the same individuals may be involved in both policy formulation as part of the executive and policy scrutiny as members of parliament, potentially undermining the principle of checks and balances. Nigeria's system, while also characterized by a strong executive, presents a different set of challenges due to its federal structure. The 1999 Constitution vests extensive powers in the presidency, including immunity from civil or criminal proceedings during tenure, which further reinforces executive dominance.

Despite these similarities, there are notable differences in the specific mechanisms of executive power and legislative dynamics. In Ghana, the constitution mandates that a majority of ministers must come from parliament, creating this unique fusion of executive and legislative functions. In contrast, Nigeria's recent constitutional amendment requires legislators appointed as ministers to resign their legislative seats. This difference potentially impacts the nature of executive-legislative relations in each country, and how policy is generated and implemented. Ghana's parliament, while criticized for weak oversight, maintains more stable membership due to the integration of executive and legislative roles. Nigeria's legislature faces challenges of high turnover rates and internal conflicts, which can impede the development of institutional memory and expertise necessary for effective oversight. The federal structure presents additional complexity for Nigeria. Operating a federal system with 36 states and a Federal Capital Territory adds complexity to policy formulation and implementation, while Ghana's unitary system potentially allows for more centralized policy coordination. This structural difference has significant implications for policy coherence, as Nigeria must navigate multilayered governance challenges that impact both policy development and implementation effectiveness.

Policy Landscape and Implementation Challenges

The systematic examination of policy frameworks in both countries reveals sophisticated attempts to align domestic priorities with international climate and development commitments, yet significant implementation challenges persist. Ghana's policy landscape demonstrates relatively structured approaches through institutions like the National Development Planning Commission (NDPC) and the Environmental Protection Agency (EPA). The country's Medium-Term National Development Policy Framework (MTNDPF) 2022-2025 demonstrates strong conceptual alignment with both the SDGs and the Paris Agreement. However, as the case study analysis reveals, the MTDPF faces challenges in implementation, particularly regarding Ghana's economic dependence on oil and gas exports.

Nigeria's policy landscape, while extensive, reflects the complexities of its federal system and the challenges of coordinating across multiple levels of government and diverse stakeholder interests. The country's National Climate Change Policy and Response Strategy (2021) and the Climate Change Act (2021) represent comprehensive attempts to address climate challenges, but implementation faces significant institutional capacity constraints and coordination challenges across the federal system. Nigeria's updated Nationally Determined Contribution (NDC) sets ambitious targets, but as the case study analysis demonstrates, Nigeria's experience underscores the intricate challenges faced by large, diverse, and resource-rich developing countries in balancing immediate economic needs with long-term sustainability goals.

RQ2: What specific gaps and barriers exist that impede or supports transition away from hydrocarbons?

Four Critical Barriers to Hydrocarbon Transition

Drawing upon the comprehensive analysis presented throughout this chapter and building on the theoretical framework established in Chapter II, this research has identified four key barriers that significantly impede the transition away from hydrocarbons and hinder policy coherence between climate ambitions and sustainable development goals in both countries. These barriers, which connect directly to the four factors examined throughout the case study analysis—political systems and power dynamics, economic dependence on fossil fuels, institutional capacity constraints, and international influence—emerge from detailed examination of political structures, economic dependencies, institutional capacities, and external influences that shape policy formulation and implementation processes.

1. Executive dominance:

This emerges as a pervasive barrier that fundamentally shapes policy processes in both countries. In Ghana, the 1992 Constitution's provision for executive appointment of ministers, with the majority required to come from parliament, creates this unique fusion of executive and legislative functions that potentially compromises legislative oversight. While this concentration of power in the executive can potentially enable decisive action, it creates vulnerabilities for long-term policy continuity essential for climate and sustainable development objectives. The strong influence of the executive may lead to significant policy shifts with changes in administration, particularly problematic for climate and sustainable development policies requiring consistent, long-term commitment. In Nigeria, executive dominance manifests through the presidential system's concentration of power at the federal level, compounded by similar dynamics at state levels. This creates multiple layers of executive influence that can lead to policy inconsistencies across different levels of government and administration changes. This is exemplified by shifts in Nigeria's approach to fossil fuel subsidies and renewable energy targets across different administrations. The constitutional immunity provisions further limit accountability mechanisms, potentially leading to lack of transparency in decision-making processes related to the oil and gas sector and climate policies.

The impact of executive dominance on policy coherence and the transition away from hydrocarbons includes rapid policy shifts that can lead to abrupt changes in climate and energy policies with new administrations, potentially disrupting long-term initiatives crucial for addressing climate change and sustainable development. It also results in limited stakeholder engagement that may restrict effective participation of diverse stakeholders in policy formulation, implementation gaps where executive dominance may facilitate quick policy formulation but doesn't necessarily translate to effective implementation and reduced legislative oversight that may weaken the legislature's ability to provide effective scrutiny of fossil fuel investments and climate commitments.

2. fossil fuel dependence:

This creates fundamental structural barriers that extend far beyond simple economic considerations to encompass political, social, and institutional dimensions. Both countries face what can be characterized as carbon lock-in, where existing investments in fossil fuel infrastructure, established revenue streams, and political constituencies create powerful incentives to maintain hydrocarbon production even as global energy transitions accelerate. The economic reliance on oil and gas exports in both Ghana and Nigeria emerges as a fundamental barrier to achieving policy coherence between climate ambitions and sustainable development goals. This dependence creates significant tensions with climate commitments and complicates efforts to reduce emissions while exposing both nations to significant risks as the global energy landscape transitions away from fossil fuels. The entrenchment of the fossil fuel sector in these economies creates complex webs of economic, political, and social challenges that impede the transition to low-carbon development pathways. Ghana's relatively recent emergence as an oil producer creates challenges as the country simultaneously seeks to establish effective governance frameworks for oil revenue management while pursuing climate commitments that may conflict with maximizing oil production. Nigeria's deeper entrenchment in fossil fuel dependence, with oil revenues historically comprising most government revenues and export earnings, creates more complex transition challenges. The implications include economic lock-in where significant investments in fossil fuel infrastructure and the importance of oil revenues to national budgets create strong economic incentives to continue fossil fuel production even as global demand may decline. Policy inconsistencies emerge where the economic importance of the fossil fuel sector leads to conflicts between climate commitments and policies supporting oil and gas production—for instance, Nigeria's commitment to net-zero emissions by 2060 conflicts with its plans to increase oil production and expand gas infrastructure.

Additional implications include stranded asset risk where continued investment in fossil fuel infrastructure exposes both countries to significant economic losses as the world transitions to low-carbon energy sources, delayed energy transition where focus on fossil fuel production often delays investments in renewable energy and other low-carbon technologies, social and environmental challenges including oil spills, gas flaring, and community conflicts that complicate efforts to implement sustainable development policies, and increased vulnerability to global market shifts where heavy dependence on fossil fuel exports makes both economies highly susceptible to shifts in global energy markets.

3. Institutional capacity constraints

This manifests across multiple dimensions affecting both policy development and implementation effectiveness. While both countries have established institutions for policy formulation and implementation, substantial challenges exist in coordination and effective execution. These constraints are not simply matters of technical expertise or financial resources, though both are important, but encompass broader systemic

limitations in institutional design, coordination mechanisms, and long-term planning capabilities. In Ghana, the National Development Planning Commission (NDPC) plays a crucial role in coordinating policy development across different sectors. However, as the case study analysis reveals, the effectiveness of these structures in achieving policy coherence varies significantly. Both countries demonstrate gaps between formal institutional mandates and actual implementation capacity, with coordination challenges compounded by Nigeria's federal system complexity.

Common institutional capacity constraints include limited technical expertise in areas crucial for effective climate and sustainable development policy implementation, particularly in emerging areas like renewable energy technologies, carbon accounting, and climate adaptation planning. Weak coordination mechanisms between different government agencies and levels of government impede integrated policy development and implementation. Insufficient data collection and analysis capabilities limit evidence-based policymaking and monitoring of policy effectiveness, while lack of long-term planning capacity hampers the development of coherent strategies spanning multiple electoral cycles.

4. International influence

This creates complex dynamics that simultaneously provide opportunities and constraints for policy coherence. Both countries operate within dense networks of international relationships that shape domestic policy priorities through funding mechanisms, technical assistance programs, and diplomatic pressures. The case study analysis highlights that international organizations and donor agencies continue to play substantial roles in shaping both countries' policies' landscapes through economic reforms, development agendas, and climate initiatives. While international influence can promote alignment with global goals, it raises questions about policy ownership and the tailoring of strategies to local contexts. Policies perceived as externally imposed may face implementation challenges due to lack of local buy-in. Both countries often rely on international funding to support climate and sustainable development initiatives, creating dependencies that influence policy directions and may not always align with long-term national interests.

The implications include funding dependencies creating vulnerabilities where changes in international priorities or funding availability can disrupt policy implementation, competing priorities from different international actors promoting different approaches to climate and development challenges potentially leading to fragmented policy responses, and short-term project cycles often conflicting with long-term planning horizons necessary for effective climate and sustainable development policy implementation. Additionally, mixed signals regarding fossil fuel investments occur where some international actors continue to support fossil fuel development while others promote renewable energy transitions. International support is crucial for funding and technical assistance in transitioning away from fossil fuels but may come with conditions challenging to implement in local contexts. This includes vital technologies and intellectual property rights often needed for growing renewable energy sectors.

International market dynamics, including global oil prices and shifts in energy demand, significantly influence national policies on fossil fuel production and use, while access to international climate finance remains critical for supporting hydrocarbon transitions despite complex access procedures.

The Resulting Policy-Implementation Gap

These four barriers collectively contribute to what emerges as perhaps the most critical challenge: a systematic policy-implementation gap that undermines the effectiveness of both countries' climate and development commitments. Both Ghana and Nigeria struggle significantly with translating policy intentions into effective implementation, with this gap particularly evident in climate-related policies where ambitious targets often face challenges in realization due to institutional, financial, and technical constraints. In Ghana, specific manifestations include renewable energy targets where the Renewable Energy Master Plan sets ambitious targets for increasing renewable energy's share in the country's energy mix, but implementation has been slow due to limited financing, technical capacity constraints, and regulatory barriers. Climate adaptation strategies, while comprehensive particularly in sectors like agriculture and water resources, face implementation challenges at local levels due to limited resources and capacity. Energy efficiency policies, despite promotion of energy efficiency, show limited implementation in key sectors such as industry and buildings, partly due to lack of enforcement mechanisms and financial incentives. Nigeria's case similarly illustrates this gap through gas flaring reduction where despite long-standing policies and regulations aimed at reducing gas flaring, implementation has been limited, with Nigeria remaining among the top gas flaring countries globally. Renewable energy development shows slow implementation despite policies setting targets for increasing renewables' share in the energy mix, due to factors such as inadequate grid infrastructure, limited financing, and regulatory uncertainties. The comprehensive Climate Change Act passed in 2021 faces implementation challenges for key provisions such as establishing carbon budgets, due to limited institutional capacity and competing economic priorities.

This policy-implementation gap presents significant barriers to transitioning away from hydrocarbons by undermining the credibility of climate commitments, potentially discouraging international support and investment in low-carbon initiatives. It perpetuates fossil fuel sector dominance by failing to effectively implement policies supporting alternative energy sources and economic diversification, leaves both countries vulnerable to climate impacts by delaying implementation of crucial adaptation measures, and creates uncertainty for private sector investors, potentially hindering investments in renewable energy and other low-carbon technologies.

Implications and Foundation for Options Development

The experiences of Ghana and Nigeria highlight the need for innovative approaches to economic diversification and transition planning that can balance short-term economic needs with long-term sustainability goals. This situation exemplifies the

challenges of achieving policy coherence in the face of competing economic and environmental priorities, aligning with the concept of "temporal coherence" described by Millan et al.—in the work of Martinez Martinez and Martinez,[616] which refers to the consistency that public policy must maintain in the long run to achieve accurate results in any field of action.

These findings directly address RQ2 by illuminating the specific challenges that Ghana and Nigeria face in their efforts to transition away from fossil fuel dependence while pursuing sustainable development goals. The identification and analysis of these barriers provide crucial insights into the complex dynamics at play in resource-dependent economies striving to align with global climate and sustainability objectives. They highlight the complex interplay between domestic political structures, economic realities, institutional capacities, and international influences that shape these countries' efforts to achieve coherence between climate ambitions and sustainable development goals. The interconnected nature of these barriers suggests that effective solutions must similarly be integrated and mutually reinforcing, addressing the systemic challenges that impede both policy coherence and effective implementation of climate and development objectives. Although this is not broadly indicative of successful coherence, the attempt to align domestic policies with the SDGs and Paris commitments is present, at minimum from an institutional level. Regardless, the transition of their respective economies away from fossil fuels remains challenging as both countries appear to increase investments in infrastructure to support the fossil fuel sector.

This comprehensive understanding of the barriers and their implications provides the essential groundwork for exploring options to enhance policy coherence between climate ambitions and sustainable development goals. The evidence presented establishes that while both Ghana and Nigeria have made significant efforts to develop policy frameworks aligned with international climate and development commitments, the effectiveness of these efforts is constrained by systematic barriers requiring comprehensive and coordinated responses. The challenge moving forward is developing practical options that can address these barriers while building existing policy foundations and institutional capabilities that both countries have developed, which forms the focus of the analysis in Chapter VI.

[616] (Martinez Martinez and Martinez Osés n.d.)

Chapter VI: Options for Coherence

Introduction

This chapter serves as a critical discussion of the findings presented in the previous chapters, particularly the regional analysis of Sub-Saharan Africa and the case studies of Ghana and Nigeria. It aims to propose options for enhancing policy coherence between climate ambitions and sustainable development goals, addressing the research question: **RQ3: *What options are available to support coherence of climate ambitions and sustainable development?*** The importance of this discussion is underscored by the theoretical foundations and normative value definition of policy coherence explored in Chapter II—that it is about ensuring that the unique objectives, goals, and consequences of policies are not compromised or at minimum these interactions are well considered. As Millan et al.—in the work of Martinez Martinez and Martinez—noted,[617] policy coherence requires a convergence of values, obligations, actions, and systems across different policy domains. This chapter builds on that definitional and theoretical foundation, as well as the empirical findings from regional analysis and the case studies, to propose practical solutions for enhancing coherence in the Sub-Saharan African context, particularly for hydrocarbon resource-based (HRB) economies.

This chapter is structured in three main sections that systematically build from empirical findings to practical solutions. Following this introduction, the chapter begins with a comprehensive reflection on key findings from both RQ1 and RQ2, synthesizing the regional analysis and case study insights that inform the options framework. This reflection serves two critical purposes: first, it consolidates the empirical evidence base that justifies the need for enhanced policy coherence approaches; second, it identifies the specific challenges and opportunities that must be addressed in developing practical solutions. The chapter then proceeds to address RQ3 by presenting an interconnected framework for policy coherence that responds directly to the barriers and gaps identified in the research. This framework recognizes that the systematic nature of policy coherence challenges requires equally systematic and mutually reinforcing solutions. Finally, the chapter concludes by discussing the implications of the proposed framework and its potential application across similar contexts in Sub-Saharan Africa and beyond.

Reflection on Key Findings (RQ1 and RQ2)

As noted earlier, before examining the options for enhancing policy coherence, it is essential to reflect comprehensively on the key findings that emerge from this research. The empirical analysis presented in Chapters IV and V reveals a complex landscape of policy development, institutional dynamics, and implementation challenges across sub-Saharan Africa, with particular insights derived from the detailed examination of Ghana and Nigeria. These findings not only address the specific

[617] (Martinez Martinez and Martinez Osés n.d.)

research questions posed but also illuminate broader patterns and systemic issues that characterize the intersection of climate ambitions and sustainable development goals in hydrocarbon resource-based economies. This reflection synthesizes the regional analysis findings and the deeper case study insights that inform the options framework developed in this chapter.

RQ1: Regional Policy Landscape Analysis

The systematic analysis of policy frameworks across 48 sub-Saharan African countries reveals significant insights into how the region is addressing the dual challenges of climate change and sustainable development. The findings fromRQ1 demonstrate that countries in sub-Saharan Africa are actively engaging with the post-2015 international agreements, though with notable patterns and variations that illuminate both opportunities and constraints.

1. Scope and Scale of Policy Response:

A total of 311 conceptually aligned SDGs/climate policies—including double counted shared policies—were identified for the 48 sub-Saharan African countries, representing a substantial policy response to the climate and development agendas. This includes a total of 125 (40%) conceptually aligned SDGs policies, and 186 (60%) climate change (Paris Agreement) conceptually aligned climate policies. This highlights the significant number of climate related policies across the region when compared to sustainable development policies. The distribution of these policies reveals significant variation, with policy counts ranging from countries with minimal documented alignment to those with comprehensive policy frameworks. The country with the most conceptually aligned policies is Kenya, with 14 combined policies; followed by Ghana (11), Uganda (11), Nigeria (11), Zambia (10), and Guinea (9). The countries with the least policies are Lesotho (2), Eritrea (2), Central African Republic (2), Sao Tome and Principe (3), Mauritania (3), and Cote d'Ivoire (3). The highest-performing countries, including Ghana, Nigeria, South Africa, and Kenya, each demonstrate 11 or more aligned policies, suggesting that larger economies with greater institutional capacity tend to develop more extensive policy responses.

2. Policy Distribution Patterns:

When the data is disaggregated to uniquely identify country policies that are only aligned with SDGs or climate policies, 51% of all sub-Saharan African policies are uniquely aligned only with climate change (Paris Agreement), 27% with the SDGs, and 22% are policies conceptually aligned with both climate and SDGs. While most of the countries in the region have at least 1 conceptually aligned SDGs policy compared to an average of 3 for climate aligned policies, there are 11 countries with no unique SDG aligned policy and 3 countries with no unique climate aligned policy. Similarly, about 15 countries have no policy that reflects both the SDGs and climate change. This further confirms the overwhelming presence of climate change aligned policies in the region and the relatively low number of shared policies might point to many countries not fully

integrating their SDGs and climate policies. Importantly, the analysis reveals a clear bias toward climate-focused policies compared to those specifically aligned with the SDGs. Across the region, 198 policies demonstrate conceptual alignment with the Paris Agreement compared to 114 policies aligned with the SDGs.

This pattern suggests that climate change imperatives, possibly driven by the binding nature of the Paris Agreement and the region's acute vulnerability to climate impacts, receive greater policy attention than the broader sustainable development framework. This finding challenges assumptions about developing countries' priorities and suggests that climate urgency may be driving policy development even in contexts where immediate development needs are pressing.

3. Sectoral Emphases and Policy Focus Areas:

The analysis reveals distinct sectoral emphases across different countries, with energy, agriculture, and environmental management emerging as priority areas. Most of the policies in the region overwhelmingly emphasize manufacturing and industrial sectors; an indication of the importance of such sectors to the growth and development of many of the countries in the region. Some of the common policy areas that impact these main sectors include energy—especially renewable energy, water resources management, disaster risk management, health, infrastructure development, forestry and land use and agriculture and food security. Countries with significant hydrocarbon resources demonstrate particular attention to energy sector policies, though these often reflect the tension between fossil fuel dependence and climate commitments. The prevalence of adaptation-focused policies relative to mitigation strategies reflects the region's high vulnerability to climate impacts and limited historical contribution to global emissions.

4. Institutional Arrangements and Coordination Mechanisms:

The institutional arrangements for policy coordination vary significantly across countries, with some establishing dedicated climate change commissions or sustainable development offices, while others integrate these responsibilities within existing ministries. Many countries have updated their Nationally Determined Contributions (NDCs) since their initial submissions with more comprehensive adaptation plans and often increased emissions reductions targets—a contributing factor to the significant number of climate related policies in the region. A significant number of countries have set up institutional frameworks dedicated to climate governance, such as climate change committees, and others also have inter-ministerial committees that coordinate policies; for example, Sudan has the Higher Council for Environment and Natural Resources, and Mali has the National Climate Change Committee. In some countries, like Ghana and Rwanda, climate change is integrated into national development planning. This variation in institutional approaches provides insights into different models for managing policy coherence challenges, though the effectiveness of these different approaches requires deeper investigation.

5. Temporal Patterns and International Influence:

The timing of policy adoption reveals the clear influence of international agreements, with a notable acceleration in policy development following the 2015 adoption of both the SDGs and Paris Agreement. However, the research also identifies significant variation in how countries adapt these international frameworks to national contexts. Some countries demonstrate direct translation of international targets into national policies, while others show more sophisticated integration that considers local priorities and constraints. Most countries highlight the need for international support (financial, technological, and capacity building) to fully implement climate and sustainable development related agreements. Several countries have developed long-term visions or strategies (e.g., to 2050 or beyond) for low-carbon and climate-resilient development. The language and framing of policies also reflect different approaches to balancing international expectations with national sovereignty.

What then is the implications for policy coherence? The data highlights a notable variation in policy adoption across countries, with some countries demonstrating a balanced approach across all three categories, while others focus more on specific policy types. The significant emphasis on climate change related policies in the region could perhaps point to a stronger focus on climate-specific initiatives. It also underscores the diverse policy landscape across the region, reflecting different priorities, capacities, and challenges in addressing SDGs commitments and meeting climate related aspirations. This diversity in policy landscapes reflects the different priorities, capacities, and challenges faced by countries in the region, highlighting the need for tailored approaches to enhancing policy coherence that take into account these national and sub-regional differences—a key principle associated with the deep decarbonization pathway (DDP). The role of civil society and private sector engagement varies significantly across countries, with some demonstrating robust multi-stakeholder approaches while others maintain more centralized policy development processes.

RQ2: From Case Studies to Barriers and Gap

While the regional analysis provides valuable insights into broad patterns across sub-Saharan Africa, the detailed case study examination of Ghana and Nigeria reveals how these regional trends manifest in practice and the deeper systemic factors that determine policy coherence outcomes. This section reflects on key insights from the case studies that extend beyond the specific barriers identified in Chapter V to illuminate broader lessons for policy coherence in hydrocarbon resource-based economies and the fundamental challenges facing countries attempting to balance immediate development needs with long-term sustainability commitments.

1. Comparative Policy Integration Challenges and Performance Patterns

Ghana and Nigeria, as key players in West Africa and across the sub-Saharan African region, offer compelling insights into policy coherence challenges in developing

nations. Although both countries have committed to international agreements such as the Paris Agreement and SDGs, they face significant challenges in aligning these commitments with domestic priorities and economic realities. The comparative analysis reveals critical integration challenges that extend beyond simple policy counting to illuminate deeper structural issues in policy development and implementation.

Table 11: Ghana and Nigeria - Unique and Shared Policy Comparison

Country	Unique Conceptually Aligned SDGs Policies	Unique Conceptually Aligned Climate Policies	Shared Policies (SDGs & Climate)
Ghana	3	2	3
Nigeria	1	4	3

The policy distribution pattern reveals that both countries struggle with developing truly integrated approaches that simultaneously address climate and development objectives. Ghana shows 3 unique SDGs policies and 2 unique climate policies, while Nigeria demonstrates 1 unique SDGs policy and 4 unique climate policies, with both countries showing only 3 shared policies each. This pattern is particularly significant because it suggests that policy development processes in both countries tend to operate in sectoral silos, responding to specific international commitments or domestic pressures rather than pursuing integrated approaches that recognize the interconnected nature of climate and development challenges. The implications of this pattern extend beyond numerical distributions to reveal systematic approaches to policy formulation. Ghana's relatively balanced distribution suggests a more structured approach to policy development, possibly reflecting its unitary system's capacity for centralized coordination. Nigeria's heavier emphasis on climate-specific policies may reflect both the federal government's response to international climate pressures and the complexity of coordinating development policies across multiple levels of government in a federal system.

More critically, the limited number of shared policies in both countries—representing only 27% of Ghana's total policy portfolio and 27% of Nigeria's—indicates a fundamental challenge in conceptualizing climate action and sustainable development as mutually reinforcing rather than competing priorities. This suggests that policy coherence challenges are not merely coordination problems but reflect deeper conceptual and institutional barriers to integrated thinking about development pathways.

2. Systemic Interactions: Beyond Individual Barriers to Reinforcing Dynamics

The case study analysis reveals that the four barriers identified in Chapter V—executive dominance, fossil fuel dependence, institutional capacity constraints, and international influence—interact in ways that create systematic policy coherence challenges beyond their individual impacts. These interactions manifest in

interconnected patterns that have broader implications for understanding policy coherence in resource-dependent economies and suggest why technical solutions alone are insufficient to address coherence challenges.

The first critical pattern involves a reinforcing cycle between political structures and economic dependence that creates what might be characterized as "institutional lock-in." Executive dominance facilitates rapid policy shifts that serve short-term economic interests, particularly in maintaining fossil fuel revenues, while economic dependence on hydrocarbons strengthens political incentives to concentrate decision-making power to manage revenue flows and economic volatility. This creates a self-reinforcing system where political structures support economic dependencies, which in turn justify concentrated political control. In Ghana, this manifests through the executive's control over oil revenue management and energy sector decision-making, where the fusion of executive and legislative roles limits comprehensive oversight of fossil fuel policies. The country's Petroleum Revenue Management Act, while representing an attempt at institutional constraint, operates within a broader system where executive dominance can shape interpretation and implementation. In Nigeria, this pattern is even more pronounced, with the federal executive's control over oil revenues creating dependencies that extend through multiple levels of government, reinforcing centralized control despite the federal system's theoretical distribution of powers.

The second pattern reveals that institutional capacity limitations reflect deeper political economy dynamics rather than merely technical deficits. Weak coordination mechanisms often serve existing power structures by limiting comprehensive oversight and integrated planning that might challenge established interests. Limited long-term planning capacity reflects political incentives focused on electoral cycles rather than sustainable development horizons that require sustained commitment across political transitions. Insufficient data collection capabilities may actually serve interests that benefit from reduced transparency and accountability, particularly in resource revenue management and environmental impact assessment. This pattern is particularly evident in both countries' approaches to environmental data collection and climate monitoring. While both have developed formal monitoring frameworks, implementation often lacks the systematic data collection necessary for evidence-based policy adjustment. This limitation is not simply a technical constraint but reflects political preferences for maintaining flexibility in policy interpretation and implementation.

The third pattern demonstrates how international influence creates complex feedback loops with domestic political and economic factors, often reinforcing rather than constraining the barriers to policy coherence. International funding dependencies can reinforce executive dominance by concentrating resource control in executive institutions, particularly when international partners prefer working with centralized decision-making structures for efficiency reasons. Competing international signals regarding fossil fuel investments create space for domestic actors to selectively interpret

international commitments based on immediate economic interests. Both Ghana and Nigeria experience this dynamic through their relationships with different categories of international partners. Climate-focused international organizations promote renewable energy transitions and emissions reductions, while other international actors—including some development finance institutions and bilateral partners—continue supporting fossil fuel development. This creates an international environment that allows domestic actors to justify continued fossil fuel dependence while maintaining formal commitments to climate objectives.

3. The Policy-Implementation Gap as Systematic Institutional Response

The policy-implementation gap identified in both countries represents more than the sum of individual barriers—it reflects systematic features of how these countries manage competing pressures between international commitments and domestic realities. This gap manifests differently in each country but follows similar patterns: ambitious policy frameworks that signal international alignment coupled with implementation approaches that prioritize immediate economic and political needs. In Ghana, this gap is particularly evident in renewable energy policy implementation. The country's Renewable Energy Act and associated policies set ambitious targets for renewable energy development, yet implementation has been constrained by regulatory uncertainties, financing challenges, and competing priorities for economic development. The Medium-Term National Development Policy Framework demonstrates conceptual alignment with both climate and development objectives, yet faces implementation challenges that reflect deeper tensions between oil revenue dependencies and sustainability commitments. Nigeria's policy-implementation gap manifests most clearly in gas flaring reduction efforts. Despite decades of policies and regulations aimed at eliminating gas flaring, Nigeria remains among the world's top gas flaring countries. This persistent gap reflects not simply technical or financial constraints but systematic features of how the oil and gas sector operates within Nigeria's political economy. Implementation challenges reflect the complex interactions between federal and state authorities, international oil companies, and local communities that create incentives for continued non-compliance despite formal policy commitments.

Table 12: Barriers and Resulting Gap Impeding Transition from Hydrocarbons

Gaps and barriers	**Description**	**Connection to 4 factors under case study discussion and conclusion**
Executive dominance	In both countries, the concentration of power in the executive branch, particularly the presidency, influences the policy formulation process. While this can	Highlights the role of political systems and power dynamics

	potentially lead to more decisive action, it also risks undermining the checks and balances necessary for effective governance and policy implementation.	
Fossil fuel dependence	The economic reliance on oil and gas exports in both countries creates significant tensions with their climate commitments. This dependence not only complicates efforts to reduce emissions but also exposes both nations to significant risks as the global energy landscape transitions away from fossil fuels.	Highlights challenges posed by economic dependence on fossil fuels
Institutional capacity	While both countries have established institutions for policy formulation and implementation, there are challenges in coordination and effective execution. Ghana's more centralized approach through the NDPC contrasts with Nigeria's more fragmented process, but both face issues in ensuring policy coherence across different sectors and levels of government.	Highlights challenges related with policy formulation process
International influence	The role of international organizations and donor agencies in shaping policy is evident in both countries. While this can promote alignment with global goals, it also raises questions about policy	Highlights challenges related to alignment of domestic prolicies with international agreements.

	ownership and the tailoring of strategies to local contexts.	
Resulting Gap		
Policy-implementation gap	Both Ghana and Nigeria struggle with translating policy intentions into effective implementation. This gap is particularly evident in climate-related policies, where ambitious targets often face challenges in realization due to institutional, financial, and technical constraints.	Highlights challenges with policy formulation processes

This systematic gap illuminates broader lessons about policy coherence in resource-dependent developing countries that extend beyond the specific experiences of Ghana and Nigeria. Policy frameworks often serve as signaling mechanisms to international partners while implementation reflects domestic priorities shaped by political economy factors that may be resistant to formal policy commitments. Coherence challenges are not simply coordination problems but reflect deeper contradictions between development models based on resource extraction and sustainability objectives that require economic diversification and transformation. The persistence of implementation gaps despite sophisticated policy development capabilities in both countries suggests that the challenge is not primarily one of technical capacity or policy design. Instead, it reflects systematic constraints that arise from the intersection of political structures, economic dependencies, institutional capacities, and international influences that create powerful incentives for maintaining existing approaches despite formal commitments to change.

4. Broader Implications for Hydrocarbon Resource-Based Economies

The experiences of Ghana and Nigeria provide insights that extend beyond their specific contexts to illuminate broader patterns facing hydrocarbon resource-based economies attempting to align with global sustainability commitments. Both countries demonstrate sophisticated policy development capabilities, yet struggle with implementation challenges that reflect systematic constraints rather than simple capacity limitations.

First, both countries' experiences suggest that policy coherence challenges in resource-dependent economies are fundamentally about managing competing temporalities—the immediate pressures of revenue generation, political cycles, and development needs versus the long-term horizons required for climate action and

sustainable development. The dominance of short-term considerations is not simply a failure of political will but reflects rational responses to immediate constraints and pressures.

Second, the case studies illuminate how international frameworks designed to promote policy coherence—such as the SDGs and Paris Agreement—may inadvertently contribute to fragmentation when they create parallel reporting and planning processes rather than integrated approaches. Both countries show evidence of developing separate institutional responses to different international commitments, potentially reinforcing rather than addressing coordination challenges.

Third, both countries' experiences suggest that technical solutions to policy coherence—such as improved coordination mechanisms or enhanced planning processes—are necessary but insufficient without addressing underlying political economy factors that shape implementation incentives. This points to the need for approaches that can work within existing political and economic constraints while gradually creating conditions for more fundamental transitions.

Conclusion: Setting the Foundation for Integrated Solutions

This comprehensive analysis of barriers and their systematic interactions provides crucial insights for developing practical options that can address the interconnected nature of policy coherence challenges in hydrocarbon resource-based economies. The evidence demonstrates that effective policy coherence solutions must simultaneously address multiple dimensions of the challenge: governance structures that can manage competing pressures, institutional capacities that can support integrated planning and implementation, economic transition strategies that can reduce fossil fuel dependencies while maintaining development momentum, and regional/international/engagement approaches that can align external support with domestic transformation needs.

Understanding these systematic patterns suggests that the options framework must be equally systematic, recognizing that addressing individual barriers in isolation is unlikely to produce sustainable improvements in policy coherence. Instead, the framework must provide mutually reinforcing interventions that can address the underlying structural factors while building momentum for more fundamental transitions toward sustainable development pathways. The challenge is developing approaches that are ambitious enough to address systematic barriers while remaining practical enough to be implemented within existing political and institutional constraints. This analysis forms the foundation for examining practical options that can enhance policy coherence between climate ambitions and sustainable development goals, recognizing both the complexity of the challenges and the potential for systematic solutions that can address the interconnected nature of barriers facing hydrocarbon resource-based economies in sub-Saharan Africa.

RQ3: What options are available to support coherence of climate ambitions and sustainable development?

These findings underscore the complex challenges facing sub-Saharan African countries in achieving policy coherence between climate ambitions and sustainable development goals. They also highlight the need for innovative, context-specific approaches to enhance coherence. In this study, I propose three-pronged, interconnected approach—see Figure 16 below—to enable more support for coherence of climate and sustinable devleopment ambitions; underscoring that key differences exist among countries in sub-Saharan African countries.

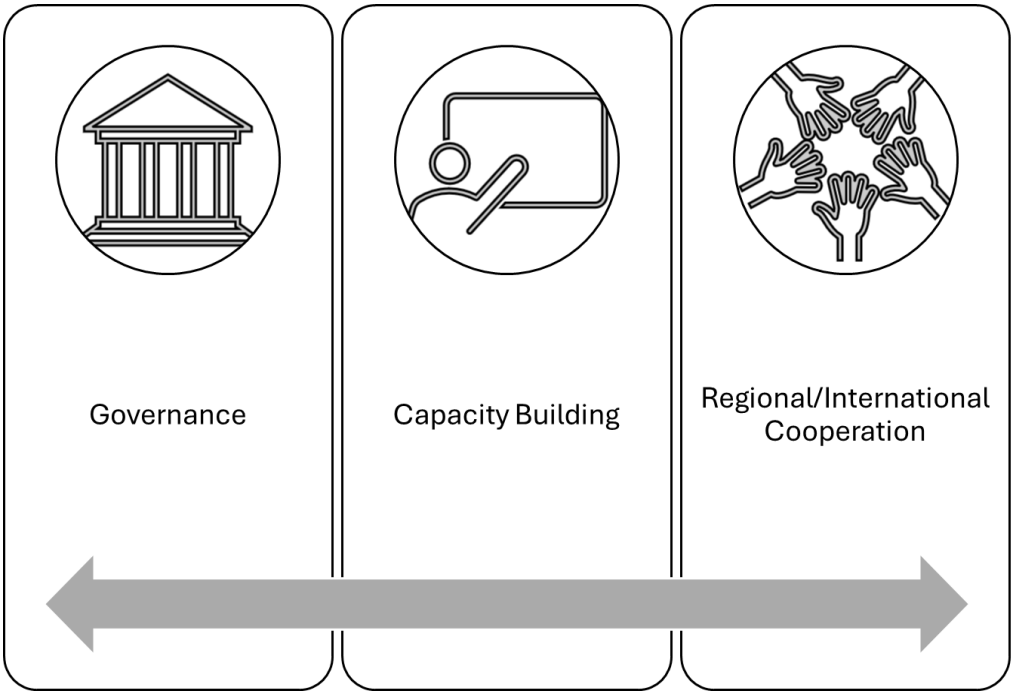
An Interconnected Approach toward Policy Coherence

The three interconnected pillars of this framework are:

- Governance: Focusing on strengthening institutional frameworks and implementing comprehensive policy assessment tools.
- Capacity building: Enhancing technical and institutional capacities across all levels of government and key sectors.
- Regional and international cooperation: Leveraging external expertise and resources while promoting regional collaboration.

This holistic approach aims to create a robust ecosystem for policy coherence, addressing the unique barriers and resulting gaps faced by Sub-Saharan African

Figure 16: Three Interconnected Approach to Support Options for Policy Coherence



countries in reconciling their domestic development needs—in particular HRBs like Ghana and Nigeria—with global climate goals.

Governance

Effective governance is a foundational block to the sustainance of any societal system. It is equally deemed essential for coordinating complex policy issues across different sectors and levels of government.[618] They emphasize that governance structures determine the capacity for horizontal and vertical coordination, which is crucial for policy coherence. This view is supported by other scholars, including Peters; noting the importance of coordination at the government as instrumental in how services are effectively delivered to citizens.[619] In the context of sustainable development and climate change policies, Nilsson et al. highlight the critical role of governance in achieving policy coherence,[620] arguing that governance structures determine the extent to which environmental concerns are integrated into sectoral policies, a key aspect of policy coherence in this domain. The case studies of Ghana and Nigeria in Chapter V revealed significant challenges related to governance structures, particularly the concentration of executive power and the fragmentation of policy-making processes. These challenges align with the barriers identified in the research, specifically executive dominance and institutional capacity constraints. To address these issues and enhance policy coherence between climate ambitions and sustainable development agendas, the following governance framework and specific tools are proposed:

Strengthen institutional frameworks

Making significant changes to the enormous powers of the presidency in the policymaking process is likely a difficult task, as evidenced by the entrenched executive dominance in both Ghana and Nigeria. However, establishing a more robust integrated policy coordination mechanism is more achievable and can significantly enhance policy coherence.

For countries with governance structures similar to Ghana's, elevating or enhancing coordinating institutions like the National Development Planning Commission (NDPC) can mark a crucial first step. This could involve enshrining such bodies within the constitutional framework or granting them expanded authority to address complex interactions between competing policies. The NDPC's role in Ghana, as discussed in Chapter V, demonstrates the potential of such institutions in promoting policy coherence. In federal systems like Nigeria, where the case study revealed a more fragmented policy-making process, enhancing existing agencies or establishing a Federal Climate and Sustainable Development Coordination Council could be beneficial. This council, chaired by the Vice President and including membership from

[618] (Christensen and Lægreid 2007)
[619] (Peters 2018)
[620] (Nilsson, et al. 2012)

relevant ministries, state representatives, and non-governmental stakeholders, would address the challenge of policy fragmentation identified in the Nigerian case study.

The establishment of Integrated Policy Coherence Units (IPCUs) could directly address the challenges of executive dominance and policy discontinuity identified in both case studies. These units should be statutorily established and protected to ensure continuity across administrations, addressing the policy-implementation gap highlighted in Chapter V. Composed of experts from various relevant fields, including climate science, economics, social development, and public policy, these units would be mandated to review all major policy proposals for coherence with climate and SDGs agreements. The creation of Inter-Ministerial Coherence Committees (IMCCs) aligns with the need for improved horizontal coherence, as discussed in the literature review in Chapter II. By bringing together representatives from all relevant ministries, these committees can address the challenge of policy fragmentation identified in both case studies. Their authority to recommend policy adjustments and report directly to the cabinet would help mitigate the effects of executive dominance on policy coherence.

There are some practical insitutional frameworks currently present in some African countries that supports strengthing policy coherence. For instance Kenya established the National Climate Change Council (NCCC) through the Climate Change Act of 2016. Although this is focused on climate change, this high-level body, chaired by the President, demonstrates an attempt to address the challenge of executive dominance by institutionalizing climate change considerations at the highest level of government.[621] Some of its key features include: a mandate to approve and oversee implementation of the National Climate Change Action Plan; and authority to set targets for the regulation of greenhouse gas emission; responsibility for coordinating climate change affairs across sectors and levels of government.[622] While the NCCC's effectiveness is still being evaluated, its establishment represents a significant step towards creating an integrated policy coordination mechanism.[623] Other examples include, Rwanda, which has implemented an innovative approach to policy coherence through its Environment and Climate Change Investment Fund (FONERWA). This fund serves as a cross-sectoral financing mechanism to support the implementation of Rwanda's Green Growth and Climate Resilience Strategy.[624] South Africa established the Presidential Climate Commission (PCC) in 2020 as a multi-stakeholder body to oversee and coordinate the country's just transition to a low-carbon economy. This institution addresses several key recommendations from the research, including the need for comprehensive transition strategies and enhanced stakeholder engagement.[625] And finally, Ethiopia's CRGE Facility—although predates the post-2015 agreements—which serves as a coordinating body for the country's Climate Resilient Green Economy

[621] (Republic of Kenya 2016)
[622] (Republic of Kenya 2016)
[623] Ibid.
[624] (Government of Rwanda 2012)
[625] (Government of Rwanda 2012)

strategy. This institution exemplifies the research's recommendation for strengthening coordinating institutions to enhance policy coherence.[626]

Implement comprehensive and complimentary policy assessment tools

Enhancing policy coherence rquires the development of some sort of implementation of policy assessment tools that can evalatuate competing policy implications of all major policy decisions and investments. Key features could inlcude qualititative and quantitative indicators that covers various policy outcomes, in this case, emissions, climate vulnerability, economic impacts and trade offs—especially related to economic losses steming from less dependence on oil and gas exports, social equity and environmental sustainability. Additionally, adopting robust scenario analysis to assess long-term implications and potential tradep-ffs and requiring consideration of alternative policy options that may better align with climate and sustainable goals is essential. Countries can also tackle policy-implementation gaps and ensure financial alignment with climate and SDGs, by developing a climate-SDGs Budgeting System (CSBS). Such system could integrate climate and SDGs considerations into all stages of the budgeting process, use a tagging system to identify and track climate and SDGs-related expenditures, set minimum spending thresholds for climate and SDGs-related acitivites in each sector, and finally require cost-benefit analyses that include long-term climate and sustainable dvelopment impacts for all major investments.

Where appropriate, countries can also develop a Common Metrics and Indicators System (CMIS) that provides a standardized set of indicators for measuring progress on both climate action and SDGs. This can ensure comparability of data across different sectors and levels of government, and can include both quantitative and qualitative indicators to capture complex policy interactions. It should be regularly updated to reflect the latest scientific understanding and policy priorities. A good implementation strategy could include setting up a national taskforce to develop such CMIS, and aligning with existing international reporting frameworks (e.g., UNFCCC, SDG reporting). A clear guidance documents and training program should be provideed, including a digital platform data collection, analysis, and visualization using the CMIS.

Some practical examples that has taken or taking shape in Africa include South Africa’s has integratation of climate considerations into its broader Socio-Economic Impact Assessment System (SEIAS), which is mandatory for all new policies, legislation, and regulations.[627] This integration is further strengthened by the proposed Climate Change Bill, which requires climate change impact assessments for new policies and investments.[628] Morocco’s New Development Model underscores climate change as part of its efforts to enhance policy coherence.[629] This approach serves as a

[626] (Federal Democratic Republic of Ethiopia 2011)
[627] (Republic of South Africa 2015)
[628] (Republic of South Africa 2022)
[629] (Kingdom of Morocco 2021)

comprehensive way for assessing the alignment of sectoral policies with national objectives.[630]

Develop comprehensive transition strategies

Countries in similar situations like Ghana and Nigeria must seek to develop detailed, long-term strategies for transitioning away from fossil fuel dependence. These strategies ought to address economic diversification, management of stranded assets, and social impact of the transition. Such stratgies must also align fiscal and economic policies and implement green budgeting practices. An approach like this could ensure that financial allocations support climate and sustainable development goals across all sectors. As noted above, the government could propose the development of a a standardized classification system for categorizing budget allocations and expenditures related to climate action and SDG implementation and implement this tagging system across all ministries and agencies, covering both capital and recurrent expenditures. Much like many practices today in both public and private sectors, a mandate to produce annual reports on climate and SDG-related spending must be in place to informa policy-making and enhnace transparency and longevity of programs and initiatives. These efforts should be complimented with the development of a comprehensive sustainable finance framework; with the goal of mobilizing private sector investments in climate action and sustainable developmnet. Key elements of such approach could include the development of a national green taxonomy and sustainability disclosure requirements—easily adapting existing global frameworks can be a start. Sector specifi guidance could further enhance coherence and ensure long-term positive outcomes for those sectors in transiton like oil and gas.

To be more specific, I also propose the development of a Transition Pathway Modelling Tool (TPMT). This tool would ideally model various scenarios for transitioning away from fossil fuel dependence while achieving SDGs—something that leverages integrated assessment model (IAMSs) thinking appropriate for addressing whole economy but with reverence for the energy sector—See Appendix I (integrated assessment models). This means that it should incorporate economic, social, and environmental factors in its projections and allow policymakers to visualize the long-term impacts of different policy choices on both climate and development outcomes while facilitating evidence-based decision-making for long-term economic planning. To implement this will most likely require significant collaboration with international expert communities, ensuring its tailored to the specific contexts of an HRB economy in sub-Saharan Africa.

On a practical level, Ghana's updated Nationally Determined Contribution (NDC) and ongoing work to develop a Long-Term Low Emissions Development Strategy (LT-LEDS)[631] could form a comprehensive transition plan. These documents address the need for strategies that align fiscal and economic policies with climate goals. Nigeria's

[630] (Kingdom of Morocco 2021)
[631] (Ghana Broadcasting Corporporation 2024)

Energy Transition Plan that aims to achieve universal energy access by 2030 and net-zero emissions by 2060 does in part, addresses the need to tackle economic diversification and the social impacts of transition. It highlights investments in clean energy infrastructure, strategies for leveraging natural gas as a transition fuel, job creation targets in renewable energy sections and integration of energy access goals with emissions reduction targets. Although these are not robust enough, they represent a pathway to getting there.

Capacity Building

Capacity and coherence often go together especially if outcomes and results means anything to the delivery of service to citizens.[632] Capacity in both the policy development process and implementation roadmap defines the longevity of any cohernece effort. Developing the capacity of various ministerial and sector agencies are fundamental to the entire process. In many instances it could address any resistance from traditional inustries by allowing for robust and extensive stakeholder consultations and prove clear transition pathways. Capacity building should involve developing training programs and partnerships with relevant stakeholders to access technnical and global expertise. It will help also enhance vertical coherence by ensureing that climate and SDG strategies are localize to bridge the gap between national policies and local implementation. Such localized effort, can lead to the strengthening of district-level planning. Some capacity building efforts could incluce the following:

1. developing comprehensive capacity building programs for district assembly staff on climate and sustainable development issues
2. creaing a peer-learning network among local governments to share best practices and lessons learned
3. establishing partnerships with local universities and NGOs to provide ongoing technicial support to local governments.

For federal-like governments, this could also include establishing SDG implementaton committees in each state with representation from governnment and non-government entities alime; and strengting guidance on localizing SDG indicators to reflect state-specific priorities and challenges.

Another key area of capacity building is the promotion of policy integration in key sectors. This is fundament for the energy-climate-development nexus—especially in countries like Ghana and Nigeria where there is heavy reliance on oil and gas. Given the centrality of such a sector to such countries, developing a integrated engagement with the key sectors—including private sector members, could ensure further policy alignment along the lines of energy security, climate mitigation and sustainable development objectives. Some of the capacity buildout could include a focus on long-term energy transition roadmaps that are detailed enough to identify key milestones and technology pathways for different sub-sectors like power generation, transportation and

[632] (W. Parson 2004)

industry. It can also invove an assessment of the socio-economuc implication of different transition pathways, including impacts on employment, energy access and GDP. For many countries like Ghana and Nigeria, the concept of just transition must be hugely present and emphasized to ensure a more resilient system. Such effort must be underpinned by broader capacity training, including public awareness.

On a more practical level, countries could establish something like a Policy Coherence Simulation Lab (PCSL) that blends modern virtual technologies with tradittional form of in-person labs to allow policymakers and other relevant stakeholders to experience long-term impact of their decisions in a compressed timeframe. Key features could include real-time feedback on policy decisions, showing impacts on climate change and SDGs indicators, multiplayer functionality allowing different stakeholders to collaborate and negotiate, and scenario generator to test policies under various future conditions (e.g. climate shocks, technological breakthroughs). Another option is something more in line of an incubator program. This could be a rotational program that embeds professionals from diverse backgrounds (e.g. climate science, economics, social development, technology) in varous government departments to cross-pollinate ideas and build coherence capabilities. This could be in a form of 18-month rotations through key ministries and agencies designed around collaborative projects focused on enhancing policy coherence.

Overall, an investment in building technical and institutional capacity for policy coherence and developing such capacity for more effective monitoring and evaluation systems to track implementation and outcomes ensures success.

Regional and International Cooperation

The complex challenges of aligning climate ambitions with sustainable development goals in many countries like Ghana and Nigeria necessitate not only domestic efforts but also strategic engagement with international partners and regional counterparts. As seen in Ghana and Nigeria, the acceptance of such partners is a positive thing but should also be approached with care even as it can significantly enhance policy coherence.

For developing economies stuck or faced with the trade offs of the climate-energy-development nexus, access to technical expertise and best practices from international partners and regional peers can be a key ingredient to reducing the socio-economic chaos of the energy transition. Countries can benefit from tapping into the wealth of knowledge and experience available through international organizations and bilateral partnerships. This can include:

- Collaborating with UN agencies (e.g., UNDP, UNEP) to access technical assistance in developing integrated climate and development strategies.
- Engaging with the OECD to learn from best practices in policy coherence for sustainable development (PCSD) implemented in other countries.

- Partnering with international financial institutions like the World Bank and African Development Bank to access expertise in sustainable finance and green budgeting practices.

Furthermore, these networks can help establish dedicated units within relevant ministrie (e.g., Environment, Finance) to coordinate international partnerships and knowledge transfer. International support can also play a crucial role in addressing the resource constraints that often hinder policy coherence efforts. This includes opportunities to have a more robust

- engagement with organizations such as the Green Climate Fund (GCF) and other climate finance mechanisms to access funding for integrated climate and development projects.
- leverage bilateral partnerships with developed countries to secure technical and financial support for capacity building initiatives.
- explore innovative financing mechanisms, such as debt-for-climate swaps, working with international partners to design and implement these instruments.
- strengthen national capacities for developing bankable projects that align climate action with broader development goals.
- establish a coordination mechanism to ensure that internationally funded projects are aligned with national priorities and contribute to overall policy coherence.
- develop a comprehensive capacity needs assessment to guide international support for capacity building initiatives.

Regional cooperation in particular, can play a crucial role in enhancing policy coherence, particularly given the transboundary nature of many climate and development challenges. It will offer opportunities to develop harmonized standards for climate-resilient infrastructure and sustainable energy systems and collaborate with neighboring countries to develop integrated approaches to managing shared resources, such as river basins and coastal ecosystems. Such regional efforts should underline the need for mechanisms for regular consultation with regional counterparts during national policy formulation process and further enahnce the knowledge sharing and peer learning opportunities. Countries in similar regional hubs like Ghana and Nigeria in West Africa could effectively establish a West African Policy Coherence Network, bringing together policymakers, researchers, and practitioners from across the region. Such a network could organize regular regional workshops and conferences focused on specific aspects of policy coherence (e.g., integrating climate considerations into economic planning), and develop regional case study repositories and best practice guides tailored to the West African context.

An option to address policy coherence and while equally managing the influence of international actors, is the development of a Policy Coherence Impact Assessment

(PCIA) Framework. This framework should provide a standardized methodology for assessing the coherence of policies and projects with national climate and SDG commitments, and include both ex-ante and ex-post assessment components. It should also include stakeholder consultation processes to ensure diverse perspectives are considered and be mandatory for all major policy decisions and internationally funded projects. Countries can pilot the framework in select ministries and refine based on feedback and potentially legislate the mandatory use of the PCIA for all major policy decisions and internationally funded projects. For transpaency and accountability seek, establishing a public database of PCIA results could enhance its effectiveness and use.

Another option is the establishment of a Regional Coherence Enhancement Network (RCEN) for sub regions in sub-Saharan Africa—for instance RCEN for West Africa. This network would help facilitate knowledge sharing and best practices in policy coherence among member countries, develop regional standards for climate-resilient and sustainable infrastructure, coordinate regional approaches to climate change adaptation and mitigation, and provide a platform for negotiating coherent regional positions in international climate and development forums. The implementation strategy includes convening a regional conference to establish the RCEN and define its structure and objectives. It shold also develop a digital platform for continuous knowledge sharing and collaboration while initiating joint research projects on regional policy coherence challenges and solutions. It could also establish regular ministerial-level meetings to coordinate regional policy approaches.

The United Nations Office for Disaster Risk Reduction (UNDRR) via The Sendai Framework for Disaster Risk Reduction 2015-203, is already "fostering policy coherence among two prractices which are closely linked: Disaster Risk Reduction (DRR) and Climate Change Adaptation (CCA)."[633] It notes that "by generating more efficient and effective preparedness, response and recovery processes while making more efficient use of financial and human resources, policy coherence among DRR and CCA practices can contribute to a more sustainable development."[634] Although the organization notes that policy coherence is incidental rather than structural, their approach, dubbed pathways for policy coherence in sub-Saharan Africa, it highlights the relevance of DDR AND CCA from the view of strategic, conceptual, insitututional, operational and financial coherence—which I argue are broadly in line with the interconnected framework proposed here.[635] For example, they the highlight relevance of insistutional arragments—herein referred to as strengthening institutional frameworks; and operational coherence—herein underscored as part of both governance and capacity building.

[633] (UN Office for Disaster Risk Reduction 2020), 7
[634] (UN Office for Disaster Risk Reduction 2020), 7
[635] Ibid.

Conclusion

This chapter has explored the complex landscape of policy coherence between climate ambitions and sustainable development goals in sub-Saharan Africa, with a particular focus on hydrocarbon resource-based (HRB) economies like Ghana and Nigeria. The analysis reveals a multifaceted challenge characterized by strong executive power, economic dependence on fossil fuels, policy-implementation gaps, and significant international influence on domestic policy landscapes.

To address these challenges, this study proposes a three-pronged, interconnected approach:

1. Governance: Strengthening institutional frameworks, implementing comprehensive policy assessment tools, and developing transition strategies are crucial. Specific recommendations include establishing Integrated Policy Coherence Units (IPCUs), creating Inter-Ministerial Coherence Committees (IMCCs), and developing tools like the Climate-SDGs Budgeting System (CSBS) and the Transition Pathway Modelling Tool (TPMT).
2. Capacity Building: Enhancing both technical and institutional capacity is vital. This includes developing comprehensive training programs, creating peer-learning networks, and promoting policy integration in key sectors. Novel approaches such as Policy Coherence Simulation Labs (PCSL) and rotational incubator programs can foster cross-pollination of ideas and build coherence capabilities.
3. Regional and International Cooperation: Leveraging international expertise and resources while enhancing regional cooperation is essential. This involves collaborating with UN agencies, engaging with international financial institutions, and establishing regional networks like the West African Policy Coherence Network.

The study also proposes innovative tools such as the Policy Coherence Impact Assessment (PCIA) Framework and the Regional Coherence Enhancement Network (RCEN) to further strengthen coherence efforts. These recommendations aim to create a robust ecosystem for policy coherence, addressing the unique challenges faced by HRB economies in sub-Saharan Africa. By implementing these strategies, countries can better navigate the complex trade-offs between climate action, sustainable development, and economic growth.

However, the success of these initiatives hinges on strong political will, adequate resource allocation, and a commitment to long-term, transformative change. As the global community grapples with the urgent challenges of climate change and sustainable development, the experiences and innovations of Sub-Saharan African countries offer valuable lessons for achieving policy coherence in complex, resource-constrained environments.

Chapter VII: Conclusion

This research has undertaken an extensive exploration of the complex landscape of policy coherence between climate ambitions and sustainable development goals in sub-Saharan Africa, with a particular focus on two hydrocarbon-based resource countries—Ghana and Nigeria. The study aimed to address three research questions that are central to understanding the challenges and opportunities in order to develop options for coherence policies and implementation of the post-2015 agreements:

- **RQ1:** How are countries in Sub-Saharan Africa addressing climate and development objectives in policy and governance?
- **RQ2:** What specific gaps and barriers exist that impede or support transition away from hydrocarbons?
- **RQ3:** What options are available to support coherence of climate ambitions and sustainable development?

As we approach 2030—a significant year for both the Paris Agreement's ambitious targets and the Sustainable Development Goals (SDGs)[636]—the world confronts a stark reality that echoes the implementation challenges that plagued the Millennium Development Goals (MDGs) a generation ago. As stated in Chapter I, the 2024 Sustainable Development Goals Report reveals that only 17% of SDG targets are on track, while COP29 in Baku concluded with a climate finance commitment of $300 billion annually by 2035—far below the $1 trillion figure widely viewed as necessary for meaningful climate action.[637] This persistence of the implementation gap, despite decades of international cooperation and policy innovation, raises fundamental questions about the effectiveness of our current approaches to global governance and sustainable development.

The research questions, explored through the lens of policy coherence in sub-Saharan Africa, with a detailed case study of Ghana and Nigeria, illuminates not just regional challenges but broader systemic issues that continue to characterize international development cooperation in what the UN has termed our current "age of polycrisis."[638]

The Enduring Challenge: From MDGs to SDGs to Climate Governance Crisis

The research findings reveal troubling continuities with the implementation challenges that undermined the Millennium Development Goals. As noted in Chapter I, while the MDGs received enormous global support when adopted in 2000, the reality is that many policymakers at the national or local level are unaware of decisions taken at

[636] For the Paris Agreement 2030 represents a crucial emissions reduction target to limit global warming to 1.5°C above pre-industrial levels, the Paris Agreement calls for a significant reduction in greenhouse gas emissions by 45% by 2030 compared to 2010 levels; and for the SDGs, the agenda sets out 17 SDGs and 169 targets to be achieved by 2030.
[637] (United Nations 2024) and (UN News 2024)
[638] (United Nations 2023)

the global level. Global policy debates and their outcomes are often disconnected from national development plans and poverty reduction strategies. Nearly a quarter-century later, this implementation gap persists and has arguably deepened with the added complexity of climate governance. The climate dimension adds layers of complexity absent from the MDGs era. As this research demonstrates through the analysis of Sub-Saharan African policy landscapes, the legally binding nature of the Paris Agreement has created different accountability pressures compared to the voluntary nature of the SDGs. This has resulted in the striking pattern identified in Chapter IV: 60% of conceptually aligned policies focus on climate change compared to 40% on sustainable development, with only 22% successfully integrating both objectives. This distortion reflects what Dubash identifies as the necessarily embedded nature of climate policy in developing countries' broader development narratives, creating both opportunities for integration and potential conflicts when climate objectives clash with immediate economic priorities.[639]

The multi-level governance requirements of climate policy, as Jordan and Huitema highlight, demand coordination not only across sectors but also across different levels of government, from local to national to international.[640] This creates coherence traps—systematic situations where resource wealth paradoxically reduces the capacity for effective policy coordination across these multiple levels and sectors. Unlike the MDGs, which primarily focused on sectoral outcomes, the post-2015 framework requires countries to navigate competing international accountabilities while managing the temporal misalignments between climate action (requiring multi-generational responses) and political cycles that incentivize short-term policy responses. The institutional constraints identified by Averchenkova, Fankhauser, and Nachmany—which significantly affect the capacity to develop, implement and enforce climate policies across countries and regions—have become more pronounced in the climate era.[641] The energy access challenges highlighted by Brew-Hammond, where over 600 million people in Sub-Saharan Africa lack access to electricity create particular policy coherence challenges absent from the MDGs framework, as they require approaches that can simultaneously expand energy access and reduce emissions—objectives that may sometimes be in fundamental tension.[642]

The UN Summit of the Future in September 2024, which resulted in the adoption of the Pact for the Future aimed at "turbocharging" the SDGs, acknowledged this persistent disconnect.[643] Yet the evidence from this research suggests that the post-2015 framework may be perpetuating, rather than resolving, the fundamental tensions between global aspirations and domestic realities. The dominance of climate policies over SDG-aligned policies across Sub-Saharan Africa reveals how global agenda-

[639] (Dubash 2013)
[640] (Jordan and and Huitema 2014)
[641] (Averchenkova, Fankhauser and Nachmany 2017)
[642] (Brew-Hammond 2010)
[643] (Whiting 2024)

setting processes inadvertently distort domestic policy priorities through what may be an international agreement implementation paradox—where countries, facing different forms of international accountability, reshape their policy landscapes to mirror global frameworks regardless of their alignment with domestic development trajectories.

Additionally, the methodological challenges identified by Urban, Benders, and Moll, who note that conventional energy modeling approaches developed for industrialized countries may not be appropriate for developing country contexts, where data limitations, institutional constraints, and different development priorities require adapted approaches, exemplify how technical solutions developed for one context fail when transplanted to countries facing fundamentally different structural constraints.[644] This echoes the Deep Decarbonization Pathway (DDP) principle that approaches must be at the country level with the entire economy in scope to ensure that national technical, social and economic priorities and circumstances are explicitly taken into account.

Key Research Contributions: Theoretical, Empirical, and Practical Innovations

This research makes several distinctive contributions to understanding policy coherence in the context of hydrocarbon resource-based economies and the post-2015 development framework, advancing both theoretical knowledge and practical approaches to complex global governance challenges.

1. Normative Definition of Policy Coherence for Post-2015 Agreements

The research provides a normative definition of policy coherence specifically applicable to the post-2015 agreements: ensuring that the unique objectives, goals, and consequences of policies are not compromised, or at minimum, these interactions are well-considered. This definition addresses a critical gap in the literature, where existing coherence frameworks were developed primarily for OECD contexts and single-agreement scenarios. Unlike previous definitions that focused on avoiding contradictions or maximizing synergies, this normative approach acknowledges that perfect coherence may be unrealistic in resource-constrained environments while maintaining ambitious standards for policy integration. The definition builds on the theoretical foundations described in Chapter II, emphasizing that policy coherence requires a convergence of values, obligations, actions, and systems across different policy domains, but adapts this framework to the specific challenges of implementing multiple international agreements simultaneously. This contribution is particularly significant because it moves beyond technical definitions of coherence toward a framework that acknowledges the political economy realities facing developing countries while providing clear standards for assessment and improvement.

The normative dimension recognizes that policy coherence is not merely a technical challenge but involves fundamental questions about how countries balance

[644] (Urban, Benders and Moll 2007)

competing priorities and manage trade-offs between immediate needs and long-term commitments. By emphasizing that interactions must be well-considered" even when perfect alignment is not possible, the definition provides a realistic framework for countries navigating complex development challenges while maintaining accountability to international commitments.

2. Comprehensive Sub-Saharan Africa Climate-SDG Policy Mapping

The systematic analysis of 311 conceptually aligned policies across 48 Sub-Saharan African countries represents a comprehensive regional mapping of post-2015 agreement implementation. This empirical contribution provides unprecedented insight into how global frameworks translate into national policy contexts across diverse political and economic systems. The mapping reveals patterns previously obscured by country-specific studies: the striking emphasis on climate change policies over SDG-aligned policies (186 versus 125 policies respectively), the limited integration between climate and development objectives (only 22% of policies address both frameworks), and the significant variation in policy responses across the region. The empirical analysis demonstrates that Kenya leads with 14 combined policies, followed by Ghana, Uganda, and Nigeria with 11 policies each, while countries like Lesotho, Eritrea, and Central African Republic have only 2 policies each. This variation reveals important patterns about how different governance structures, resource endowments, and international relationships influence policy development processes. The finding that only a small minority of policies successfully integrate both climate and sustainable development objectives challenges assumptions about policy coherence being a natural outcome of good governance.

Futhermore the mapping methodology developed for this research provides a replicable framework for monitoring policy coherence across multiple international agreements. The comprehensive data collection process, outlined in Appendix IV, establishes standards for systematic policy analysis that can be adapted to other regions and agreement frameworks. This methodological contribution enables future research to track changes in policy coherence over time and across different contexts. The regional analysis also reveals the influence of different international accountability mechanisms on domestic policy development. The higher proportion of climate-aligned policies reflects the binding nature of the Paris Agreement compared to the voluntary nature of the SDGs, demonstrating how international legal frameworks shape domestic policy priorities even in resource-constrained environments.

3. Four-Dimensional Barrier Framework for Hydrocarbon-Dependent Economies

Through detailed case study analysis of Ghana and Nigeria, the research identifies and theorizes four interconnected barriers that systematically impede policy coherence in hydrocarbon resource-based economies: executive dominance, fossil fuel dependence, institutional capacity constraints, and complex international influence. This

framework advances understanding of how structural constraints interact to create systematic challenges for policy integration.

i. Executive Dominance manifests differently across different political systems but consistently concentrates policy-making authority in ways that limit cross-sectoral coordination. In Ghana's presidential system, this appears as presidential prioritization of economic objectives over environmental concerns, while in Nigeria's federal system, it creates tensions between federal climate commitments and state-level implementation responsibilities. The research demonstrates that executive dominance is not simply about authoritarian governance but reflects systematic features of how policy authority is distributed across different institutional arrangements.

ii. Fossil Fuel Dependence creates not just economic constraints but coherence traps—systematic situations where resource wealth reduces capacity for effective policy coordination. Unlike traditional resource curse analyses that focus on economic or political outcomes, this research demonstrates how oil dependence creates specific incentives for policy incoherence even when countries possess formal institutional frameworks for integration. The analysis shows how fossil fuel revenues create short-term economic pressures that systematically undermine long-term policy planning across multiple sectors.

iii. Institutional Capacity Constraints encompass not just technical expertise or financial resources but broader systemic limitations in institutional design, coordination mechanisms, and long-term planning capabilities. The research identifies specific manifestations: limited technical expertise in emerging areas like renewable energy technologies and carbon accounting, weak coordination mechanisms between different government agencies and levels of government, insufficient data collection and analysis capabilities, and lack of long-term planning capacity that hampers coherent strategy development spanning multiple electoral cycles.

iv. Complex International Influence creates dynamics that simultaneously provide opportunities and constraints for policy coherence. The research demonstrates how countries operate within dense networks of international relationships that shape domestic policy priorities through funding mechanisms, technical assistance programs, and diplomatic pressures. While international influence can promote alignment with global goals, it raises questions about policy ownership and creates competing signals that allow domestic actors to selectively interpret international commitments based on immediate interests.

4. An Interconnected Framework for Policy Coherence Enhancement

This research has proposed a comprehensive three-pronged interconnected framework addressing the systematic nature of policy coherence challenges in HRB economies: governance strengthening, capacity building, and regional/international cooperation. This framework recognizes that coherence challenges are interconnected and require mutually reinforcing solutions rather than isolated interventions.

i. Governance Strengthening includes establishing Integrated Policy Coherence Units (IPCUs) as cross-sectoral institutions designed to address executive dominance and institutional fragmentation. These units would operate at the intersection of different government agencies, providing coordination mechanisms that transcend traditional sectoral boundaries. The framework also proposes Climate-SDGs Budgeting Systems that integrate climate and development objectives from the budget formulation stage, ensuring that financial planning reflects policy integration commitments.

ii. Capacity Building encompasses both technical and institutional dimensions, including comprehensive training programs, peer-learning networks, and policy integration in key sectors. The framework proposes innovative approaches such as Policy Coherence Simulation Labs (PCSL) and rotational incubator programs designed to foster cross-pollination of ideas and build coherence capabilities across different government agencies and levels.

iii. Regional and International Cooperation leverages international expertise and resources while enhancing regional cooperation through mechanisms like the proposed West African Policy Coherence Network. This component recognizes that individual countries face similar challenges and can benefit from shared learning and coordinated approaches to common problems.

The framework includes specific implementation tools such as the Policy Coherence Impact Assessment (PCIA) Framework—a standardized methodology for assessing policy coherence throughout the policy cycle, with both ex-ante and ex-post assessment components and mandatory stakeholder consultation processes. The Regional Coherence Enhancement Network (RCEN) provides mechanisms for knowledge sharing and coordinated policy development across countries facing similar challenges.

Reframing the Resource Curse in Climate-Development Contexts

A serendipitous discovery is the extension of resource curse theory demonstrating how oil dependence creates economic and political distortions, particularly specific 'coherence traps' where resource wealth paradoxically reduces the capacity for effective policy coordination. This accidental theoretical contribution challenges linear assumptions about resource wealth and institutional capacity, showing how resource dependence creates systematic incentives for policy incoherence even when countries possess formal institutional frameworks for integration. Unlike traditional

resource curse analyses that focus on macroeconomic outcomes like Dutch disease or political outcomes like authoritarianism, this research demonstrates how resource dependence shapes policy-making processes across multiple sectors and levels of government. The coherence trap concept explains why resource-rich countries often struggle to implement integrated policy approaches despite having greater financial resources than resource-poor countries. Additionally, fossil fuel revenues create temporal misalignments between short-term economic imperatives and long-term sustainability commitments. Oil and gas revenues provide immediate fiscal benefits that create political incentives for continued resource extraction, even when this conflicts with climate commitments. This creates systematic biases in policy development that favor short-term economic gains over long-term policy integration.

This coherence trap concept could also explain how resource dependence affects international relationships, creating complex dynamics where countries face competing pressures from different international actors. Climate-focused organizations promote renewable energy transitions, while other international partners continue supporting fossil fuel development, allowing domestic actors to selectively interpret international commitments based on immediate economic interests.

Contemporary Relevance and Global Implications

The research findings have gained heightened relevance in light of recent global developments that validate the core arguments about implementation challenges and the limits of current international cooperation approaches.

1. COP29 and the Persistent Finance Gap

The contentious conclusion of COP29, where developing nations called the $300 billion annual climate finance commitment "insulting," exemplifies the persistent tensions this research identifies between global aspirations and developing country needs.[645] UN Climate Change Executive Secretary Simon Stiell described the new finance goal as "an insurance policy for humanity" but acknowledged that "like any insurance policy – it only works – if the premiums are paid in full, and on time."[646] The experiences of Ghana and Nigeria, as detailed in this study, help explain why such negotiations remain deadlocked despite widespread recognition of the urgency of climate action.

The research's analysis of international influence as a barrier to policy coherence provides crucial context for understanding why developing countries view climate finance commitments with skepticism. Both Ghana and Nigeria have experienced competing international signals regarding fossil fuel investments, where climate-focused organizations promote renewable energy transitions while other international actors continue supporting fossil fuel development. This creates an international environment

[645] (UN News 2024)
[646] (UN News 2024)

that allows domestic actors to justify continued fossil fuel dependence while maintaining formal commitments to climate objectives. The coherence trap also explains why increased climate finance alone may not resolve implementation challenges. Unless financial mechanisms address the underlying structural constraints that create incentives for policy incoherence, additional resources may simply reinforce existing patterns rather than promoting integrated approaches to climate and development challenges.

2. SDG Progress and the Implementation Crisis

The 2024 SDG Report's finding that nearly half the 17 targets are showing minimal or moderate progress, while over a third are stalled or going in reverse validates this research's argument that current approaches to implementing international agreements require fundamental reconsideration. The UN Secretary-General's assessment that "this report is known as the annual SDG report card and it shows the world is getting a failing grade" reflects the scale of the implementation crisis this research addresses.[647] The identification of executive dominance as a systematic barrier is an important insight into why progress remains limited despite widespread political commitments to sustainable development. Both Ghana and Nigeria demonstrate how political structures that concentrate decision-making authority can limit the cross-sectoral coordination required for effective SDG implementation, even when leaders express strong support for sustainable development goals.The institutional capacity constraints could also explain why many developing countries struggle to translate policy commitments into effective implementation. Effectively, this demonstrates that capacity building requires more than technical training or additional resources—it demands fundamental changes in how government institutions coordinate across sectors and levels of government.

3. Multilateralism and the Future of International Cooperation

The findings of this research also speaks to broader questions about the future of multilateralism highlighted in recent international assessments. The 2024 Sustainable Development Report's finding that "Barbados ranks the highest in its commitment to UN-based multilateralism; the United States ranks last[648] illustrates how geopolitical tensions increasingly constrain international cooperation. The interconnected framework developed in this research provides pathways for regional cooperation that can complement, but not depend entirely upon, global multilateral processes. The emphasis on regional cooperation mechanisms, such as the proposed West African Policy Coherence Network, offers alternatives to purely global approaches that have struggled to deliver effective results. By building cooperation among countries facing similar challenges, regional approaches can provide more targeted support while maintaining connections to global frameworks. Additionally, the framework's emphasis on supporting

[647] (UN Sustainable Development Group 2024)

[648] (Sachs, Lafortune and Fuller, The SDGs and the UN Summit of the Future. Sustainable Development Report 2024 2024)

domestic transformation processes rather than imposing external solutions aligns with emerging critiques of traditional development cooperation. Rather than focusing primarily on policy alignment and compliance monitoring, the research argues that international frameworks might be more effective if they prioritized capacity building, technology transfer, and structural transformation support.

Research Limitations and Methodological Constraints

This research acknowledges several limitations that create opportunities for future investigation while also providing important context for interpreting the findings and their broader applicability.

1. Geographic and Temporal Scope Limitations

The focus on two West African countries, while providing deep insights into the political economy dynamics of policy coherence in hydrocarbon resource-based economies, limits generalizability across Sub-Saharan Africa's diverse political and economic contexts. Ghana and Nigeria, despite their differences, share certain characteristics—including similar colonial histories, democratic governance structures, and West African regional contexts—that may not apply across the broader Sub-Saharan African region. East African countries with different resource endowments, such as Kenya with its geothermal resources or Ethiopia with its hydroelectric potential, face different structural constraints that may require modifications to the interconnected framework developed in this research. Similarly, countries with different governance structures, such as Rwanda's more centralized developmental state model, may experience different patterns of policy coherence challenges.

The temporal scope of the research, covering policy developments from 2015 through 2022, means that recent developments in climate finance, SDG implementation, and global governance require ongoing analysis. The outcomes of COP29, the Summit of the Future, and evolving international cooperation mechanisms create new contexts for testing the framework's relevance and effectiveness.

2. Methodological Challenges and Data Constraints

This study faced significant methodological challenges common to comparative case study research in developing country contexts. As highlighted in the analysis of Urban, Benders, and Moll, conventional modeling approaches developed for industrialized countries may not be appropriate for developing country contexts, where data limitations, institutional constraints, and different development priorities require adapted approaches.[649]

Data availability and quality varied significantly between Ghana and Nigeria, reflecting broader challenges in conducting systematic policy analysis in contexts where government documentation may be incomplete, inconsistent, or difficult to access. The

[649] (Urban, Benders and Moll 2007)

content analysis methodology, while providing systematic approaches to analyzing policy documents, relies on the availability and accuracy of government publications that may not fully capture informal policy processes or implementation practices. The qualitative data analysis approach, as described in Chapter III, involved an iterative process of examination and interpretation that requires significant researcher judgment. While structured analytic techniques and policy network analysis provided frameworks for organizing analysis, the ultimate interpretation of findings depends on researcher assessment of complex political and economic dynamics.

The case study methodology, while enabling deep analysis of specific contexts, faces inherent limitations in supporting broader generalizations. The selection of Ghana and Nigeria, while justified by their representativeness of important characteristics within the HRB category, cannot capture the full diversity of approaches to policy coherence across different country contexts.

3. Theoretical and Conceptual Limitations

The focus on policy coherence, while providing important insights into coordination challenges, may not fully capture other dimensions of policy effectiveness that influence sustainable development outcomes. Implementation capacity, citizen engagement, private sector involvement, and international support mechanisms all play crucial roles in determining policy success that extend beyond coherence considerations.

Futhermore, the four-dimensional barrier framework, while capturing important systematic constraints, may not encompass all factors that influence policy coherence in different contexts. Cultural factors, historical legacies, and regional dynamics may create additional barriers or opportunities that require further investigation.

And lastly, the interconnected framework's emphasis on governance, capacity building, and regional cooperation reflects assumptions about the types of interventions most likely to enhance policy coherence. Alternative approaches, such as market-based mechanisms, technological solutions, or civil society engagement, may provide different pathways to improved policy integration that deserve additional investigation.

4. Practical Implementation Constraints

The research proposes several innovative institutional mechanisms, such as Integrated Policy Coherence Units and Climate-SDGs Budgeting Systems, without extensive testing of their practical feasibility or effectiveness. While these proposals build on existing institutional models and theoretical frameworks, their implementation would require significant political commitment and institutional change that may face resistance. The interconnected framework assumes certain levels of government capacity and political will that may not exist in all contexts. Countries facing severe fiscal constraints, political instability, or institutional weakness may require different approaches to policy coherence that this research does not fully address.

The emphasis on regional cooperation mechanisms, while theoretically sound, faces practical challenges related to sovereignty concerns, resource constraints, and competing national interests that may limit effectiveness. The success of mechanisms like the proposed West African Policy Coherence Network would depend on sustained political commitment across multiple countries with different priorities and capabilities.

Future Research Directions: Advancing Theory and Practice

Several specific research directions emerge from this study that would advance both theoretical understanding and practical approaches to policy coherence in developing country contexts.

1. Longitudinal Implementation Studies

Future research could track countries that implement elements of the interconnected framework over extended periods to assess long-term impacts on policy coherence and development outcomes. Such studies would provide crucial evidence about the effectiveness of different intervention approaches and the conditions under which policy coherence improvements translate into better sustainable development results.

2. Comparative Resource Curse Analysis

Forthcoming research could extend the coherence trap concept to other resource-dependent economies beyond oil and gas, including mineral-rich countries and those dependent on agricultural commodity exports. This would test the broader applicability of the framework and identify how different types of resource dependence create different patterns of policy coherence challenges. Comparative analysis could examine how countries with different levels of resource dependence experience different coherence challenges. This would provide insights into whether the framework applies primarily to highly resource-dependent economies or has broader relevance across different development contexts.

3. Regional Network Effectiveness Research

Future studies could evaluate the effectiveness of regional cooperation mechanisms, such as the proposed West African Policy Coherence Network, in facilitating knowledge sharing and coordinated policy responses. This research would provide evidence about the conditions under which regional cooperation enhances rather than constrains national policy development.

4. Climate Finance and Policy Coherence Analysis

A future research could explore how evolving climate finance mechanisms, including the $1.3 trillion target established at COP29, influence policy coherence at national levels. This would provide insights into how international financial flows can be designed to promote rather than undermine integrated policy approaches.

5. Technology Transfer and Coherence Enhancement

Looking at how technology transfer mechanisms can be designed to enhance rather than undermine policy coherence in developing countries would address how technical cooperation can support integrated approaches to climate and development challenges rather than creating additional coordination challenges.

6. Political Economy of Transitions

A research work could focus on the detailed political economy analyses of the transition away from fossil fuel dependence, examining the roles of different stakeholders, power dynamics, and potential strategies for managing resistance to change. This would provide insights into how countries can navigate the political challenges of structural economic transformation while maintaining policy coherence.

7. Measurement and Assessment Methodologies

Developing more sophisticated methodologies for assessing and measuring policy coherence, particularly in the context of complex, interconnected global challenges like climate change and sustainable development could involve creating new indicators or adapting existing frameworks to better capture the multidimensional nature of policy coherence.

8. Role of Non-State Actors in Policy Coherence

Future studies could investigate the role of non-state actors, including civil society organizations and the private sector, in promoting policy coherence and driving sustainable development. This could involve analyzing successful public-private partnerships or civil society initiatives that have enhanced policy coherence.

Toward Transformation: Lessons for a Post-2030 World

As the international community begins contemplating the post-2030 development agenda, this research offers crucial insights for avoiding the implementation failures that have characterized both the MDGs and the current SDG framework. The evidence suggests that effective global action requires accepting that there is no universal pathway to sustainability and development, and that international frameworks must evolve to support diverse approaches rather than impose common solutions. The temporal dimension identified in this research adds particular urgency to discussions about post-2030 frameworks. Both the MDGs and the post-2015 framework have operated on cycles that may be fundamentally misaligned with the timeframes required for structural transformation. Climate change and sustainable development challenges require multi-generational responses, yet international frameworks continue to operate on political cycles that incentivize short-term policy responses over long-term transformation strategies. This temporal misalignment suggests the need for intergenerational governance frameworks that create continuity across political cycles while remaining responsive to changing circumstances. The interconnected approach

proposed in this research—emphasizing governance, capacity building, and regional/international cooperation—offers one pathway toward such frameworks, but the broader implication is that international cooperation may need to evolve beyond agreement-based approaches toward more organic, adaptive forms of collaboration.

The experiences of Ghana and Nigeria demonstrate that achieving policy coherence requires more than technical fixes or additional resources—it demands fundamental changes in how international cooperation supports domestic transformation processes. Rather than focusing primarily on policy alignment and compliance monitoring, international frameworks might be more effective if they prioritized capacity building, technology transfer, and structural transformation support. This shift would represent a movement from a paradigm of **accountability for commitments to one of support for transformation**. Such an approach would acknowledge what this research has demonstrated: that meaningful progress on global challenges cannot be achieved through international agreements alone, but requires addressing the underlying structural constraints that prevent countries from pursuing alternative development pathways.

For countries like Ghana and Nigeria, this would mean international support for economic diversification, technology transfer for renewable energy development, and assistance in managing the social and economic impacts of transitioning away from fossil fuel dependence. The coherence trap concept suggests that without addressing the structural incentives created by resource dependence, increased international support may simply reinforce existing patterns rather than promoting fundamental change.

Final Reflections: The Path Forward

The path forward requires recognizing that the challenges facing countries like Ghana and Nigeria are not unique aberrations but representative of broader systemic issues in how the international community approaches sustainable development. The persistence of the implementation gap from the MDGs through the SDGs to current climate negotiations suggests that we may be witnessing the limits of the international agreement paradigm itself. Yet this research also demonstrates reasons for hope. The institutional innovations developed in Ghana and Nigeria, the growing sophistication of regional cooperation mechanisms, and the increasing recognition of the need for context-specific approaches all point toward possibilities for more effective global cooperation. The interconnected framework developed in this research provides one pathway toward such cooperation, emphasizing that effective multilateralism must be built from the ground up rather than imposed from above.

The contributions of this research as outlined here—from the normative definition of policy coherence to the practical tools for implementation—provide building blocks for this transformation. The four-dimensional barrier framework offers systematic understanding of the structural constraints that must be addressed, while the

interconnected solutions framework provides concrete mechanisms for enhancing policy coherence in resource-constrained environments. The ultimate lesson may be that effective global action requires fundamental humility about the complexity of development challenges and the recognition that sustainable solutions must emerge from domestic political processes that international cooperation can support but not substitute. The coherence trap concept demonstrates how even well-intentioned international support can reinforce rather than resolve underlying structural constraints if it fails to address the incentives that shape domestic policy development.

As the world moves toward 2030 and beyond, the experiences documented in this research offer both cautionary tales about the limits of current approaches and constructive pathways toward more effective forms of international cooperation. Nigeria's bid to host COP32 represents an opportunity to test whether the lessons from this research can inform more effective approaches to climate governance that address rather than perpetuate the implementation challenges that have characterized international development cooperation for decades.

The research's emphasis on regional cooperation, institutional innovation, and context-specific approaches provides a foundation for imagining post-2030 frameworks that might succeed where previous approaches have fallen short. Yet their ultimate value will be determined not by their theoretical elegance but by their capacity to support the aspirations of countries and communities working to build more sustainable and equitable futures. In this respect, the true test of this research lies not in academic validation but in its contribution to the ongoing struggle for development that is both environmentally sustainable and economically transformative. As we stand at this critical juncture in global development, the choice before us is clear: continue with approaches that have repeatedly fallen short of their promises, or embrace the difficult work of building new forms of cooperation that acknowledge both the urgency of global challenges and the complexity of local realities.

This research argues for the latter path, providing both analytical tools and practical frameworks for those willing to undertake this essential work. The experiences of Ghana and Nigeria, the analysis of regional patterns across Sub-Saharan Africa, and the development of new theoretical frameworks all contribute to a growing understanding that sustainable development requires approaches that are simultaneously global in vision and local in implementation. The interconnected framework offers one contribution to this understanding, but its ultimate significance will be determined by its ability to inform more effective approaches to the fundamental challenges facing our shared planetary future.

Appendix I: Integrated Assessment Models (IAMs)

Evaluating Decarbonization Pathways

Integrated Assessment Models (IAMs) are widely accepted, particularly in policy circles as effective in building pathways to low global emissions—a critical method of analysis leveraged by the IPCC. IAMs allows for the integration of several knowledge and fields, including scientists, economists, and other disciplines into a single framework to have a better understanding of the interactions between climate and human systems such as technology, energy use, the economy, forestry and land-use.[650] As Stern argued, "modelling the monetary impacts of climate change globally is very challenging: it requires quantitative analysis of a very broad range of environmental, economic and social issues. Integrated Assessment Models (IAMs), though limited, provide a useful tool."[651] Each IAM can be characteristically different, indicating that "some defects of one type of IAM, may cease to exist in another type of IAM (many IAM model can be regarded to be complementary on the function, can't simply say one model is better than the other one)."[652] Ravetz has stated that 'while IAMs have become sophisticated, there is consensus that the complexity of the systems being modelled puts ultimate limits on the veracity of the results.[653]

Example of IAM grouping is the simple and complex. The simple mainly covers the cost and benefits analysis of climate change without the inclusion of its relationship to the economy, energy and earth systems (example includes DICE, FUND and PAGE).[654] Haurie also identifies with the concept of simple IAM, writing that "a good and simple example of a policy 'optimization model' is the Dynamic Integrated model of Climate and the Economy (DICE)…"[655] On the other hand, complex models often capture other dimensions, including energy use and behaviours, technologies, land-use and other forms of social behaviours that cause or leads to emissions avoidance. [656] Wang et al argues that the different classifications or groupings often depend on different starting points.[657] Some focus more on the economy by integrating "multi-sectoral computable general equilibrium model with climate module…", hence focusing on cost-benefit analysis.[658] Others are more focused on the "integration of physical process of natural systems and economics," and is distinguishable by "the carbon cycle and the description of the temperature change." A composite of classifications or grouping based on existing literature as described by Wang et—referencing other scholars, are summarized below:

[650] (Metcalf and Stock 2017), 82
[651] (Stern 2007), 164
[652] (Wang, et al. 2017), 5
[653] (Ravetz 1998), 147
[654] (CarbonBrief 2018)
[655] (Haurie 2003), 118
[656] (CarbonBrief 2018)
[657] (Wang, et al. 2017), 2
[658] Ibid

- Goodess *et al*: (I) the *cost-benefit analysis IAM model for policy optimization* such as CETA, DICE, FUND, ICAM-3, MERGE and the MiniCAM; (II) *the biophysical-impact based IAM for policy evaluation* (more focused on quantitative evaluation of the biophysical than the economic policy) including CLIMPACTS, ESCAPE, IMAGE and IGSM; and finally (III) the *policy guidance IAM* (transfers of economic losses module through climate impact response function into tolerable windows), such as ICLIPS.
- Yang: IAMs can be divide into three categories based on model methodology: (I) *computable general equilibrium* models (CGE) (can divide departments and regions in detail, and study regional relations), such as EPPA of MIT and SGM model from the Pacific northwest laboratory; (II) *the inter-temporal optimal model* (not elaborate to the departmental level but has better flexibility in depicting individual decision-making and response to the future events), such as RICE from Yale and MERGE; (III) *the simulation model* (is scenario simulation model and economic modules are not usually present in the framework of general equilibrium), such as ICAM model of Carnegie Mellon university and IMAGE model from the Netherlands national institute of public health.
- Van Vuuren: Wang et al argues is comparable to Yang's. It also divides IAMs into three broad categories: (I) multi-sector general equilibrium model, such as AMIGA, EU-PACE, EPPA, SGM, WIAGEM; (II) aggregate general equilibrium model, such as MERGE and GRAPE; and finally (III) the integrated structure models, which includes IMGAGE, MESSAGE, AIM, and MiniCAM.

The above classifications are not exhaustive—which are inherently hard to do because they often bear resemblance to each other. There are other classifications of IAMs that groups into two instead of three. Wang et al, in the end, concludes that the DICE and RICE model provide a transparent process that could be easily understood; even though they have their shortcomings and appear simple due to emphasis on cost-benefit analysis.[659]

Nikas, Doukas and Papandreou also provide some insights on the classification of IAMs, focusing on classifying climate-economy models.[660] Like Wang et al, they also acknowledge the challenges in trying to group the different IAMs; admitting that most of them do not actually align with each other. Under their classification of climate-economy models—six model classes, it is "distinguished primarily by how the economy is modelled and the way the other three modules (climate, impact, energy) are integrated."[661] The breakdowns are summarized below:

- First is optimal growth (or welfare optimization). Under this broad group, you have models like DICE, DEMERTER, FAIR, MERGE, MIND, GRAPE, RICE, etc.

[659] Ibid., 7
[660] (Nikas, Doukas and Papandreou n.d.), 5
[661] Ibid

These IAMs often capture the "economy as a single all-encompassing sector. They are designed to determine the climate policy and investment levels that maximize welfare (future against present consumption) over time, by identifying the emission abatement levels for each time step."[662]

- Second, the General equilibrium or sometimes referred to as the computable general equilibrium (CGE). Models include GREEN, IGEM, LINKAGE, MIRAGE, MEMO, etc. The core characteristic here is that they provide "a more detailed representation of the economy with multiple sectors and often include higher resolution of energy technologies and regional detail."[663]
- Third class of models are GIM, MiniCAM/GCAM and TIAM-ECN. Called the partial equilibrium models, they "provide a detailed analysis of the interaction between environmental impacts and a particular sector of the economy and are often linked to the [CGE]."[664]
    - A subcategory to the partial equilibrium, and represents the fourth model class, is the energy system model—accounts for energy technologies and their associated costs, and often used, "interalia, to determine the least-cost ways of attaining GHG emission reductions or the costs of alternative policies.[665] Example includes: Calliope, EFOM, GENIE, POLES, and NEMS etc.
- Fifth, Macroeconomic models. Like the CGEs, they offer a measure of detail when it comes to energy technologies and geographic scope; and are also often used to understand and evaluate alternative climate policies.[666] They however differ because "they do not assume that consumers and producers behave optimally or that markets clear and reach equilibrium in the short term. Instead, they use historical data and econometrically estimated parameters and relations to dynamically and more realistically stimulate the behaviour of the economy."[667] Examples of models here include: E3MG, Oxford Global Macroeconomic Energy Model, and the MDM-E3.
- Lastly, the sixth model class, referred to as other integrated assessment models, includes IAMs like FUND, IMAGE, ICAM, PAGE, and CIAS. These IAMs do not share many similarities and do not fit into any of the above categories. However, the models examine the "economy in a highly 'reduced form' or simply use exogenous growth scenarios (no model at all)."[668]

In general IAMs consist of activities that produce GHG emissions—from economic and natural processes.[669] Those emissions are then "used to drive a representation of the global carbon cycle and the chemical composition of the

[662] Ibid
[663] Ibid
[664] Ibid
[665] Ibid
[666] Ibid., 6
[667] Ibid
[668] Ibid
[669] (Weyant 2017), 116

atmosphere, which is then used to drive changes in climate and seal level."[670] Weyant breaks IAMs into two basic categories: the detailed process (DP) IAMs, and the benefit-cost (BC) IAMs.[671] DP IAMs are more disaggregated, as the goal is to project climate change impacts at a more detailed level—this includes "using some economic valuation…"[672] On the other hand, BC IAMs provides an aggregate view of "climate change mitigation costs and aggregate impacts by sector and region into a single economic metric."[673] For Weyant, the primary purpose to building a BC analysis is to identify optimal climate policies.[674]

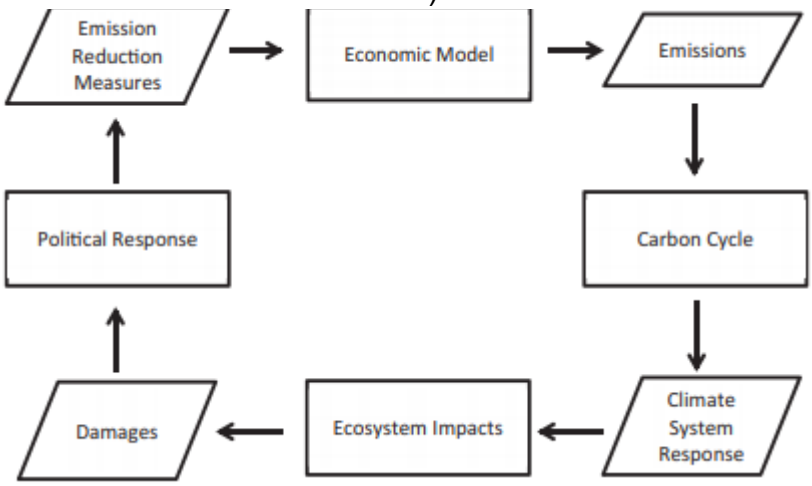
The classification dilemma of IAMs illustrates the challenges of uncertainties in undertaking the right policies to address climate change but also how to effectively tackle the economy when dealing with new technologies, carbon tax or other forms of incentives. Perhaps, underscoring Grubb, Hourcade and Neuhoff assertion that "we face being trapped by how uncertainties around 'costs and benefits combine with resistance to action, together with the collective nature of the problem…"[675]

IAMs consist of different elements. Metcalf and Stock provides a schematic of a generic IAM (see Figure 2 below). The adapted figure has the rectangles represent the model elements, whereas the parallelograms represent the model inputs/outputs.[676] They argue IAMs do not have the elements identified in Figure 17; as an example, there isn't an IAM that includes explicitly, political response—that is "how policymakers react to climate change damages through policy action that lead to emission reductions. Instead, IAM modelling exercises typically incorporate the political response into a given scenario."[677] To summarize appropriately, they contend that:

> Reference case scenarios in which there is no action taken to address climate change assumes one implicit response (i.e., no action), while optimal policy scenarios posit different political response that sets an implicit or explicit price on GHG emissions at the optimal rate.[678]

[670] (Weyant 2017). 117
[671] Ibid
[672] Ibid
[673] Ibid
[674] Ibid
[675] (Grubb, Hourcade and Neuhoff, Planetary Economics: Energy, Climate Change and the Three Domains of Sustainable Development 2014), 46
[676] (Metcalf and Stock 2017), 82
[677] (Metcalf and Stock 2017), 82-83
[678] Ibid., 83

Figure 17: Schematic of a Generic IAM (Metcalf and Stock, 2017)



The exclusion of political response as identified by Metcalf and Stock feeds into a larger discussion about IAMs reliability, accuracy, and comprehensiveness—sometimes framed as uncertainties. Beck and Krueger underscore the uncertainties within IAMs as both scientific and ethical; arguing primarily that with all policy decisions as to when and how to respond to climate change, "uncertainty is omnipresent."[679] By scientific, they mean the incomplete knowledge we have about the causes, processes and consequences of climate change; and by ethical, the lack of clarity when it comes to what "frameworks we should apply to address the ethical questions raised by climate change, including questions of historic responsibility, distribution of adaptation and mitigation costs, and of future emissions allowances."[680] They conclude that the usefulness of IAMs—by being able to communicate results and address policy uptake issues; is dependent on acknowledging and unpacking "the epistemic, ethical, and political dimensions of uncertainty in integrated assessment modelling…"[681] Similar to Beck and Krueger, Weyant admits to the challenge of the vast uncertainties that we have to deal with when looking at human-induced climate change and the appropriate policy actions to address them; and some of that challenge includes "key model inputs and parameters (e.g., baseline rates of economic growth and technological change, the lag in the rate of heat transfer from the atmosphere to the deep ocean) and important model outcomes (e.g., changes in projected temperatures and precipitation amounts)."[682]

To address these uncertainty, Weyant recommend not just sticking to techniques like sensitivity analysis and Monte Carlo simulations, but also paying attention to two important dimensions that should be part of "any comprehensive attempt to inform

[679] (Beck and Krueger 2016), 627
[680] (Beck and Krueger 2016), 627
[681] Ibid
[682] (Weyant 2017), 128

climate policy decisions."[683] That is, allowing for decisions made today to be revised based on new information received, and addressing "assumptions about the decision makers' attitudes toward risk."[684] This assertion of attitudes towards risk could not be far from the argument offered by Grubb, Hourcade and Neuhoff under the frame of the three conceptions of risk and opportunity—in which our belief and behaviour towards risk can be layered in levels of (i) ignorance, when something is perceived to be improbable or remote; (ii) optimisation and cost-benefit, where the reward and damages are factored into our decisions and (iii) security and strategy, that in the "face of an acknowledged (or perceived) threat to fundamental human needs or to the integrity of social system," we can inherently begin to plan and build alliances around them.[685]

Another important point that Weyant raises is the notion of equity considerations, which he describes as "unfortunate because equity and fairness often dominate the political debate concerning what to do about climate change."[686] On this issue of equity and fairness Weyant writes the following:

> this shortcoming is not easily fixed after a model with an efficiency-based optimizing architecture has been run, because of the many equity trade-offs and approximations that are typically made when such models are constructed in the first place. In addition, the global or regional representative consumer formulations, in which the choices of—and impacts on—a single "average" consumer are used to represent all consumers in an economy, that are included in some BC IAMs can make it hard to assess impacts across income classes at the national or international level.[687]

Some scholars have also characterized the simplification of innovation and technology diffusion process as an inherent weakness of IAMs. According to Gambhir et al, it will be unfair to demand of IAMs to represent the complex process of innovation and technology diffusion, however, "where a fuller picture of innovation can be characterized, it would be useful and insightful to see how this affects the technology and economic implications of low-carbon pathways."[688] Similarly, Grubb and Wieners, contrasting temporal independence assumptions in existing models like DICE—in representing abatement cost, with three dimensions of dynamic realism (inertia, induced innovation, and path dependence) in emitting systems—argue that "if IAM modelers acknowledge the reality and potentially central importance of deployment-induced learning but declare it to be outside the scope of their models, they are in effect abandoning the claim that IAM models capture the most important elements of a least-

[683] Ibid., 128
[684] Ibid., 129
[685] (Grubb, Hourcade and Neuhoff, Planetary Economics: Energy, Climate Change and the Three Domains of Sustainable Development 2014), 49-51
[686] (Weyant 2017), 125
[687] Ibid
[688] (Gambhir, et al. 2019), 7

cost approach;"[689] hence "greater analytic and empirical attention should be given to ways of representing, and estimating, the dynamic realities of energy-emission systems in integrated assessments."[690]

[689] (Grubb and Wieners, Modelling Myths: On the need for Dyanmic Realism in DICE and other Equilibrium Models of Global Climate Mitigation 2020)
[690] (Grubb and Wieners, Modelling Myths: On the need for Dyanmic Realism in DICE and other Equilibrium Models of Global Climate Mitigation 2020),

Appendix II: Case Study Selection

Regional resource dependency and climate impact

a. According to the UNCTAD's state of commodity dependence report (2019), 89% of sub-Saharan African countries depend heavily on commodities and commodity dependence is almost exclusively a developing-country phenomenon.[691]

	Latin America/Caribbean	East Asia and Pacific	Europe and Central Asia	Middle East and North America	South Asia	Sub-Saharan Africa
Commodity dependence	17 countries	16 countries	12 countries	13 countries	2 countries	42 countries

b. The IPCC in its AR4 noted with high confidence that "Africa is one of the most vulnerable continents to climate change and climate variability…"[692] Africa, in general, "is not a significant source of greenhouse gas emissions."[693]
c. Additionally, it is estimated that "climate change will drive 68 million to 132 million into poverty by 2030. Climate change is a particularly acute threat for countries in Sub-Saharan Africa and South Asia — the regions where most of the global poor are concentrated."[694]
d. The World Bank estimates that 85% of the world's poorest lives in South Asia and Sub-Saharan African.[695] Some of those include Nigeria and the Democratic Republic of Congo.
e. The African Union has also developed Agenda 2063; a strategic framework "that aims to deliver its goal for inclusive sustainable development…"; linking it to the SDG.[696]

Hence from a regional/geographic selection point of view, Sub-Saharan Africa will be the focus of selecting a country due to share of dependence on resources—which includes oil and gas, and impact of climate change and sustainable development. To narrow the selection, the following are assessed:

Economic/carbon profile:

[691] (United Nations Conference of Trade and Development (UNCTAD) 2019)
[692] (Intergovernmental Panel on Climate Change 2018)
[693] (UNFCCC n.d.)
[694] (The World Bank - IBRD-IDA n.d.)
[695] (The World Bank IBRD-IDA 2019)
[696] (African Union n.d.)

Oil and gas rents (% of GDP) 2019—top 10 sub-Saharan countries (Source: World Bank Data). The use of rent % of GDP is because in some of these countries, much of earnings comes from economic rents, which is the revenue after the cost of extracting oil and gas.

Oil rent

Rank	Countries	Rent % GDP
1	Congo, Rep.	43.4
2	Angola	25.1
3	Equatorial Guinea	22.3
4	Gabon	18.8
5	Chad	17.8
6	South Sudan	8.5
7	Nigeria	7.4
8	Ghana	4.7
9	Sudan	3.6
10	Cameroon	2.8

Gas rent

Rank	Countries	Rent % GDP
1	Equatorial Guinea	6.9
2	Mozambique	2.3
3	Congo, Rep.	1.2
4	Nigeria	1.0
5	Angola	0.7
6	Cameroon	0.4
7	Cote d'Ivoire	0.3
8	Ghana	0.2
9	Tanzania	0.2
10	Gabon	0.1

The following 7 countries appear in both cases of oil and gas rents % of GDP (from top 10). The table below assess the GDP + regional ranking of the 7 countries, oil and gas production, export oil and gas. Export and import Data from PWC Africa Oil and Gas review 2020.[697] Fuel export data for Angola, Cameroon, Eq. Guinea, and Gabon are not recent and indicative of potential data collection challenges. Nigeria and Ghana represent the two largest economies among the select countries of the region. Both exports oil while Nigeria exports gas, but Ghana does not—Nigeria having a high dependence on its fuel exports than Ghana based on equivalent 2019 data. Both are not ranked high (top 10) in carbon emissions.

Rank (GDP)	Country	GDP (US$)/Regional Rank[698]	Exports Oil (Y/N) Above 100mbb/d	Exports Gas (Y/N)	Fuel exports (%merchandise exports) 2019[699]	CO2 emissions (metric tons per capita)[700]/Africa rank
1	Nigeria	$432.3B (1)	Yes	Yes	87%	0.7 (15)
2	Ghana	$72.4B (5)	Yes	No	32%	0.5 (19)
3	Angola	$62.3B (7)	Yes	Yes	92% (2018)	0.9 (12)
4	Cameroon	$398B (10)	No	Yes	43% (2017)	0.3 (24)

[697] (PwC 2020)
[698] (The World Bank n.d.)
[699] Data from 2019, unless otherwise indicated: Fuels include minerals fuels, lubricants, gas, and other related materials. See: (The World Bank n.d.)
[700] (The World Bank n.d.)

5	Gabon	$15.6B (21)	Yes	No	83% (2009)	2.2 (6)
6	Congo, Rep.	$10.8B (28)	Yes	No	84%	0.6 (18)
7	Equatorial Guinea	$10B (32)	Yes	Yes	2% (1983)	5.1 (3)

Climate and SDG Current Policy/Commitment Landscape[701]

Country	SDGs (Government Coordination)[702]	NDCs: Yes/No	Climate-related Oil and gas policy/initiative
Ghana	- Lead unit for SDGs in the executive - Dedicated interministerial SDGs task force - SDG committee in parliament	Yes (2016)	National Natural Gas Master Plan Strategic National Energy Plan 2006-2020 (not updated)
Nigeria	- Lead unit for SDGs in the executive - Dedicated interministerial SDGs task force - SDG committee in parliament	Yes (2017/Updated 2021)	End gas flaring by 2030
Angola	- Lead unit for SDGs in the executive - Interministerial task force planned but not yet set up	Yes (2020/Updated 2021)	None
Gabon	None	Yes (2016)	Joined global gas flaring reduction. Law in 2014 concerning regulation of hydrocarbon sector. Produce national carbon budget every 2 years.
Cameroon	- Lead unit for SDGs in the executive - Dedicated interministerial SDGs task force	Yes (2016)	None
Equatorial Guinea	None	Yes (2018)	None

[701] Some data came from climatewatch data: See: (Climatewatch Data n.d.)
[702] (Sustainable Development Solutions Network and The Sustainable Development Goals Center for Africa 2020)

Congo, Rep.	- Lead unit for SDGs in the executive	Yes (2017)	None

Ghana and Nigeria are the only 2 countries that have both executive and legislative roles and systems to coordinating actions on the SDGs. All countries have NDCs with Nigeria and Angola recently submitting an update.

Democracy index/rank[703], official language and researcher language fluency and country experience

Rank	Country	Democracy Index (regional rank/type)	Official Languages (UNSTATS)[704]	Researcher Fluency (reading, writing, and speaking)	Researcher Experience in Country
1	Ghana	(6) Flawed Democracy	English	Fluent	Citizen, education, and work
2	Nigeria	(20) Hybrid Regime	English	Fluent	Work
3	Angola	(24) Authoritarian	Portuguese	Not fluent	Limited work
4	Gabon	(25) Authoritarian	French	Beginner	Limited work
5	Congo, Rep.	(30) Authoritarian	French	Beg. (French	None
6	Cameroon	(36) Authoritarian	English/French	Fluent (English), Beg. (French)	None
7	Equatorial Guinea	(41) Authoritarian	Spanish/French	Not fluent (Spanish), Beg. (Fr.)	None

Ghana and Nigeria are the only two non-authoritarian regimes among the select countries. The rest are authoritarian states (55% of the sub-Saharan region are classified as such), representing the potential challenges to accessing institutions, documents, or general information. Nigeria's hybrid regime—irregularities with elections, pressure on opposition parties, corruption, weak rule of law, harassment of journalist and non-independent judiciary—represents about 30% of the existing type of political and governance regimes in sub-Saharan Africa. Ghana's flawed democracy—have free and fair elections, basic civil liberties respected and underdeveloped political culture

[703] (EIU 2020)
[704] (UNGEGN 2017)

and low levels of political participation—represents 14% of the existing type of political and governance regimes in the region.

Appendix III: SATs Breakdown

The table below provides an overview of the 5 different categories of techniques and tools described in the work of Randolph Pherson.[705]

Technique	Description	When to use it
Exploration Techniques		
Simple brainstorming	An individual or group process for generating new ideas and concepts.	To break free from a prevailing mindset, generate drivers for a foresight exercise, or develop a list of alternative ideas.
Cluster brainstorming	A group process using sticky notes that uses both divergent and convergent thinking.	To develop a comprehensive picture of forces and factors at play, ensuring input form everyone.
Starbursting	A form of brainstorming that focuses on generating questions rather than eliciting ideas or answers; uses the questions journalists ask: Who? What? How? When? Where? And why?	To help define your research project. After deciding on the idea, topic, or issues to be analysed, brainstorm to identify the questions that need to be answered by the research.
Mind maps	A visual representation of how a person or a group thinks about a topic of interest.	To brainstorm the various elements of an issue and capture the relationships among them.
Concept maps	A visual display of key concepts relating to a topic and how they are connected.	To achieve a shared understanding of key concepts and communicated it in visual terms.
Venn Analysis	A visual technique analysts can use to explore the logic of arguments.	To examine the quality of an argument, look for gaps in the logic or data, and organize one's thinking.
Diagnostic Techniques		
Key assumptions check (KAC)	A systematic effort to make explicit and question the assumptions that guides an analyst's interpretation of evidence and the reasoning	As you begin a project and once again before delivering your analysis as a check on how your thinking has evolved.

[705] (Pherson 2019), ii-iv

	underlying any particular judgement or conclusion.	
Multiple hypotheses generation	A technique for developing multiple alternatives for explaining a particular issue, activity, or behaviour.	At the start of a project when many factors are involved, high uncertainty exists about the outcome, or analysts hold competing views.
Diagnostic reasoning	Testing the veracity of a new development, new information, or a new source.	To protect against making a snap judgement when an alternative could prove to be true.
Analysis of competing hypotheses	The evaluation of data that is consistent and inconsistent with a set of alternative hypotheses and the rejection of hypotheses with much inconsistent data.	When an overarching framework is needed to capture all possible hypotheses, and a robust set of data is available. Useful for dealing with controversial issues and deception.
Inconsistencies finder	A simpler version of ACH that focuses on information that is inconsistent with a hypothesis to disconfirm its validity.	When weighing the credibility of multiple explanations of what has happened or will happen, and a large amount of data is present.
Deception detection	Checklists for knowing when to look for deception, determining whether it is present, and avoiding being deceived.	When believing critical evidence would require diverting major resources or changing key assumptions.
Chronologies and timelines	Simple techniques to display data over time in their order of appearance, either narratively or in graphical format.	Useful to structure and visualize data at the start of a project and look for key relationships as the analysis proceeds.
Reframing Techniques		
Outside-in thinking	A technique to identify the systemic forces, factors, and trends that shape an issue and factor them into analysis.	In the early stages, when an analyst is trying to identify all the factors that could influence a particular outcome.
Structured analogies	Comparing historical or generic examples with a topic under study to derive shared	To enhance understanding of current events, fill gaps in knowledge, and identify

	attributes, models, and indicators.	previously unknown elements of the dynamic.
High impact/low probability analysis	A vehicle to alert decision makers that an unlikely event with major policy and resource repercussions might occur.	When new reporting suggests that decision makers should be warned that a long-shot development poses credible threat.
What if? analysis	A technique that posits an event with the potential for a major negative or positive impact and explains how it came about?	When trying to get analysis or decision makers to focus on the consequences of a major event or when a mindset is well-engineered.
Classic quadrant crunching	A technique for systematically challenging assumptions, exploring contrary assumptions, and finding "unknown unknowns."	Useful for dealing with highly ambiguous situations for which little data is available and the chances for surprise are great.
Premortem analysis	A systematic assessment of how a key analytic judgment, decision, or plan of action could be spectacularly wrong.	Just before coming to closure on the key analytic judgements, conclusions, or recommendations of a paper or project.
Structured self-critique	A checklist procedure for identifying critical weaknesses in an analysis that requires the analysts to function as critics rather than supporters of their own work.	A double-check prior to the publication of any major product or report as a way to look for weaknesses in the analytic product before it is delivered.
Red hat analysis	A technique to anticipate the behaviour of individuals or groups by trying to replicate how they think.	When trying to anticipate the behaviour of another person or group that has the authority to make decisions.
Foresight Analysis Techniques		
Key uncertainties finder	A technique for transforming the key uncertainties identified by a KAC into a list of candidate drivers.	To develop key drivers needed to generate a set of comprehensive and mutually exclusive scenarios; often used with key drivers' generation.
Key drivers' generation	A technique similar to cluster brainstorming that is used to	To develop key drivers needed to generate a set of comprehensive and

	generate a list of candidate key drivers.	mutually exclusive scenarios; often used with the key uncertainties' finder.
Multiple scenarios generation	The use of key drivers to brainstorm multiple explanations of how a situation may develop when uncertainty abounds.	To explore the many ways a situation may evolve, anticipate surprise developments, and generation requirements when dealing with little data.
Indicators generation and validation	Creation of list of observable phenomena to track events, spot trends, and warn of unanticipated changes.	To assess whether a hypothesis is correct, discern whether a scenario is emerging, or provide early warning of some undesirable event.
Indicators evaluation	A simple tool for assessing the diagnostic power of indicators.	To evaluate the diagnosticity of indicators used in scenarios analysis or hypotheses testing.
Decision Support Techniques		
Opportunities incubator	A method for identifying actions for thwarting a negative scenario of fostering the emergence of a good scenario.	After a full set of alternative scenarios has been developed using strategic foresight analysis techniques.
SWOT analysis	A framework for identifying strengths, weaknesses, opportunities, and threats that will impact a project or action plan.	To support the strategic planning and decision-making process by evaluating the potential for achieving stated goals.
Impact matrix	A framing technique that gives managers a sense of how well a decision will be received and how best to implement it.	When a major new policy initiative is being contemplated or a mandated change is about to be announced.
Decision matrix	A technique for identifying the course of action that would best achieve a specified or preference.	When a decision maker has multiple options from which to choose and multiple criteria for judging the desirability of each choice.
Force field analysis	A simple technique for listing and assessing all the forces for	At multiple stages of the analysis when defining the issue, gathering data, or

	and against a change, problem, or goal.	developing recommendations; also helpful for assessing the relative importance of key data.
Pros-cons-faults-and fixes	A strategy for critiquing new policy ideas; intended to offset the tendency of decision makers to jump to a conclusion.	To make a quick appraisal of new idea or conduct a systematic analysis of a choice between two options.

Appendix IV: Process for Data Collection

The use of a document analysis appraoch such as thematic analysis comes with recognized strengths and weaknesses. The use of the thematic apparoch was primarily driven by the need to focus heavily on the interpretive aspect of this study although some of the data output includes elements of content analysis that supports the generation of some quantitative outcomes.

Identification of sub-Saharan African region countries/GDP based on WDI data

This process consisted of downloading the World Development Indicators (WDI): Structure of Value Added data from the World Bank website[706]—sample data shown in Figure 18 below. At the time of data collection, 2019 was the most recent data available. Additionally, 2019 is a good boundary for GDP related data as it is clear off the impact of COVID-19 impact from an economic point of view. The data consisted of all countries in the world.

Figure 18: Sample Data from WDI Structure of Value Added

	Gross domestic product		Agriculture		Industry		Manufacturing		Services, value added (% of GDP)	
	$ billions		% of GDP		% of GDP		% of GDP			
	2010	2019	2010	2019	2010	2019	2010	2019	2010	2019
Afghanistan	15.9	19.3	26	26	21	14	13	7	48.9	55.5
Albania	11.9	15.3	18	18	25	20	5	6	44	48.6
Algeria	161.2	171.1	8	12	51	37	39	24	40.3	46.2
American Samoa	0.6	0.6 ..	..	..	..	..	..	..	..	
Andorra	3.4	3.2 ..	..	..	..	..	..	..	..	
Angola	83.8	88.8	6	7	52	54	5	4	41.9	39.3
Antigua and Barbuda	1.1	1.7	2	2	16	22	2	2	70.7	66.3
Argentina	423.6	445.4	7	6	25	23	16	13	51.5	54.3
Armenia	9.3	13.7	18	12	28	24	9	12	45.7	54.2

Source: http://wdi.worldbank.org/table/4.2#

The next step involved sorting the countries with a focus on Sub-Saharan African Countries, with GDP ($ billions) by sector (agriculture, industry, manufacturing, and services). The sector variables are relevant to underscore which sectors are the major driving forces of a countries GDP—when performing additional analysis at the end of the study to answer questions related to emphasis of policies and whether they are conceptually relevant to the main drivers of a countries economy. To easily sort, a list of Sub-Saharan African countries was generated from the World Bank databank

Figure 19: Sample Data - Sorted Country with % of GDP by Sector (2019)

Sub-Saharan African Countries	% of GDP by Sector (2019)			
	Ag	Ind	Manf	Serv
Angola	7	54	4	39.3
Burundi	29	11	..	47.9

[706] Downloadable data can be found here: http://wdi.worldbank.org/table/4.2#.

website,[707] and then using VLOOKUP function in excel, the % of GDP by sector was aligned to each Sub-Saharan African country—sample result shown in Figure 5 below.

Country-level Data Collection and Examination

The data is collected through several sources including general search engines such as Google, and specialized search engines for published articles, such as SCIENCE DIRECT, WEB OF SCIENCE, and GOOGLE SCHOLAR in order to identify policy documents covering actions related to SDGs and climate change/Paris Agreement at a country-level. In many cases, data was extracted directly from an international organization website or led to an official national government website. A group of keywords and terms were introduced in the search engines and online scholarly networks to the materials related to a legislation on SDGs and climate change/Paris Agreement in countries. Example of key terms used in conjunction with the country under search, includes the following:

- Ecosystem legislation
- Climate protection legislation
- Climate change policy
- Climate mitigation
- Climate adaptation
- Biodiversity legislation
- Coastal Legislation
- Marine Legislation
- Sustainable development policy
- Sustainable development plan

For identifying industrial and manufacturing sectors of a country's GDP, I used the sector description/definitions as provided by the WDI.[708] The time frame of when such national policies were adopted was important. The focus was on any national policy or legislation adopted from 2013 upwards. This is key as work on the SDGs and Paris Agreement began prior to their respective adoption in 2015—sample of data collected is shown in Figure 20.

Figure 20: Sample of Country with Identified Policy Documents

% of GDP by Sector (2019)	Name of Key Policies, Legislation or Documents Concerning National Development Priorities Relevant to the Sustainable Development Goals (SDGs)	Source	Name of Key Policies, Legislation or Documents Concerning Climate Change + Nationally Determined Contributions (NDC)	Source
Agriculture Industrial Manufactur Services				
OURCE: http://wdi.worldbank.org/table/4.2				
Angola	National Development Plan (NDP 2018-2022)	https://www.minfin.gov.ao/PortalMinfin/#!/documentos-do-governo	Nationally Determined Contribution of Angola Revised 2021	https://unfccc.int/sites/default/files/NDC/2022-06/NDC%20Angola.pdf
	The National Development Plan (PND) for 2013-2017	https://www.minfin.gov.ao/PortalMinfin/#!/documentos-do-governo	Nationally Determined Contribution of Angola 2020	https://unfccc.int/sites/default/files/NDC/2022-06/NDC%20Angola.pdf
	(Angola 2025 strategy) National Policy for Energy Security	https://angolaenergia2025.gestoenergy.com/en/conteudo/documents	National Strategy for Climate Change (ENAC): 2018-2030	https://info.undp.org/docs/pdc/Documents/AGO/ENAC%202018-2030_14082017.pdf
	Atlas and National Strategy for the New Renewable Energies	https://angolaenergia2025.gestoenergy.com/en/conteudo/documents	The Angola 2025 Long Term Strategy SOURCE	https://angolaenergia2025.gestoenergy.com/en/conteudo/documents

[707] Downloadable data can be found here: https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?locations=ZG
[708] See https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?locations=ZG

Next, was identifying the official language of the country, the language in which the documents were in and whether there was any related translation documents provided for each country. In case documents existed in only the national official language, such as French, google translation were used to understand documents. Figure 21 provides an example of how documents were categorized with language and language translation as distinctions.

Figure 21: Sample Country Documents Marked with Language Classification

Sub-Saharan African Countries	% of GDP by Sector (2019)				Official Language	Official Language of Document	Englishg Translation (Y/N)	Name of Key Policies, Legislation or Documents Concerning National Development Priorities Relevant to the Sustainable Development Goals (SDGs)
	Agriculture	Industrial	Manufacturing	Services				
Angola	7	54	4	39.3	Portuguese	Portuguese	No	National Development Plan (NDP 2018-2022)
						Portuguese	No	The National Development Plan (PND) for 2013-2017
						Portuguese	Yes	(Angola 2025 strategy) National Policy for Energy Security
						Portuguese	Yes	Atlas and National Strategy for the New Renewable Energies

Based on the overall data collected, 87 of national policies aligned with the SDGs had already been translated into English from the national official language by the country, compared to 39 which were not. On climate change aligned national policies, 116 were translated and 67 were not. Additional data collection fields were developed to help further provide additional layers for uniform analysis. Figure 22 below shows the complete set of data collection and analysis fields used to examine each unique document at the national level aligned with the SDGs and Paris Climate Agreement.

Figure 22: Complete Data Collection Fields for SDGs/Paris Climate Agreement Conceptually Aligned Policies

Sub-Saharan African Countries	% of GDP by Sector (2019)				Official Language	Official Language of Document	Englishg Translation (Y/N)	Name of Key Policies, Legislation or Documents Concerning National Development Priorities Relevant to the Sustainable Development Goals (SDGs)	Year	Sustainable Development Goal Relevance	Key Themes	Summary	Emphasize on Industrial and Manufacturing Sector	Key Implementing Institutions
	Agriculture	Industrial	Manufacturing	Services										
Angola	7	54	4	39.3	Portuguese	Portuguese	No	**National Development Plan (NDP 2018-2022)**	2018-2022	**Reform Domains:** • To accelerating this progress towards achieving the SDGs • Through enhanced monitoring of their implementation, integrated in the annual plans and in the national budget, and through a greater engagement of the private sector in increasing investments in productive value chains • Aiming at substantial employment, targeting especially youth and women.	• Public Private Partnership • Environment • Economy • Employment	Private investment in the manufacturing industry, with the potential to leverage and consolidate industrial development in the medium and long term, based on the deepening of value chains and interactions-relationships between sectors.	Yes	Ministry of Planning-National Directorate studies and Planning
						Portuguese	No	**The National Development Plan (PND) for 2013-2017**	2013-2017	**Reform Domains:** • The macroeconomic framework • Medium and long-term national objectives • National development policies, the priority structuring projects • The financing, and the monitoring and evaluation system • "Stability, Growth and Employment"	• Development • Economy • Employment	Promotion of the energy sector development through construction of 5,000 MW hydroelectric plants by 2020, and other major generation plants between 2018 and 2030 to expand energy production and the distribution network in line with the National Electrification Plan.	Yes	Ministry of Planning-National Directorate studies and Planning
						Portuguese	Yes	**(Angola 2025 strategy) National Policy for Energy Security**	2017-2025	**Reform Domains:** • To promote human development and the wellbeing of Angolans. • To ensure a high rate of economic development • To develop national territory harmoniously. • To promote an equitative and sustainable development • To promote Angola's competitive insertion in the World Economy.	• Public Private Partnership • Human Development • Economy • Employment • Equality	Priority investments in generation, transmission and interconnection, as well as the distribution and network expansion model up until 2025. The document analyses both the supply and demand sides of the energy sector, proposing a 2025 vision.	Yes	Ministry of Energy and Water
						Portuguese	Yes	**Atlas and National Strategy for the New Renewable Energies**	2014-2025	**Reform Domains:** • To promot the diversification of the national energy matrix • To support the Program of Integrated Rural Development • To combat poverty, and to promot of growth and employment	• Environment • Rural Development • Employment • Poverty • Energy	Increase the national electrification rate by around 60% by 2025. Increase installed production capacity by 9.900MW by 2025 using 66% water sources, 15% natural gas	Yes	Ministry of Energy and Wate

Official language of document	English Translation (Y/N)	Name of Key Policies, Legislation or Documents Concerning Climate Change + Nationally Determined Contributions (NDC)	Year	Paris Climate Agreement Relevance	Key Themes (Adaptation and resilience areas in the NDC)	Summary	Emphasize on Industrial and Manufacturing Sector	Key implementation institutions
English	Yes	**Nationally Determined Contribution of Angola Revised 2021**	2021	**Reform Domains:** • Under their revised NDC, Angola brought forward their target year for cutting emissions from 2030 in their first NDC to 2025, with the country aiming to reduce emissions up to 16% compared to business-as-usual, with a further 10% conditional on support. • The NDC now lists mitigation actions across all sectors and elaborates on how the country plans to adapt. • The product of a wide consultation, the NDC also outlines how climate	• Agriculture • Coastal zone • Energy • Health • Land use, land-use change and forestry • Water • Disaster Risk Management	Electricity, Construction, Transport, Retail and Distribution, Water, Tourism, Governance, Institutions / Administrative Arrangements, Finance, Health, Waste, Oil and Gas, PPP, Mining	Yes	Ministry of Culture, Tourism and Environment (MCTA)
English	Yes	**Nationally Determined Contribution of Angola 2020**	2020	**Reform Domains:** • To cut emissions by 2030, aiming to reduce emissions up to 16% • To mitigate actions across all sectors and make plans. • To outlines climate action links to Angola's broader development vision.	Agriculture • Energy • Health • Land use and forestry • Water	Electricity, Construction, Retail and Distribution, Water, Institutions / Administrative Arrangements, Finance, Health, PPP	Yes	Ministry of Culture, Tourism and Environment (MCTA)
Portuguese	No	**National Strategy for Climate Change (ENAC): 2018-2030**	2017	This document sets the government's adaptation and mitigation strategy. It notably seeks to contribute to the eradication of poverty in the country. According to Angola's revised NDC, a new version of the document covering the years 2020-2035 was approved in 2021.	Agriculture • Energy • Land use and forestry • Water	Electricity, Construction, Transport, Water, Governance, Institutions / Administrative Arrangements, Health, PPP, Finance	Yes	Ministry of Environment, National Directorate of Environment and Climate Action (DNAAC)
Portuguese	Yes	**The Angola 2025 Long Term Strategy**	2015 - 2025	**Reform Domains:** • To increase the national electrification rate by around 60% by 2025; • Increase installed production capacity by 9.900MW by 2025 using 66% water sources, 15% natural gas sources, 8% renewable energies, and 7% thermal energy.	• Energy • Employment	Electricity, Construction, Transport, Governance, Institutions / Administrative Arrangements, Finance, Health	Yes	Ministry of Energy and Water

Appendix V: Summary on SDGs and Paris Agreement

Sustainable Development Goals (SDGs)

As the era of the MDGs ended, the SDGs became the new centre-mark for global development. Adopted in 2015, the SDGs, like its predecessor was overwhelmingly supported by world leaders and non-state actors—consisting of 17 goals aimed at ending poverty, inequality, and climate change by 2030.

Goal number 17 of the SDGs emphasizes the commitment to "strengthen the means of implementation and revitalize the global partnership for sustainable development."[709] Underlining this pledge are five key mechanisms (targets) to catalyse operationalization; finance, technology, capacity building, trade, and policy and institutional coherence,[710] which are reviewed every year at the UN high level political forum (HLPF). Unlike the MDGs, the Means of Implementation (MoI) under the SDGs was "added substantively in the new development framework which received scant attention while designing the MDGs."[711] The emphasis on national implementation is largely represented in this excerpt by Nathalie Risse.

> Many have underscored that the concept of sustainable development, while appealing in theory, has not moved from the periphery to the core of each country's actions. For example, the UN Department of Economic and Social Affairs (DESA) and the UN Development Programme (UNDP) concluded, based on approximately 60 national reports prepared for Rio+20, that "today's challenge is chiefly implementation" and that a gap exists between sustainable development commitments and "implementing sustainable development policies and programmes in all countries and regions reviewed" (DESA and UNDP, 2012). Another study (Stakeholder Forum for a Sustainable Future, 2012), which assessed the state of implementation of Agenda 21 (the global plan of action on sustainable development that was adopted at the 1992 UN Conference on Environment and Development – UNCED), concluded that even though there are good examples of where Agenda 21 has achieved positive and lasting outcomes, its implementation has been highly variable.[712]

It is largely recognized that there needs to be an integrated approach to the implementation of the SDGs "across the 3 dimensions of sustainability, across all sectors of the economy and society, and from the local to global level."[713] UNEP argues that an integrated approach "fosters the environmental dimension of sustainable

[709] (United Nations Departmenmt of Economic and Social Affairs n.d.)
[710] (United Nations Departmenmt of Economic and Social Affairs n.d.)
[711] (Southern Voice Secretariat 2015)
[712] (SDG Knowledge Hub by IISD 2016)
[713] (R. Wheeler n.d.)

development and leads to socio-economic development."[714] Furthermore, successful implementation of the SDGs will also be dependent on ordinary citizens being aware of the agreement and its impact on their lives and what they can even do to help.[715] The United Nations Development Program (UNDP) has also shared that "with the MDGs, the question was: what are the goals that are lagging the most, what are the gaps, and how can we fill them? With the SDGs, the question becomes: What are the actions that will take us forward more quickly across a broader range of interlinked goals?[716] Additionally, platforms like the National Coordination on the Implementation of SDGs (NACOS) initiative are also being activated in support of civil society organizations (CSOs) inclusion in the implementation process of the SDGs—as the agenda has only specific mandates for governments. In Zimbabwe, where NACOS is operationalized, a first step has been concluded: "through the successful establishment of the Beyond 2015 Zimbabwe National Hub, and the building of public-private partnerships."[717] More support is said to be required to "further develop scientific, technological, professional and related capacities while taking into account existing technological capacities."[718]

On the implementation of the environmental facets of the SDGs, Ibrahim Thiaw argues that "countries and regions should ensure the efficient management of natural capital, including reversing environmental loss, resource plunder and illicit financial flow."[719] Furthermore, he writes there is an urgent need for strategies to "harness the world's environmental resources, including appropriate policies and practices to reverse ecosystems degradation and combat environmental crimes."[720] Successful environmental goals and targets are built on the "general support from society and a scientific consensus that the problem exists and is urgent…and that the ones making the most progress tend to be embedded in effective governance regimes, and be easier to implement because solution are readily available."[721] In the Netherlands, the government sees the SDGs as building blocks for environmental policy. The Dutch government believes that national leaders will not be able to deliver on the SDGs by themselves due to the scope and complexity, as such requires the active participation of actors like citizens, businesses, and NGOs.[722] With a unique focus on the environment (see figure 23), the Dutch examined their national policy priorities and implementation based on addressing three overarching themes: poverty reduction, sustainable consumption and production, and protecting and managing the natural resource base.[723] They are focused on various actions, including mapping several targets onto

[714] (UN Environment Programme n.d.)
[715] (R. Wheeler n.d.)
[716] (UNDP n.d.)
[717] (United Nations n.d.).
[718] (United Nations n.d.)
[719] (United Nations - Africa Renewal Online n.d.)
[720] (United Nations - Africa Renewal Online n.d.)
[721] (UNEP Sustainable Development Goals Knowledge Platform 2013)
[722] (UNEP Sustainable Development Goals Knowledge Platform 2013)
[723] Ibid.

their existing policy targets; and gap analysis related to the performance of existing policy targets.

The challenges in implementing and operationalizing SDGs are very well known. At the national level, there remain challenges in implementing in an integrated manner; measuring and monitoring progress, and communication and outreach.[724] Additionally, national governments must acknowledge the use of integrated collaborative approach among state and non-state actors—including the private sector—to ensure a more cohesive and coherent action toward achieving the SDGs. Such integrated collaboration should not only be limited to implementation preferably through the entire lifecycle of the domestic policy and legislating agenda.

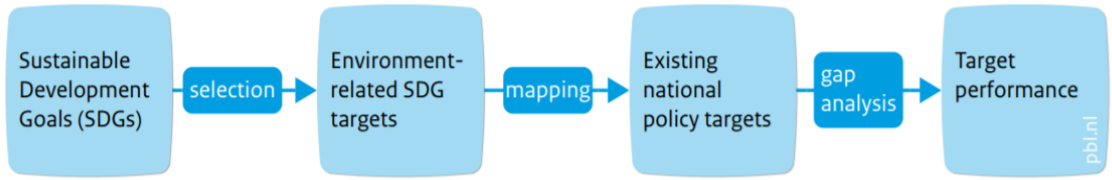


Figure 23: Netherland's analysis of existing policy targets considering the Sustainable Development Goals
Source: PBL Netherlands Environmental Assessment Agency

The Paris Agreement

The Paris Agreement, like the SDGs, received significant support from global leaders and stakeholders—more than 195 countries. It entered into force on October 5, 2016, and is currently ratified by more than 150 states.[725] The central aim of the agreement is "to strengthen the global response to the threat of climate change by keeping a global temperature rise this century well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius.[726] Unlike the Kyoto Protocol—laid more responsibility (legal) on industrialized nations to reduce their carbon footprint and also support developing countries—, the Paris Agreement makes it the responsibility (no legal requirements yet) of all countries while maintain that vulnerable countries need the financial, capacity and technological support. Another update to the process during the Paris negotiation period was the introduction of the nationally determined contributions (NDCs)—a process by which countries submit national pledges to reduce carbon emissions and involve other local and national stakeholders like civil society and industry. Article 4, paragraph 2; request that "each Party shall prepare, communicate, and maintain successive nationally determined contributions (NDCs) that it intends to achieve. Parties shall

[724] (IISD SDG Knowledge Hub 2017)
[725] (United Nations Climate Change n.d.)
[726] (United Nations Climate Change n.d.)

pursue domestic mitigation measures, with the aim of achieving the objectives of such contributions."[727] The process was designed to increase buy-in and leverage states commitments to strengthen the global efforts as well as drive toward accountability—Article 4 paragraph 12 of the agreement requires states NDCs to be communicated and recorded in a public registry maintained by the secretariat,[728] and currently it has more than 140 first NDCs submitted by states.[729] The effectiveness of this process is well-articulated by Robert Falkner;

> …the Paris Agreement does indeed break new ground in international climate policy. COP-21 brought to an end over 20 years of UN negotiations focused on a misguided approach of establishing mandatory emission reductions. Instead, the Paris Agreement acknowledges the primacy of domestic politics in climate change and allows countries to set their own level of ambition for climate change mitigation. It creates a framework for making voluntary pledges that can be compared and reviewed internationally, in the hope that global ambition can be increased through a process of 'naming and shaming'.[730]

Notwithstanding, Falkner still argues that the agreement is "far from clear whether it can actually deliver on the urgent need to decarbonize the global economy."[731] Countries still have to figure out how to implement their respective climate commitments submitted ahead of Paris in 2015, as staying below the two degrees Celsius will be challenging.[732] Jeffrey Sachs also shares that humans have never attempted such a coordinated effort and process as "the rise of fossil fuels to predominance was not a single, targeted process; rather, it occurred over several centuries.[733] Comparatively, "the shift from fossil fuels to low-carbon and zero-carbon energy sources must now occur in a conscious, coordinated way in a matter of a half-century. This is an absolutely unprecedented challenge."[734] A survey conducted by UNDP on NDC implementation support needs of developing countries—72 in total—showed that respondents identified capacity development/technical support for mobilizing resources for implementation; developing implementation plans; developing/improving information base and monitoring; and building institutional structures and coordination mechanisms.[735] Additional findings included cost estimation of implementation, building awareness and ownership at the national level, linking to the SDGs, and support to assess sustainable development impacts of NDCs.[736] Another challenge is the flexibility of the Paris Agreement that led to its adoption. Although it

[727] Ibid.
[728] Ibid.
[729] (United Nations Climate Change n.d.)
[730] (Falkner, The Paris Agreement and the new logic of international climate politics 2016)
[731] (Falkner, The Paris Agreement and the new logic of international climate politics 2016)
[732] (J. Sachs n.d.)
[733] (J. Sachs n.d.)
[734] Ibid.
[735] (UNCC: Learn n.d.)
[736] (UNCC: Learn n.d.)

might have been effective in the lead up to Paris; allowing member states such flexibility post-Paris could produce limited incentives for countries to do more; leading to a "slowdown in the ratcheting of ambition as those charged with implementing the Agreement turn to the drudgery of detail and process—all without facing credible, costly deadlines."[737] Moreover, it also makes it fragile and could come unglued.[738]

Chris Dodwell has also laid out five pillars for NDC implementation:

(1) political will and effective governance to maintain momentum and ensure accountability.
(2) long-term mitigation strategies to deliver GHG emissions reductions.
(3) integrated adaptation planning that builds long-term resilience to the impacts of climate change.
(4) Climate finance frameworks that match support needs against funding streams and include strategies for how to access them; and
(5) measuring, reporting, and verification (MRV).[739]

These five pillars were identified based on an analysis of over 15 countries, from both the developed and developing countries—focusing on the unique context as well as process needed to implement and achieve the commitments. He further reiterates the role climate financing will play in a post-2020 framework...[740] as part of successful implementation and outcomes. For countries in the developing world, particularly in Africa; a critical path to implementation lies in natural resources, and the Paris Agreement "accentuates opportunities in African's economic sectors.[741] What remains is for countries to implement the agreement with full attention to domestic development needs."[742] In many African countries, ecosystem-based solutions are deployed to power agro-industrialization; and the Paris Agreement is a boost for the SDGs.[743] Furthermore, the integration of climate strategy with the SDGs shows that it can be most effective at the national or subnational level.[744]

[737] (Harvard Project on Climate Agreement 2016)
[738] (Harvard Project on Climate Agreement 2016)
[739] (Dodwell n.d.)
[740] (Green Climate Fund n.d.)
[741] (Munang and Mgendi n.d.)
[742] (Munang and Mgendi n.d.)
[743] Ibid.
[744] (Kok, et al. n.d.)

Appendix VI: Data Sheet: Sub-Saharan Africa SDGs/Paris Agreement Aligned Policies

SEE NEXT PAGE

Policies, Regulations, or Legislation Aligned to the Paris Agreement and the Sustainable Development Goals (SDGs) in Sub-Saharan Countries

Sub-Saharan African Countries	% of GDP by Sector (2019) Agriculture	Industrial	Manufacturing	Services	Official Language	Official Language of Document	Englishg Translation (Y/N)	Name of Key Policies, Legislation or Documents Concerning National Development Priorities Relevant to the Sustainable Development Goals (SDGs)	Year	Sustainable Development Goal Relevance	Key Themes	Summary	Emphasize on Industrial and Manufacturing Sector	Key implementing institutions
Angola	7	54	4	39.3	Portuguese	Portuguese	No	**National Development Plan (NDP 2018-2022)**	2018-2022	**Reform Domains:** • To accelerating this progress towards achieving the SDGs • Through enhanced monitoring of their implementation, integrated in the annual plans and in the national budget, and through a greater engagement of the private sector in increasing investments in productive value chains • Aiming at substantial employment, targeting especially youth and women.	• Public Private Partnership • Environment • Economy • Employment	Private investment in the manufacturing industry, with the potential to leverage and consolidate industrial development in the medium and long term, based on the deepening of value chains and interactions-relationships between sectors.	Yes	Ministry of Planning-National Directorate studies and Planning
						Portuguese	No	**The National Development Plan (PND) for 2013-2017**	2013-2017	**Reform Domains:** • The macroeconomic framework • Medium and long-term national objectives • National development policies, the priority structuring projects • The financing, and the monitoring and evaluation system • "Stability, Growth and Employment"	• Development • Economy • Employment	Promotion of the energy sector development through construction of 5,000 MW hydroelectric plants by 2020, and other major generation plants between 2015 and 2030 to expand energy production and the distribution network in line with the National Electrification Plan.	Yes	Ministry of Planning-National Directorate studies and Planning
						Portuguese	Yes	**(Angola 2025 strategy) National Policy for Energy Security**	2017-2025	**Reform Domains:** • To promote human development and the wellbeing of Angolans. • To ensure a high rate of economic development. • To develop national territory harmoniously. • To promote an equitative and sustainable development. • To promote Angola's competitive insertion in the World Economy.	• Public Private Partnership • Human Development • Economy • Employment • Equality	Priority investments in generation, transmission and interconnection, as well as the distribution and network expansion model up until 2025. The document analyses both the supply and demand sides of the energy sector, proposing a 2025 …	Yes	Ministry of Energy and Water
						Portuguese	Yes	**Atlas and National Strategy for the New Renewable Energies**	2014-2025	**Reform Domains:** • To promot the diversification of the national energy matrix • To support the Program of Integrated Rural Development • To combat poverty, and to promot of growth and employment	• Environment • Rural Development • Employment • Poverty • Energy	Increase the national electrification rate by around 60% by 2025; Increase installed production capacity by 9.900MW by 2025 using 66% water sources, 19% natural gas sources, 8%	Yes	Ministry of Energy and Water
Burundi	29	11	..	47.9	Kirundi, French	French	No	**Burundi's REDD+ National Strategy and Action Plan**	2019	**Reform Domains:** • By 2027 sustainably manage 100% of forest ecosystems • By 2027 reduce forest deforestation by 90% • By 2027 reduce forest degradation by 95% • Increase forest cover to 20% by 2025 • By 2027 have a stock of forest carbon • Reduce GHG emissions by 23%	• Rural Development • Environment	**No** carbon sink afforestation	No	Ministry of Environment, Agriculture and Livestock
						French	No	**National Agriculture Strategy 2018-2027**	2018	**Reform Domains:** • By 2030 agriculture sector respect the environment, guarantee food and nutritiona security for the entire population and ensure a decent income for sectorial actors. • It notably seeks to develop the resilience of the sector to adverse effects of climate change.	• Environment • Livestock	**NO** Food Security , Fisheries, Forest	No	Ministry of Environment, Agriculture, and Livestock
						French	No	**National Plan for the Development of Burundi 2018-2027 (PND BURUNDI 2018-2027)**	2018	**Reform Domains:** • Reforest 160,000 ha in the next 15 years • Increase in carbon dioxide sinks by reforestation of 160,000 ha for 15 years	• Rural Development • Environment • Livestock	Increase in energy production, construction, electricity, water, and gas.	Yes	Burundi Office for Environmenta Protection
						French	No	**Decentralized Rural Electrification Strategy (2015-2017)**	2015	**Reform Domains:** • Reforest 160,000 ha in the next 15 years	• Rural Development • Environment	Energy Supply, construction, electricity, water, and gas.	Yes	Ministry of Energy and Water
Benin	27	16	10	48	French	French	No	**National Development Plan 2018-2025**	2018	**Reform Domains:** • Sustainable growth of at least 10% in 2025 focused on the development of agribusiness, services and tourism.	• Agriculture • Environment • Economy	i) human capital and population well-being ; ii) economic productivity and competition ; iii) the environment, climate change and territorial development, and iv) …	Yes	Minister of State in Charge of Planning and Development
						French	No	**Benin-2025 Alafia Vision**	2016	Economic growth and structural transformation, reducing inequalities and improving social inclusion, environmental sustainability, and effective and inclusive governance	• Equality • Governance • Development • Environment • Economy	Economic growth and structural transformation, reducing inequalities and improving social inclusion, environmental sustainability, and effective and inclusive governance	Yes	Minister of State in Charge of Planning and Development
						French	Yes	**National Rural Drinking Water Supply Programme**	2016	The water supply project aims to improve access to safe drinking water supply in 54 out of 77 communes of the country, covering 307 villages. In 2014, the coverage rate of safe drinking water in rural areas was 68. 1 per cent. The Government intends to increase the coverage to 70 per cent in 2017 and 100 per cent by 2021.	• Drinking Water	Construction, and water	Yes	Ministry of Energy and Water
Burkina Faso	20	26	10	44.5	French	French	Yes	**National Plan for Economic and Social Development (PNDES) for 2016-2020**	2016	**Reform Domains:** • National Plan for Economic and Social Development (PNDES) aims at a cumulative growth of per capita income capable to reduce poverty, to build human capacities and to satisfy basic needs, within an equitable and sustainable social framework.	• Poverty • Social development • Human Development • Economy-wide	• Management of water for agriculture • Development of rural infrastructures • Market access • Land tenure in rural environment • Access to financing • Building capacities of secondary industry, etc • Creation and development of structures to support financing of SME/SMI • Creation of guarantee funds, Deposit and Consignment Office Stability • Infrastructures • ICT • Access to financing • Organization of informal sector • Market access Universal Access to a wide range of family planning services • Quality assurance of health services • Good governance	Yes	Ministry of the Economy, Finance and Development
						French	Yes	**Second National Economic and Social Development Plan (PNDES-II) 2021-2025**	2025	**Reform Domains:** • The 2nd National Plan for Economic and Social Development (PNDES) aims to diagnose and analysis the economic and social situation, the economic and social development strategy 2021-2025, the implementation, monitoring and evaluation arrangements, financing and risk analysis.	• Social development • Economy	Improving the business environment, the promising sectors with high added value. manufacturing industry, based on the transformation of local products. Increase in agro-sylvo-pastoral and fisheries production. Development and …	Yes	Ministry of the Economy, Finance and Development
						French	No	**Law no. 008-2014/AN (concerning framework law on sustainable development)**	2014	**Reform Domains:** • The law's purpose is to set the general rules for guiding the implementation of sustainable development • The law enounces core principles of sustainable development, and determines the rules • Development model that focuses on economic efficiency, environmental sustainability, and social equity that can meet the needs of present generations without compromising the ability of future generations to meet their own needs.	· Social development	Research And Development, Energy Demand. Construction, and water	Yes	The National Assembly
Botswana	2	28	5	58.2	English	English	Yes	**National Development Plan 11 (2017-2023)**	2017	**Reform Domains:** • NDPs define the country's medium-term development goals and strategies. The current plan started in April 2017 and runs until March 2023. • Two priorities: sustainable human settlements, and financing of sustainable environment progmrammes. • In the transport sector, the plan details its capacity with regard to biodiesel. • The plan lists several climate change relevant initiatives and programmes in the forestry and energy sectors, including: the Community-Based Natural Resource Management Programme and the Renewable Energy-Based Rural Electrification Programme.	• Energy • Transport • Environment	Construction, Electricity, Water, and Gas.	Yes	Ministry of Finance and Economic Development
						English	Yes	**Botswana Intended Nationally Determined Contribution**	2016	**Reform Domains:** • The national intention is to expand 3 new sectors, enhance monitoring and tracking, and align to new developed strategies, policies and plans such as the Vision 2036. • The Climate Promise support will contribute to the re-alignment of the NDC to existing and new climate-related policies and frameworks and the Sustainable Development Goals. • This support will also allow expansion of the existing NDC to include other sectors where data is available, namely the Land use, Land use Change and Forestry, Biodiversity and Ecosystems and Industry and Manufacturing.	• Infrastructure • Forestry • Social development • Environment	Water Sector Construction of pipelines and connection to existing ones to transmit water to demand centres. Agriculture Improve genetic characteristics of the livestock breed such as Musi breed Improve livestock diet through supplementary feeding A switch to crops with the following traits: o Drought resistant, o Tolerant to high temperatures o Short maturity Health Public education and malaria campaigns Malaria Strategy Control of Diarrhoeal Diseases	Yes	Minister of Environment, Natura Resources Conservation and Tourism
						English	Yes	**National disaster risk management plan**	2019	Reform Domains: • The policy presents Botswana's disaster risks and natural hazards, such as flood, drought and wildfire, and discusses the country's institutional and legal framework for disaster reduction. • It provides directives on the elaboration of effective national disaster management Programme and outlines key definitions, measures and responsibilities for the preparation of disaster management plans at all levels.	· Water	Construction AND Water.	Yes	National Disaster Risk Management Office
Central African Republic	32	21	19	43.6	French, Sangho			**NA**						\
Cote d'Ivoire	21	21	12	43.1	French	French	Yes	**National Action Plan to Reduce Short-Lived Climate Pollutants (SLCPs)**	2020	**Reform Domains:** • Outlines 16 specific mitigation measures from 5 key source sectors to reduce SLCPs in the country • improve air pollution and reduce Cote d'Ivoire's contribution to global climate change • Implementation of these 16 measures would result in a 59% reduction in black carbon emissions by 2030 compared to a business-as-usual scenario, and a 34% reduction in methane emissions.	• Development • Environment • Economy • Employment	Oil & Gas Waste, Transport, Construction	Yes	Ministry of Environment and Sustainable Development
Cameroon	15	26	14	51.5	English, French	French	No	**National Development Strategy 2020-2030 for structural transformation and inclusive development**	2020	Reform Domains: • To establish favorable conditions for economic growth and the accumulation of national wealth and to ensure that the structural changes essential for the industrialization of the country are obtained • To improve the living conditions of the populations and their access to basic social services by ensuring a significant reduction in poverty and underemployment	• Economy • Infrastructure • Poverty • Employment • Social development	Water, and Gas, Governance,Construction, Electricity,	Yes	Ministry of Economy, Planning and Regional Development
Congo, Dem. Rep.	20	41	20	35.4	French	French	Yes	**National Adaptation Plans Readiness in Democratic Republic of the Congo**	2018	**Reform Domains:** • (1) The 2016-2020 PSPA-CC implementation is facilitated through the reinforcement of the legal and institutional framework and capacity building for climate change adaptation planning; • (2) Climate change adaptation and development priorities are aligned and reflected in the PNSD, the PNIA and the PDPs of priority provinces; and • (3) Financing options for adaptation investments in agriculture and rural development, health, land use planning and energy are identified with the support of the private sector.	• Economy • Infrastructure • Poverty • Employment • Social development	Construction, Electricity , Health, ,Governance,	Yes	Ministry of Environment and Sustainable Development
						French	Yes	**Law No. 14/011 (Electricity Sector)**	2014	**Reform Domains:** • To Consolidate laws relating to generation, transmission, distribution, trading and use of electricity and promoting competition in the sector, as well as promoting energy efficiency and environmentally sound policy. It also aims at increasing access to energy in rural areas and secondary cities.	• Energy	Electricity, Construction, Governance,	Yes	National Assembly
						French	Yes	**Law No. 14/003 on Protection of the Nature**	2014	**Reform Domains:** • To adapt the DRC legal order of protection of nature to modern principles on biological and genetic resources management and to requirements of international conventions, including among others the Treaty on protection and sustainable management of forestry ecosystems in Central Africa. • The law further calls on the central and regional governments to adopt and implement policies, plans and programmes promoting the contribution of natural and biological resources and ecosystems to the economic growth, rural development, fight against poverty and regulation of the climate.	• Economy • Poverty • Employment • Rural development • Climate action	Water, Construction, Electricity , Health. ,Governance,	Yes	National Assembly
Congo, Rep.	8	50	9	39.1	French	French	No	**Congo Rep. Revised NDC**	2021	**Reform Domains:** • The updated NDC introduced an unconditional pledge to cut greenhouse gas emissions by 17.09% relative to business-as-usual by 2025, with a reduction of 39.88% conditional on support. • The Republic of Congo's higher ambition translates into more sectors being covered, all greenhouse gases now included, and priority adaptation activities identified. • The role of women and youth in climate action is highlighted in the NDC, which also aligns with the country's aspirations under the Sustainable Development Goals.	• Energy • Water • Health	Construction, Electricity , Health. , public private partnership, Water.	Yes	Ministry of Environment and Sustainable Development
						French	No	**National Strategy for Sustainable Development 2016-2025**	2016	It is based on four strategic axes: 1) Rational management of natural resources, 2) improve governance; 3) Develop and modernise the country's infrastructure and basic social services, and 4) diversify the economy.	• Economy • Climate Change • Industry • Social development • Transport • Urban Water	Health, Governance, Water, Construction, Electricity,	Yes	Ministry of Forest Economy, Sustainable Development and Environment
						French	No	**Decree No. 2015-260 on the implementation of the process of reducing greenhouse gas emissions in the forestry sector**	2015	1) to decide on the vision and strategic options of the REDD + process; 2) define guidelines and guidelines for REDD + processes; 3) Arbitrate potential conflicts between national stakeholders in the REDD + process; 4) approve the work plan of the national REDD coordination; 5) Facilitate REDD + debates among national stakeholders in the REDD + process; 6) monitor, monitor and evaluate the implementation of the REDD + process; and 7) set the modalities for the management and redistribution of subsidies and resources from the REDD + process.	• Climate Change • Social development • Transport	Electricity, Construction, Governance, Water, Public private partnership.	Yes	Ministry Of Forestry Economy And Sustainable Development
Comoros	33	9	..	53.3	Arabic, French	French	No	**Comoros First NDC (Updated submission)**	2021	**Reform Domains:** • In its revised NDC, the Union of the Comoros commits to an emissions reduction target of 23% (excluding Land Use, Land Use Change and Forestry) and an increase of CO2 absorption by 47% by 2030. • The adaptation component of the NDC has been enhanced to increase its scope and coverage, and new measures were added including on loss and damage information. • Gender equality is given a prominent place in the revised NDC which highlights the legal framework and related policies that will help ensure the achievement of this goal.	• Climate change • Water • Health • Infrastructure	Public Private Partnership, Health. Construction, Electricity, Governance, Water,	Yes	Ministry of Production, Environment, Energy, Industry and Crafts
						French	No	**Climate change policy, strategy and action plan**	2015	**Reform Domains:** • The overall objective of this Policy is to face the challenges imposed by climate change, with a view to ensuring the country's sustainable development. The principles underlying the national policy are: • (i) precaution and anticipation, (ii) transversal coherence, (iii) the search for synergies, (iv) decentralization, (v) involvement and accountability , and (vi) partnership. The strategy aims to facilitate the translation of the National Policy Vision and Objectives. • Aims to deal with the loss of livelihoods, the protection of natural capital and the consolidation of economic and social infrastructure, to prevent practices that instead increase vulnerability to the effects of climate change. • The second concerns mitigation; the third relates to governance, the fourth is devoted to building the capacities of actors and the fifth relates to information, awareness-raising and knowledge management.	• Economy • Climate change • Sustainable development • Social Equality	Construction, Electricity, Governance, Water	Yes	Ministry of Production, Environment, Energy, Industry and Crafts

Sub-Saharan African Countries	Official language of document	English Translation (Y/N)	Name of Key Policies, Legislation or Documents Concerning Climate Change + Nationally Determined Contributions (NDC)	Year	Paris Climate Agreement Relevance	Key Themes (Adaptation and resilience areas in the NDC)	Summary	Emphasize on Industrial and Manufacturing Sector	Key implementation institutions
Angola	English	Yes	**Nationally Determined Contribution of Angola Revised 2021**	2021	**Reform Domains:** • Under their revised NDC, Angola brought forward their target year for cutting emissions from 2030 in their first NDC to 2025, with the country aiming to reduce emissions up to 14% compared to business-as-usual, with a further 10% conditional on support. • The NDC now lists mitigation actions across all sectors and elaborates on how the country plans to adapt. • The product of a wide consultation the NDC also outlines how climate action links to …	• Agriculture • Coastal zone • Energy • Health • Land use, land-use change and forestry • Water • Disaster Risk Management	Electricity, Construction, Transport, Retail and Distribution, Water, Tourism, Governance, Institutions / Administrative Arrangements, Finance, Heath, Waste, Oil and Gas, PPP, Mining	Yes	Ministry of Culture, Tourism and Environment (MCTA)
	English	Yes	**Nationally Determined Contribution of Angola 2020**	2020	**Reform Domains:** • To cut emissions by 2030, aiming to reduce emissions up to 10%. • To mitigate actions across all sectors and make plans. • To outlines climate action links to Angola' s broader development vision.	Agriculture • Energy • Health • Land use and forestry • Water	Electricity, Construction, Retail and Distribution, Water, Institutions / Administrative Arrangements, Finance, Heath, PPP	Yes	Ministry of Culture, Tourism and Environment (MCTA)
	Portuguese	No	**National Strategy for Climate Change (ENAC): 2018-2030**	2017	This document sets the government's adaptation and mitigation strategy. It notably seeks to contribute to the eradication of poverty in the country. According to Angola's revised NDC, a new version of the document covering the years 2020-2035 was approved in 2021.	Agriculture • Energy • Land use and forestry • Water	Electricity, Construction, Transport, Water, Governance, Institutions / Administrative Arrangements, Heath, PPP, Finance	Yes	Ministry of Environment; National Directorate of Environment and Climate Action (DNAAC)
	Portuguese	Yes	**The Angola 2025 Long Term Strategy**	2015 - 2025	**Reform Domains:** • To Increase the national electrification rate by around 60% by 2025; • Increase installed production capacity by 9.900MW by 2025 using 66% water sources, 19% natural gas sources, 8% renewable energies, and 7% thermal energy.	• Energy • Employment	Electricity, Construction, Transport,, Governance, Institutions / Administrative Arrangements, Finance, Heath	Yes	Ministry of Energy and Water
Burundi	French	No	**Planned Determined Contribution to National Level (INDC)/ Burundi**	2018	**Reform Domains:** • To reduce greenhouse gas emissions and strengthen its resilience to climate change while continuing to address its development challenges through measures. • Adaptation and mitigation measures. • To increase the rate of forest cover to 20% in 2025 • Energy through hydroelectric production • Water control in order to increase agricultural and pastoral production	• Energy • Agriculture • Water • Ecosystems	Electricity, Construction, Transport, Retail and Distribution, Water, Governance, Institutions / Administrative Arrangements, Heath, Oil and Gas, PPP	Yes	Ministry of Environment, Agriculture, and Livestock
	French	No	**Planned Determined Contribution to National Level Revised 2021**	2021	**Reform Domains:** • In its updated NDC, Burundi expanded the geographical and sectorial scope of its adaptation ambition, while making an unconditional pledge to reduce emissions by 3.04% by 2030, or 12. 61% with international support. • The NDC includes the development of a logical framework to monitor and assess the implementation of the priority mitigation and adaptation actions. • Women, youth, indigenous communities, researchers, civil society and the private sector participated in its revision, helping ensure that the path of climate action in Burundi considers the distinct needs of communities from the ground level up.	• Energy • Agriculture • Water • Health • Ecosystems	Electricity, Construction, Retail and Distribution, Water, Institutions / Administrative Arrangements, Finance, Heath, PPP	Yes	Ministry of Environment, Agriculture, and Livestock
Benin	French	No	**First Determined Contribution to Benin National Level under the Paris Agreement**	2017	**Reform Domains:** • Increase in energy, agriculture and waste sectors. • GHG emissions reduction by 2021-2030. • Economic development	Agriculture • Water • Forestry • Energy	Electricity, Construction, Water, Tourism, Governance, Waste, Oil and Gas, PPP	Yes	Ministry of the Environment and Sustainable Development
	French	No	**Nationally Determined Contribution Updated From Benin under the Paris Agreement**	2021	**Reform Domains:** • The energy, agriculture and waste sectors are likely to contribute to reducing cumulative GHG emissions. • Approximately 48. 75 Mt E CO2 compared to the benchmark scenario, i.e. a reduction of around 20. 15% over the 2021-2030 period. • Focus on economic development, particularly energy and agriculture. • Integration of gender and social inclusion.	• Agriculture • Water • Forestry • Energy • Tourism • Coastal zones • Health • Settlement • Infrastructure	Electricity, Construction, Transport, Retail and Distribution, Water, Tourism, Governance, Institutions / Administrative Arrangements, Finance, Heath, Waste, PPP	Yes	Ministry of the Environment and Sustainable Development
	French	No	**Climate Change Management Policy for 2030**	2021	**Reform Domains:** • To change climate with sufficient adaptive capacity and appropriate mechanisms for anticipating and responding to climate risks. • Low carbon growth and whose institutions, organizations, businesses and citizens adopt practices, attitudes and behaviors that are climate-sensitive.	• Energy • Environment • Economy	Electricity, Construction, Governance, Finance, Heath, Waste, Oil and Gas, PPP	Yes	Council of Ministers
	French	No	**Low Carbon and Climate Change Resilient Development Strategy 2016 - 2025**	2016	Reform Domains: • Sequestration of at least 163 million tons of CO2eq by 2030 • Avoid the emission of at least 12 million tons of CO2eq by 2030 against a 2016 baseline	• Agriculture • Environment	Electricity, Construction, Governance, Institutions / Administrative Arrangements, Finance, Heath, Waste, Oil and Gas	Yes	Council of Ministers
	French	No	**Law no 2018/ 18 regulating climate change actions**	2018	**Reform Domains:** • Aims at preventing, protecting and managing the consequences of climate change over the people of Benin over the short, medium and long term. • The law lays out a framework to take adaptation measures to protect the air, land, waters and other natural resources. • The document further sets out a carbon tax. The modalities for this tax will be fixed by the annual finance law.	• Agriculture • Environment • Water • Economy	Construction, Transport, Water, Tourism, Governance, Institutions / Administrative Arrangements, Finance	Yes	The Notional Assembly
Burkina Faso	French	No	**Burkina Fason National Climate Change Adaptation Plan (NAP)**	2015	The Plan intends to reduce the vulnerability to climate change of Faso and increase its resilience through the integration of the adaptation objective to current and future development policies. The Plan stresses that new administrative capacities are needed to respond satisfactorily to the sectoral objectives it lists (forestry, agriculture, health, energy, infrastructure, livestock, housing).	• Forestry • Agriculture • Health • Energy • Infrastructure • Livestock • Housing	Electricity, Construction, Transport, Retail and Distribution, Water, Governance, Institutions / Administrative Arrangements, Finance, Heath, PPP	Yes	Ministry of Environment and Fishery Resources
	French	No	**Burkina Faso First NDC**	2016	6.6% emission reduction compared to BAU by 2030 Conditional target: 18.2% subject to international support	• Agriculture • Settlements • Infrastructure	Construction, Water, Governance, Finance,	Yes	Ministry of Environment and Fishery Resources
	French	No	**Burkina Faso revised NDC**	2021	**Reform Domains:** • Ahead of COP26, Burkina Faso released a more ambitious and measurable NDC, setting for the first time a quantifiable emissions reduction target of 29.42% by 2030. Adaptation actions could also lead to a reduction of 30. 76%. • Designed with participation of youth and women, the NDC highlights the co-benefits of climate action with links to adaptation. • Monitoring and evaluation are a focus as the country moves forward with its National Adaptation Plan for the medium- and long-term view.	• Agriculture • Settlements • Infrastructure • Transport	Electricity, Construction, Transport, Water, Tourism, Governance, Institutions / Administrative Arrangements	Yes	Ministry of Environment and Fishery Resources
	French	No	**The Organization of the Ministry of Environment, Green Economy and Climate Change**	2016	This ministry includes the following structures: the Minister's Office and the General Secretariat. The Minister's Office includes the Chief of Staff, the Technical Advisers, the Technical Inspection Services, the Chargés de Mission, the Permanent Secretariat of the National Council for Sustainable Development, the National Radiation Protection …	• Economy-wide	Electricity, Construction, Transport, Retail and Distribution, Water, Governance, Institutions / Administrative Arrangements	Yes	Ministry of Environment and Fishery Resources
Botswana	English	Yes	**Botswana Intended Nationally Determined Contribution Revised**	2022	**Reform Domains:** • The national intention is to expand 3 new sectors, enhance monitoring and tracking, and align to new developed strategies, policies and plans such as the Vision 2036. • The Climate Promise support will contribute to the re-alignment of the NDC to existing and new climate-related policies and frameworks and the Sustainable Development Goals. • This support will also allow expansion of the existing NDC to include other sectors where data is available, namely the Land use, Land use Change and Forestry, Biodiversity and Ecosystems and Industry and Manufacturing.	• Infrastructure • Forestry • Agriculture • Social development • Environment	Electricity, Construction, Transport, Retail and Distribution, Water, Governance, Institutions / Administrative Arrangements, Finance, Oil and Gas, PPP, Mining	Yes	Minister of Environment, Natural Resources Conservation and Tourism
	English	Yes	**Botswana Intended Nationally Determined Contribution**		**Reform Domains:** • Overall emissions reduction of 15% by 2030. • This proposed emission reduction path will be subjected to legislative review and endorsement by Parliament. • In addition to the national policy, the development of a strategy will involve development of a long term low carbon strategy, a national adaptation plan, nationally appropriate mitigation actions, identification of technologies, plan for knowledge management capacity development, education and public awareness and a financial mechanism.	• Agriculture • Social development • Environment	Water Sector Construction of pipelines and connection to existing ones to transmit water to demand centres. Agriculture Improve genetic characteristics of the livestock breed such as Musi breed Improve livestock diet through supplementary feeding A switch to crops with the following traits: o Drought resistant, o Tolerant to high temperatures o Short maturity Health Public education and malaria campaigns Malaria Strategy Control of Diarrhoeal Diseases	Yes	Minister of Environment, Natural Resources Conservation and Tourism
Central African Republic	French	No	**Central African Republic First NDC**	2016	**Reform Domains:** • The Conditional target of 5% below BAU by 2030.	• Environment • LULUCF		No	Ministry of Environment and Sustainable Development
	French	No	**Central African Republic First NDC (Updated submission)**	2022	**Reform Domains:** • Climate zones and its seasonal cycle for mean temperature and precipitation. • The Conditional target of 5% below BAU by 2030.	• Climate change • Environment • LULUCF		No	Ministry of Environment and Sustainable Development
Cote d'Ivoire	French	No	**Côte d'Ivoire First NDC**	2016	**Reform Domains:** • 28% reduction of GHG emissions by 2030 compared to BAU. Unconditional target withdrawn 22nd Sept. • The coal option was also abandoned in favor of an energy mix that includes a high proportion of renewable energy (45%) and natural gas power plants.	• Energy • Climate change • Environment	Electricity, Construction, Oil and Gas, PPP, Mining	Yes	Ministry of Environment and Sustainable Development
	French	No	**Côte d'Ivoire First NDC (Updated submission)**	2022	**Reform Domains:** • Greenhouse gas emissions by 30.41% by 2030 relative to business as usual, or 98.95% with international support. • With additional mitigation measures in the Food and Land Use sector and the inclusion of new greenhouse gases, Côte d'Ivoire significantly raises its climate ambition, resolutely committing to carbon neutrality from 2030. • In terms of adaptation, the country aims to reduce vulnerabilities and increase climate resilience across five priority sectors: agriculture, Food and Land Use, water, health, and coastal zones. • The updated NDC also considers cross-cutting aspects including green jobs and just transition, gender, local authorities, and short-lived climate pollutants.	• LULUCF • Gender Equality • Environment	Construction, Transport, Water, Institutions / Administrative, PPP Arrangements, Finance, Heath, Waste	Yes	Ministry of Environment and Sustainable Development
Cameroon	French	No	**Cameroon: National Climate Change Adaptation Plan**	2015	**Reform Domains:** • Reduce the country's vulnerability to the impacts of climate change and strengthen its capacity for adaptation and resilience • Facilitate the coherent integration of climate change adaptation in relevant policies and programmes, especially in development planning processes and strategies	• Environment • Economy • Employment		No	Ministry of Environment Protection of Nature and Sustainable Development
	French	No	**Cameroon Frist NDC**	2016	Reform Domains: • Reduction of GHG emissions by 32% compared to 2010 levels by 2035 conditional to international support	• Climate change • Environment		No	Ministry of Environment Protection of Nature and Sustainable Development
	French	No	**Cameroon Revised NDC**	2021	**Reform Domains:** • Cameroon increased their mitigation target to 35% by 2030 compared to 2010, including an unconditional contribution of 12%. • The updated NDC also reflects Cameroon's vision for adaptation, including the goal to turn climate-related challenges into development solutions in the five agro-ecological zones of the country. • Through the implementation of its NDC, the country is aiming at reducing the vulnerability of local populations and achieving sustainable development for all.	• Agriculture • LULUCF • Energy • Waste	Electricity, Construction,, Governance, Waste	Yes	Ministry of Environment Protection of Nature and Sustainable Development
Congo, Dem. Rep.	French	No	**Democratic Republic of the Congo First NDC**	2017	**Reform Domains:** • Conditional reduction of GHG emissions by 17% below 2000 by 2030 pending on financial support.	• Forest • Agriculture • Water • Energy	Electricity, Construction, Water, Tourism, Governance,	Yes	Ministry of the Environment and Sustainable development
	French	No	**Democratic Republic of the Congo Revised NDC**	2021	**Reform Domains:** • Commits to an emissions reduction target of 21% in 2030, 19% of which is conditional on support. • The mitigation measures implemented by the country mainly focus on the forestry, energy (including transport), agriculture and waste sectors. • In terms of adaptation, the Democratic Republic of Congo has advanced its National Adaptation Plan process by identifying 9 priority objectives and 52 priority adaptation actions.	• Forest • Agriculture • Coastal areas • Water • Health • Energy	Electricity, Construction, Transport, Retail and Distribution, Water, Governance, Institutions / Administrative Arrangements, Heath, PPP	Yes	Ministry of the Environment and Sustainable development
Congo, Rep.	French	No	**Congo Rep. First NDC**	2017	**Reform Domains:** • The Conditional reduction of GHG emissions by 17% below 2000 by 2030 pending on financial support	• Energy • Agriculture • Water • Health	Electricity, Construction, Water, Governance, Institutions / Administrative Arrangements, Heath	Yes	Ministry of Environment and Sustainable Development
	French	No	**Congo Rep. Revised NDC**	2021	**Reform Domains:** • The updated NDC introduced an unconditional pledge to cut greenhouse gas emissions by 17.09% relative to business-as-usual by 2025, with a reduction of 39.88% conditional on support. • The Republic of Congo's higher ambition translates into more sectors being covered, al greenhouse gases now included, and priority adaptation activities identified. • The role of women and youth in climate action is highlighted in the NDC, which also aligns with the country's aspirations under the Sustainable Development Goals.	• Energy • Agriculture • Water • Health • Coastal zone • Tourism • LULUCF	Electricity, Construction, Transport, Retail and Distribution, Water, Tourism, Governance, Institutions / Administrative Arrangements, Finance, Heath, Waste, PPP	Yes	Ministry of Environment and Sustainable Development
	French	No	**National REDD+ Strategy of Congo**	2018	**Reform Domains:** • This strategy seeks to combat the direct and underlying causes of deforestation and forest degradation in the country. It covers the period 2018-2030.	• LULUCF		No	Ministry of Forest Economy, Sustainable Development and Environment
	French	No	**National Strategy for Sustainable Development 2016-2025**	2016	**Reform Domains:** • It is based on four strategic axes: 1) Rational management of natural resources, 2) improve governance; 3) Develop and modernise the country's infrastructure and basic social services, and 4) diversify the economy.	• Agriculture • Economy • Environment • Industry • LULUCF • Social development • Tourism • Transport • Urban Water	Health, Governance, Water, Construction, Electricity,	Yes	Ministry of Forest Economy, Sustainable Development and Environment
	French	No	**Decree No. 2015-260 on the implementation of the process of reducing greenhouse gas emissions in the forestry sector**	2015	**Reform Domains:** • to decide on the vision and strategic options of the REDD + process; 2) define guidelines and guidelines for REDD + processes; 3) Arbitrate potential conflicts between national stakeholders in the REDD + process; 4) approve the work plan of the national REDD coordination; 5) Facilitate REDD + debates among national stakeholders in the REDD + process; 6) monitor, monitor and evaluate the implementation of the REDD + process; and 7) set the modalities for the management and redistribution of subsidies and resources from the REDD + process.	• Environment • LULUCF • Social development • Transport	Electricity, Construction, Governance, Water, Public private partnership.	Yes	Ministry Of Forestry Economy And Sustainable Development
Comoros	French	No	**Comoros First NDC**	2016	**Reform Domains:** • Conditional: Reduce GHG emissions in 2030 by about 84% compared to BAU	• Agriculture • Biodiversity • Forestry • Water • Infrastructure	Public Private Partnership, Health. Construction, Electricity, Governance, Water	Yes	Ministry of Production, Environment, Energy, Industry and Crafts
	French	No	**Comoros First NDC (Updated submission)**	2021	**Reform Domains:** • In its revised NDC, the Union of the Comoros commits to an emissions reduction target of 23% (excluding Land Use, Land Use Change and Forestry) and an increase of CO2 absorption by 47% by 2030. • The adaptation component of the NDC has been enhanced to increase its scope and coverage, and new measures were added including on loss and damage information. • Gender equality is given a prominent place in the revised NDC which highlights the legal framework and related policies that will help ensure the achievement of this goal.	• Agriculture • Biodiversity and ecosystems • Forestry • Coastal zones • Water • Health • Infrastructure	Construction, Transport, Water, Tourism, Governance, Institutions / Administrative Arrangements, Heath, PPP	Yes	Ministry of Production, Environment, Energy, Industry and Crafts

Cabo Verde	5	20	7	61.4	Portuguese	Portuguese	No	**Decree-Law no. 29/2014 (creating the Center for Renewable Energy and Industrial Maintenance)**	2014	**Reform Domains:** • This Decree-Law creates the State company called Center for Renewable Energy and Industrial Maintenance. It further defines its legal status, composition, functioning, affiliation and ability to issue diploma.	• Renewable Energy • Industry • Sustainable development	Institutions / Administrative Arrangements Research And Development Energy Supply Energy Demand, Construction, Electricity, Governance,	Yes	Minister of Tourism, Industry and Energy
						Portuguese	No	**Resolution no. 87/2014 (creating the Steering Committee of the project 'Strengthening Capacity of Adaptation and Resilience to Climate Change in the Water Sector in Cape Verde')**	2014	**Reform Domains:** • This resolution creates the Steering Committee of the project 'Strengthening Capacity of Adaptation and Resilience to Climate Change in the Water Sector in Cape Verde'. The document lists the Committee's members, competencies and functioning.	• Climate change • Clean Water	Electricity, Governance, Water, Institutions / Administrative Arrangements,	Yes	Minister of Tourism, Industry and Energy
Eritrea	NA	NA	NA	NA	Arabic, English	English	Yes	**Eritrea Nationally Determined Contributions (NDCs) Report to UNFCCC**	2018	**Reform Domains:** • 39.2% reduction in fossil fuel CO2 emissions by 2030 (unconditional); 80.6% reduction in fossil fuel CO2 emissions by 2030 (conditional) • Under Eritrea's Nationally Determined Contribution (NDC) identifies a shift from fossil fuel-based energy generation to electricity generation mixes using renewable sources and reducing transmission and distribution losses.	• Renewable Energy • Industry • Sustainable development • Climate change	Governance, PPP, Electricity, Construction	Yes	Ministry of Land, Water and Environment Department of Environment
Ethiopia	34	25	6	37.1	Amharic	Amharic	Yes	**Proclamation no. 810/2013 on energy**	2014	**Reform Domains:** • The proclamation gives way for the Council of Ministers to establish the Ethiopian Energy Authority. The Authority will be the key governmental actor to issue and renew licenses, supervise operations, review national grid tariffs, formulate energy efficiency and conservation strategies, and promote energy efficiency and conservation.	• Renewable Energy	PPP, Electricity, Governance, Construction, Water,	Yes	Assembly
						Amharic	Yes	**The Growth and Transformation Plan (GTP) II**	2016	**Reform Domains:** • The GDP II replaces the initial GDP to cover the period 2015-2020. It sets some targets for energy generation from renewables and biofuels. The Plan focuses on improving the macroeconomic indicators, sectoral economic development plans (e.g. for agriculture and rural transformation, manufacturing, mining, tourism), infrastructure (transport, digital and water supply), human and technology capacity building, good governance and cross cutting issues.	• Agriculture • Buildings • Economy-wide • Energy • Industry • LULUCF • Transport • Water • Tourism	Electricity, Water, PPP, Governance, Construction, Mining	Yes	Assembly
						Amharic	Yes	**10-year development plan (2020/21-2029/30)**	2020	**Reform Domains:** • This plan sets the government's development vision over the decade 2020-2030. It is based on ten pillars. Pillar six is to build a climate resilient, green economy. It seeks to increase basin development efforts to fight land degradation and to reduce pollutions, improve productivity and reduce GHG emissions, increase forest protection and development, increase production of electricity from renewable sources for domestic use and for export, and focus on modern and energy saving technologies.	• Economy-wide • Energy • LULUCF	Construction, Water, Electricity, Governance,	Yes	Assembly
						English	Yes	**Ethiopia First NDC**	2017	**Reform Domains:** • 64% reduction of GHG emissions from the BAU scenario in 2030, depending on support in finance, capacity building and technology transfer	• Agriculture • Forestry • Transport • Industry	Water, PPP, Electricity, Governance, Construction,	Yes	Ministry of Environment and Forest
						English	Yes	**Ethiopia NDC (Updated submission)**	2021	**Reform Domains:** • In its updated NDC, Ethiopia commits to a higher emissions reduction target of 68.8% – compared to 64% in the first NDC – 14% of which is to be an unconditional effort. • The NDC of the fastest growing economy in the region also shows an improved methodology for reporting and tracking progress, and clarity on conditional and unconditional financing. • It also includes 40 adaptation interventions across the transport, energy (power), industry, water, and urban sectors.	• Agriculture, Forestry and Other Land Use • Water • Health • Transport • Settlement	Health, Water, PPP, Electricity, Governance, Construction, Mining,	Yes	Ministry of Environment and Forest
Gabon	6	47	40	41.2	French	French	Yes	**Law no 002/2014 on sustainable development**	2014	**Reform Domains:** • The law establishes the fundamental principles, general objectives and financial mechanisms to enable sustainable development in Gabon. It further details the role and missions of the National Council for Sustainable Development.	• Sustainable Development	No	No	National Council
						French	No	**Gabon First NDC**	2016	**Reform Domains:** • One of the countries with the highest carbon sequestration rates in the world. • Gabon will therefore develop an alternative strategy document to leverage its contribution to greenhouse gas emissions reduction. • At least 50 % GHG reduction below BAU by 2025, not including carbon stock in	• Healthcare • Construction • Transport • Energy	Oil & Gas, Electricity, Waste, Industrial processes, Transport, Construction	Yes	Ministry of Energy
						French	No	**Seconde Contribution Déterminée au Niveau National (République Gabonaise)**	2022	**Reform Domains:** • Gabon commits unconditionally to remain carbon-neutral up to and beyond 2050. • Conditionally, Gabon will strive to maintain its net absorption of carbon at a minimum of 100 million tonnes of CO2 equivalent per year beyond 2050.	• Construction • Transport • Energy • Healthcare	Fnance, Oil & Gas, Healthcare, Construction, transport, retail and distribution, Electricity,	Yes	The Minister of Agriculture
Ghana	17	32	10	44.1	English	English	Yes	**Medium-Term Development Policy Framework 2022-2025**	2021	**Reform Domains:** • To create an optimisticn, self-confident and prosperous nation, through the creative exploitation of our human and natural resources, and operating within a democratic, open and fair society in which mutual trust and economic opportunities exist for all. • To realize this vision, the document defines the following priorities: economic growth; digitization; science, technology, and innovation; urbanization and infrastructural deficits; youth unemployment; public health; emergency preparedness, the fight against pandemics; and climate change.	• Healthcare • Economic growth • Digitization • Unemployment • Climate change • Urbanization	Economic growth; digitization; science, technology, and innovation; urbanization and infrastructural deficits; youth unemployment; public health; emergency preparedness, the fight against pandemics; and climate change.	Yes	National Development Planning Commission
						English	Yes	**Ghana Beyond Aid Charter Strategy**	2019	**Reform Domains:** • To achieve a WISER (Wealthy, Inclusive, Sustainable, Empowered and resilient) Ghana by 2028. • The strategy envisions a move towards renewable energy, the end of single-use plastics by 2023, and recycling-intensive waste management. • The strategy also outlines objectives and programs to modernise the Agriculture sector through self-sufficiency, promotion of climate resilient farming, irrigation schemes, and capitalizing on Ghana's cocoa value chain.	• Water • Renewable Energy • Waste • Agriculture • Poverty	Fnance, Mining, Healthcare, Construction, transport, retail and distribution, Electricity	Yes	National Development Planning Commission
						English	Yes	**Coordinated Programme of Economic and Social Development Policies (2017-2024).**	2017	**Reform Domains:** • The overall objectives of the Coordinated Programme of Economic and Social Development Policies are (i) building a prosperous country, (ii) creating opportunities for all Ghanaians, (iii) safeguarding the natural environment and ensuring a resilient built environment, and (iv) maintaining a stable, united and safe country.	• Water • Energy • Waste • Agriculture • Poverty • Infrastructure	Fnance, Mining, Healthcare, Construction, transport, retail and distribution, Electricity, Governance	Yes	National Development Planning Commission
						English	Yes	**Ghana@100**	2019	**Reform Domains:** The framework seeks to guide the country into becoming a prosperous nation with a guaranteed high income per capita of not less than US$50,000 equivalent by 2057 when the Ghana celebrates its Centenary anniversary. The framework is founded on four key pillars, namely, Economic, Social, Environment, and Governance, Peace and Security, with 10 drivers which will serve	• Infrastructure • Energy • Waste • Agriculture • Poverty • Healthcare	PPP, Fnance, Healthcare, Construction, Transport, Retail and distribution, Electricity, Governance	Yes	The National Development Planning Commission
						English	Yes	**Long-Term National Development Plan (2018-2057)**	2017	**Reform Domains:** Build an industrialized, inclusive and resilient economy Create an equitable, healthy and disciplined society Build safe, well planned and sustainable communities Build effective, efficient and dynamic institutions	• Water • Renewable Energy • Waste • Poverty	Healthcare, Construction, Transport, Electricity, Governance	Yes	National Development Planning Commission
						English	Yes	**Ghana Renewable Energy Master Plan**	2019	**Reform Domains:** • To This plan aims to achieve the following by 2030: • 1) increase the proportion of renewable energy1 in the national energy generation mix from 42.5 MW in 2015 to 1363.63 MW (with grid connected systems totaling 1094.63 MW) • 2) Reduce the dependence on biomass as main fuel for thermal energy applications, • 3) Provide renewable energy-based decentralized electrification options in 1,000 off grid communities, and • 4) Promote local content and local participation in the renewable energy industry.	• Renewable Energy	Construction, transport, retail and distribution, Electricity, PPP	Yes	Energy Commission Ghana
Guinea	24	24	10	40.9	French	French	No	**Guinea updated NDC**	2021	**Reform Domains:** From its initial NDC's conditional target to reduce greenhouse gas emissions by 13%, Guinea moved to a 17% reduction target with unconditional contributions across sectors, potentially reaching 49% by 2030 by including land-use and forestry. Alongside their mitigation efforts, Guinea outlined enhanced adaptation goals, articulated clearer links with other national strategies and policies, and examined gender and youth inclusion along with the Sustainable Development Goals.	• Energy • Water • Gender Equality	Electricity, Construction, transport, retail and distribution, PPP	Yes	Ministry of Environment, Water and Forests (MEEF)
						French	No	**National Sustainable Development Strategy (NSDS) of Guinea**	2019	**Reform Domains:** This document sets out Guinea's development strategy. Axis five of the strategy is focused on the energy transition but it also contains a number of other climate related goals: • By 2040 70% of farmers will have put in place adaptation actions. • By 2040, 40% of the territory should be forested • By 2040, 70% of rural households use improved cook stoves • By 2040 the level of renewable energy in the energy mix will pass between 22% and 44%	• Gender Equality • Climate Change	Electricity, Construction, transport, PPP, retail and distribution	Yes	Ministry of Environment, Water and Forests (MEEF)
						French	No	**Vision 2040 for an emerging and prosperous Guinea**	2016	**Reform Domains:** • The objective of this document is to enable the emergence of a prosperous country, master of its own destiny, ensuring a high level of wellbeing for its populations and guaranteeing the future of future generations. Objective 5.3 centralizes on the fight against climate change and the preservation of the environment.	• Economy-wide • Environment	Institutions / Administrative Arrangements Research And Development, Energy Supply, Energy Demand, Construction, Electricity, Governance,	Yes	Ministry of Environment, Water and Forests (MEEF)
						French	No	**National economic and social development plan 2016-2020**	2016	**Reform Domains:** • The 2016-2020 National Economic and Social Development Plan (PNDES) constitutes the second generation of plan. It aims to operationalize over the period 2016-2020, the Vision of an emerging and prosperous Guinea by 2040.	• Healthcare • Environment • Economic growth • Unemployment	Electricity, Construction, transport, retail and distribution, Health, Governance	Yes	Ministry of Environment, Water and Forests (MEEF)
Gambia, the	22	16	4	54.5	English	English	Yes	**The Gambia National Development Plan (2018-2021)**	2017	**Reform Domains:** • The document sets the government's development vision for the period 2018-2021. It seeks to "deliver good governance and accountability, social cohesion, national reconciliation and a revitalized and transformed economy for the wellbeing of all Gambians". It notably aims to promote climate resilience, climate-smart agriculture, the tapping of resources from global climate funds.	• Agriculture • Economy-wide • Energy • LULUCF • Tourism	Institutions / Administrative Arrangements, Energy Supply, Construction, Electricity, Governance, Tourism	Yes	Ministry of Finance and Economic Affairs (MoFEA)
						English	Yes	**The Gambia 2050 Climate Vision**	2021	**Reform Domains:** • The document sets the government's strategy to meet commitments made under the Paris Agreement, move towards resilience and net zero carbon emissions by 2050. • 1) Climate-resilient food and landscapes: Agriculture, food security, forestry and natural resources (including water, biodiversity and wildlife), 2) Low emissions and resilient economy: Energy, transport, infrastructure and the key economic sectors of tourism and financial services, 3) Climate-resilient people: Health, education, equitable social development and human settlements, and 4) Climate-aware Integrated Coastal Zone Management.	• Agriculture • Coastal zones • Economy-wide • Energy • Environment • Health • LULUCF • Social development • Tourism • Transport	Electricity, Construction, Transport, Retail and Distribution, Water, Tourism, Governance, Institutions / Administrative Arrangements, Finance, Health, Oil & Gas	Yes	Ministry of Finance and Economic Affairs (MoFEA) and Ministry of Environment, Climate Change, and Natural Resources
Guinea-Bissau	53	13	10	37.2	Portuguese	English	Yes	**Guinea-Bissau First NDC**	2018	**Reform Domains:** • Implementation of policies and actions in the area of mitigation, especially energy sector, and adaptation, subject to financial, technological and capacity building assistance.	• Energy • Ecosystems • Infrastructure	Electricity, Construction, Transport, Governance, Finance	Yes	Minister of Environment and Biodiversity of Guinea-Bissau
						English	Yes	**Guinea First NDC (Updated submission)**	2021	**Reform Domains:** • Guinea-Bissau defined its first quantified target for reducing greenhouse gas emissions, committing to a reduction of 30% by 2030 with support and an unconditional target of reducing emissions by 10%. • The NDC sets out a vision for low-carbon and climate-resilient development in line with the country's economic and social progression. • As well as linking climate action to the Sustainable Development Goals, the updated NDC reflects concerns for women's empowerment and gender equality.	• Coastal zones • Energy • Ecosystems • Water • Forest • Health • Infrastructure • Disaster Risk Management	Electricity, Construction, Transport, Retail and Distribution, Water, Tourism, Governance, Institutions / Administrative Arrangements, Finance, Heath	Yes	Minister of Environment and Biodiversity of Guinea-Bissau
Equatorial Guinea	3	50	20	46.7	Spanish, French	Spanish	No	**Equatorial Guinea First NDC**	2018	**Reform Domains:** • From its initial NDC's conditional target to reduce greenhouse gas emissions by 13%, Guinea moved to a 17% reduction target with unconditional contributions across sectors, potentially reaching 49% by 2030 by including land-use and forestry. • Alongside their mitigation efforts, Guinea outlined enhanced adaptation goals, articulated clearer links with other national strategies and policies, and examined gender and youth inclusion along with the Sustainable Development Goals.	Water Ecosystems Coastal zones	Electricity, Construction, Transport, Retail and Distribution, Water, Tourism, Governance, Finance, Heath	Yes	Ministry Of Fisheries And Environment
						Spanish	No	**National Action Programme to Combat Deforestation and Land Degradation**	2015	**Reform Domains:** • Aims to achieve the neutrality of land degradation at the national level and as one of the essential programs for the fulfilment of the Sustainable Development Goals. • It lays out a national process aligned with the Ten-Year Strategy of the United Nations Convention to Combat Desertification and Drought. • The Programme seeks to tackle deforestation and biological variation, land degradation and the decrease of local biodiversity, while enhancing sustainable food production.	• Environment • Transport • LULUCF	Construction, Transport, Governance, Institutions / Administrative Arrangements, Finance	Yes	Ministry of Agriculture, Livestock, Forestry and Environment
Kenya	34	16	8	43.2	English, Kiswahili	English	Yes	**Climate Change Act, 2016**	2016	**Reform Domains:** • The Act provides a framework for promoting climate resilient low carbon economic development.	• Buildings • Social development • Transport	Construction, Governance, Institutions / Administrative Arrangements, Finance, Heath	Yes	National Council
						English	Yes	**National Adaptation Plan 2015-2030**	2016	**Reform Domains:** • The document identifies Kenya's vulnerabilities to the effect of climate change, adaptation actions and implementation strategies.	• Ecosystems • Water • Forest • Health • Infrastructure	Electricity, Construction, Transport, Retail and Distribution, Water, Governance, Finance, Heath	Yes	Ministry of Environment and Natural Resources
						English	Yes	**Kenya Climate Smart Agriculture Strategy 2017-2026**	2017	**Reform Domains:** • To (i) enhance the adaptive capacity and resilience of farmers, pastoralists, and fisher-folk to the adverse impacts of climate change; (ii) develop mechanisms that minimize greenhouse gas emissions from agricultural production systems; (iii) create an enabling regulatory and institutional framework; and (iv) address cross-cutting issues that adversely impact climate smart agriculture.	• Agriculture • Buildings • Water	Electricity, Construction, Transport, Retail and Distribution, Water, Tourism, Governance, Institutions / Administrative Arrangements, Finance, Heath	Yes	Ministry of Agriculture, Livestock and Fisheries
						English	Yes	**National Climate Change Action Plan 2018-2022 (NCCAP)**	2018	**Reform Domains:** • To 1) reduce risks to communities and infrastructure resulting from climate-related disasters such as droughts and floods, 2) Increase food and nutrition security through enhanced productivity and resilience of the agricultural sector in as low-carbon manner as possible, 3) Enhance resilience of the Blue Economy and water sector by ensuring access to and efficient use of water for agriculture, manufacturing, domestic, wildlife and other uses, 4) Increase forest cover to 10% of total land area; rehabilitate degraded lands, including rangelands; increase resilience of the wildlife and tourism sector, 5) Mainstream climate change adaptation into the health sector; and increase the resilience of human settlements, including improved solid waste management in urban areas, 6) Improve energy and resource efficiency in the manufacturing sector, and 7) Climate-proof energy and transport infrastructure; encourage electricity supply based on renewable energy; encourage the transition to clean cooking; and develop sustainable transport systems.	• Energy • Agriculture • Buildings • Water • Waste • Environment • Health • LULUCF	Electricity, Construction, Transport, Retail and Distribution, Water, Tourism, Governance, Institutions / Administrative Arrangements, Finance, Health, Waste, Oil and Gas	Yes	Ministry Of Environment And Forestry
						English	Yes	**National Wildlife Strategy 2030**	2018	**Reform Domains:** • Resilient Ecosystems • Engagement by all Kenyans • Evidence based Decision Making • Sustainability and Governance • It recognises that climate change places Kenya's wildlife at risk, but also that ecosystem conservation and management can contribute to greater climate resilience by serving as a form of adaptation. It specifically calls for the creation of a National Wildlife Adaptation Strategy, which would determine complementarities between wildlife conservation and climate change adaptation.	• Environment	Construction, Governance, Institutions / Administrative Arrangements	Yes	Ministry of Tourism and Wildlife

French	No	**Climate change policy, strategy and action plan**	2015	**Reform Domains:** • The overall objective of this Policy is to face the challenges imposed by climate change, with a view to ensuring the country's sustainable development. The principles underlying the national policy are: • (i) precaution and anticipation, (ii) transversal coherence, (iii) the search for synergies, (iv) decentralization, (v) involvement and accountability, and (vi) partnership. The strategy aims to facilitate the translation of the National Policy Vision and Objectives. • Aims to deal with the loss of livelihoods, the protection of natural capital and the consolidation of economic and social infrastructure, to prevent practices that instead increase vulnerability to the effects of climate change. • The second concerns mitigation; the third relates to governance, the fourth is devoted to building the capacities of actors and the fifth relates to information, awareness-raising and knowledge management.	• Economy • Climate change • Sustainable development • Social Equality • Governance	Electricity, Construction, Transport, Retail and Distribution, Water, PPP, Governance, Institutions / Administrative Arrangements	Yes	Ministry of Production, Environment, Energy, Industry and Crafts
Portuguese	No	**Resolution no. 87/2014 (creating the Steering Committee of the project 'Strengthening Capacity of Adaptation and Resilience to Climate Change in the Water Sector in Cape Verde')**	2014	**Reform Domains:** • This resolution creates the Steering Committee of the project 'Strengthening Capacity of Adaptation and Resilience to Climate Change in the Water Sector in Cape Verde'. The document lists the Committee's members, competencies and functioning.	• Climate change • Clean Water	Water, Institutions / Administrative Arrangements	Yes	Minister of Tourism, Industry and Energy
Englsih	Yes	**Cabo Verde First NDC**	2017	**Reform Domains:** • TUnconditional 2030 target of 18% below BAU and 24% conditional.	• Energy • Transport • Waste • AFOLU	Electricity, Construction, Transport, Retail and Distribution, Institutions / Administrative Arrangements, PPP	Yes	Minister of Agriculture and Environment
Englsih	Yes	**Cabo Verde First NDC(Updated submission)**	2021	**Reform Domains:** • Under its revised NDC, Cabo Verde comprehensively increased the scope and ambition of its mitigation goals while also enhancing their focus on adaptation, climate justice and gender equality, transparency, and good governance. • The small island state has committed to an emissions reduction target of 18% below business-as-usual by 2030, or 24% with international support. • The country aims to achieve a net-zero economy by 2050.	• Water • Agriculture • Coastal zones • Health • Disaster Risk Management	Construction, Governance, Heath, Waste, PPP	Yes	Minister of Agriculture and Environment
English	Yes	**Eritrea Nationally Determined Contributions (NDCs) Report to UNFCCC**	2018	**Reform Domains:** • 39.2% reduction in fossil fuel CO2 emissions by 2030 (unconditional); 80.6% reduction in fossil fuel CO2 emissions by 2030 (conditional) • Under Eritrea's Nationally Determined Contribution (NDC) identifies a shift from fossil fuel-based energy generation to electricity generation mixes using renewable sources and reducing transmission and distribution losses.	• Renewable Energy • Industry • Sustainable development • Climate change	Governance, PPP, Electricity, Construction	Yes	Ministry of Land, Water and Environment Department of Environment
English	Yes	**Ethiopia First NDC**	2017	**Reform Domains:** • 64% reduction of GHG emissions from the BAU scenario in 2030, depending on support in finance, capacity building and technology transfer	• Agriculture • Forestry • Transport • Industry • Engergy	Water, PPP, Electricity, Governance, Construction,	Yes	Ministry of Environment and Forest
English	Yes	**Ethiopia First NDC (Updated submission)**	2021	**Reform Domains:** • In its updated NDC, Ethiopia commits to a higher emissions reduction target of 68.8% – compared to 64% in the first NDC – 14% of which is to be an unconditional effort. • The NDC of the fastest growing economy in the region also shows an improved methodology for reporting and tracking progress, and clarity on conditional and unconditional financing. • It also includes 40 adaptation interventions across the transport, energy (power), industry, water, and urban sectors.	• Agriculture, Forestry and Other Land Use • Water • Health • Transport • Settlement	Health, Water, PPP, Electricity, Governance, Construction, Mining,	Yes	Ministry of Environment and Forest
Amharic	Yes	**10-year development plan (2020/21-2029/30)**	2020	**Reform Domains:** • This plan sets the government's development vision over the decade 2020-2030. It is based on ten pillars. Pillar six is to build a climate resilient, green economy. It seeks to increase basin development efforts to fight land degradation and to reduce pollutions, improve productivity and reduce GHG emissions, increase forest protection and development, increase production of electricity from renewable sources for domestic use and for export, and focus on modern and energy saving technologies.	• Economy-wide • Energy • LULUCF	Construction, Water, Electricity, Governance,	Yes	Assembly
French	No	**Gabon First NDC**	2016	**Reform Domains:** • One of the countries with the highest carbon sequestration rates in the world. • Gabon will therefore develop an alternative strategy document to leverage its contribution to greenhouse gas emissions reduction. • At least 50 % GHG reduction below BAU by 2025, not including carbon stock in forests	• Healthcare • Agriculture • Construction • Transport • Energy	Electricity, Construction, Transport, Retail and Distribution, Governance, Heath, PPP	Yes	Ministry of Energy
French	No	**Seconde Contribution Déterminée au Niveau National (République Gabonaise)**	2022	**Reform Domains:** • Gabon commits unconditionally to remain carbon-neutral up to and beyond 2050. • Conditionally, Gabon will strive to maintain its net absorption of carbon at a minimum of 100 million tonnes of CO2 equivalent per year beyond 2050.	• Construction • Transport • Energy • Healthcare • Agriculture	Fnance, Oil & Gas, Healthcare, Construction, Transport, retail and distribution, Electricity	Yes	The Minister of Agriculture
English	Yes	**Ghana First NDC**	2016	**Reform Domains:** • Unconditional 15% emission reduction by 2030 compared to BAU; 45% reduction by 2030 compared to BAU conditional on international support.	• Healthcare • Transportation • Infrastructure • Water • Agriculture • Forestry • Biodiversity	Electricity, Construction, Transport, Retail and Distribution, Water, PPP, Governance, Finance, Heath	Yes	Environmental Protection Agency (EPA) and the Ministry of Environment, Science, Technology and Innovation (MESTI)
English	Yes	**Ghana Revised NDC (Updated submission)**	2021	**Reform Domains:** • With more ambition across sectors and the inclusion of new greenhouse gases, Ghana raised its target to cut emissions by 64 MtCO2e by 2030. • Ghana commits to implementing unconditional actions that would result in 24.6 MtCO2e, and conditional actions which have the potential to reduce emissions by 39.4 MtCO2e by 2030. • The updated NDC lists 47 ways in which the country will mitigate and adapt to climate change, with each examined for its socioeconomic outcomes, job prospects, funding, number of beneficiaries and gender responsiveness. • Through climate action, Ghana expects to create over one million jobs and avoid 2,900 deaths due to better air quality.	• Healthcare • Transportation • Infrastructure • Water • Disaster Risk Management • Agriculture • Forestry • Settlement • Biodiversity and ecosystem • Tourism	Heath, Electricity, Construction, Transport, Retail and Distribution, Water, PPP, Governance, Finance	Yes	Environmental Protection Agency (EPA) and the Ministry of Environment, Science, Technology and Innovation (MESTI)
English	Yes	**Coordinated Programme of Economic and Social Development Policies (2017-2024).**	2017	**Reform Domains:** • The overall objectives of the Coordinated Programme of Economic and Social Development Policies are (i) building a prosperous country, (ii) creating opportunities for all Ghanaians, (iii) safeguarding the natural environment and ensuring a resilient built environment, and (iv) maintaining a stable, united and safe country.	• Water • Energy • Waste • Agriculture • Poverty • Infrastructure	Fnance, Mining, Healthcare, Construction, transport, retail and distribution, Electricity, Governance	Yes	National Development Planning Commission
English	Yes	**Long-Term National Development Plan (2018 2057)**	2017	**Reform Domains:** Build an industrialized, inclusive and resilient economy Create an equitable, healthy and disciplined society Build safe, well planned and sustainable communities Build effective, efficient and dynamic institutions	• Water • Renewable Energy • Waste • Poverty	Healthcare, Construction, Transport, Electricity, Governance	Yes	National Development Planning Commission
English	Yes	**Medium-Term Development Policy Framework 2022-2025**	2021	**Reform Domains:** • To create an optimistic, self-confident and prosperous nation, through the creative exploitation of our human and natural resources, and operating within a democratic, open and fair society in which mutual trust and economic opportunities exist for all. • To realize this vision, the document defines the following priorities: economic growth; digitization; science, technology, and innovation; urbanization and infrastructural deficits; youth unemployment; public health; emergency preparedness, the fight against pandemics; and climate change.	• Healthcare • Economic growth • Digitization • Unemployment • Climate change • Urbanization	Economic growth; digitization; science, technology, and innovation; urbanization and infrastructural deficits; youth unemployment; public health; emergency preparedness, the fight against pandemics; and climate change.	Yes	National Development Planning Commission
French	No	**Guinea First NDC**	2016	**Reform Domains:** • 13% of GHG emission reduction compared BAU levels by 2030 subject to international support	• Renewable Energy • Water • Agriculture • Forests • Coastal zone • Livestock	Electricity, Construction, transport, retail and distribution, PPP	Yes	Ministry of Environment, Water and Forests (MEEF)
French	No	**Guinea updated NDC**	2021	**Reform Domains:** From its initial NDC's conditional target to reduce greenhouse gas emissions by 13%, Guinea moved to a 17% reduction target with unconditional contributions across sectors, potentially reaching 49% by 2030 by including land-use and forestry. Alongside their mitigation efforts, Guinea outlined enhanced adaptation goals, articulated clearer links with other national strategies and policies, and examined gender and youth inclusion along with the Sustainable Development Goals.	• Energy • Water • Agriculture • Forests • Coastal zone • Ecosystems	PPP, Governance, Electricity, Construction, Transport, Water	Yes	Ministry of Environment, Water and Forests (MEEF)
French	No	**National Strategy on Climate Change of Guinea**	2019	**Reform Domains:** The strategy is centered around 9 strategic axes: 1. Promotion of measures to reinforce climate resilience 2. Promotion of sectoral measures to limit greenhouse gas emissions 3. Capacity building 4. Promotion of technology transfer and adoption 5. Integrating climate change into policies and strategies 6. Education and communication 7. Reinforcing Guinea's meteorological services 8. Risk reduction and management, including immigration 9. Promotion of access to climate finance	• Climate change	PPP, Governance, Construction, Education, Technology, Finance	Yes	Ministry of Environment, Water and Forests (MEEF)
French	No	**Code de l'Environnement du 04 Juillet 2019**	2019	**Reform Domains:** • The law sets out institutional arrangements, objectives and principles for the management of the environment in Guinea. • Title 6 makes specific provisions regarding climate change. It imposes an obligation on the state to take action to limit climate change and its impacts through the creation of a National Adaptation strategy and the promotion of measures relating to renewable energy and energy efficiency.	• Energy • Wide Economy	PPP, Governance, Electricity, Water	Yes	Ministry of Environment, Water and Forests (MEEF)
French	No	**Ordinary law L/2017/060/AN (Forest Code)**	2017	**Reform Domains:** • The law is responsible for implementing any measures necessary for the protection, sustainable development of Guinean forests and trees outside forests, the conservation of plant diversity, the mitigation of the impacts of climate change and the certification of forest products harvested.	• Energy • LULUCF • Transport • Water	Governance, Electricity, Transport, Water	Yes	Ministry of Environment, Water and Forests (MEEF)
English	Yes	**Gambia First NDC**	2016	**Reform Domains:** • Unconditional reduction of ~0.35 Mt CO2-e compared to BAU by 2025; conditional reduction of ~1.8 Mt CO2-e compared to BAU by 2025	• Agriculture • Infrastructure • Energy • Forestry • Land Use	Electricity, Construction, Transport, Institutions / Administrative	Yes	Ministry of Environment, Climate Change, Forestry, Water and Wildlife
English	Yes	**Gambia Second NDC**	2021	**Reform Domains:** • With its first NDC, The Gambia was one of a few developing countries with a conditional target to lower emissions. • Building on this, and guided by the aspiration to achieve net-zero emissions by 2050, the country conducted a review of circular economy opportunities and applied a more comprehensive approach to their second NDC. • The Gambia extended the sectoral coverage to include all greenhouse gas emissions, including forestry and waste. • The adaptation section was also strengthened, including for vulnerability analysis, envisaged adaptation action and financial needs.	• Agriculture • Infrastructure • Energy • Forestry • Land Use	Governance, Electricity, Construction, Water	Yes	Ministry of Environment, Climate Change, and Natural Resources
English	Yes	**Climate Change National Policy**	2016	**Reform Domains:** • It emphasizes the links between climate change adaptation and disaster risk reduction. • Outlines the approach to be followed to develop the implementation framework for the Policy, through the subsequent National Climate Change Response Strategy and Action Plan. • 1) Climate resilient food systems and landscapes, 2) Low emissions and resilient economy, 3) Climate resilient people and 4) Managing coastlines in a changing environment. Sectorial policies, for example in the agricultural and energy sectors, are then detailed.	• Agriculture • Economy-wide • Energy	PPP, Governance, Health, Electricity, Construction, Transport, Water, Institutions / Administrative, Tourism, Arrangements, Retail and Distribution, Finance, Waste, Oil and Gas, Mining	Yes	Department of Water Resources Ministry of Environment, Climate Change, Water, Forestry and Wildlife
English	Yes	**The Gambia 2050 Climate Vision**	2021	**Reform Domains:** • The document sets the government's strategy to meet commitments made under the Paris Agreement, move towards resilience and net zero carbon emissions by 2050. • 1) Climate-resilient food and landscapes: Agriculture, food security, forestry and natural resources (including water, biodiversity and wildlife), 2) Low emissions and resilient economy: Energy, transport, infrastructure and the key economic sectors of tourism and financial services, 3) Climate-resilient people: Health, education, equitable social development and human settlements, and 4) Climate-aware Integrated Coastal Zone Management.	• Agriculture • Coastal zones • Economy-wide • Energy • Environment • Health • LULUCF • Social development • Tourism • Transport	PPP, Governance, Heath, Electricity, Construction, Transport, Water, Education, Technology, Institutions / Administrative, Tourism, Arrangements, Finance, Mining	Yes	Ministry of Finance and Economic Affairs (MoFEA) and Ministry of Environment, Climate Change, and Natural Resources
English	Yes	**Guinea-Bissau First NDC**	2018	**Reform Domains:** • Implementation of policies and actions in the area of mitigation, especially energy sector, and adaptation, subject to financial, technological and capacity building assistance.	• Energy • Ecosystems • Infrastructure	Electricity, Construction, Transport, Governance, Finance	Yes	Minister of Environment and Biodiversity of Guinea-Bissau
English	Yes	**Guinea First NDC (Updated submission)**	2021	**Reform Domains:** • Guinea-Bissau defined its first quantified target for reducing greenhouse gas emissions, committing to a reduction of 30% by 2030 with support and an unconditional target of reducing emissions by 10%. • The NDC sets out a vision for low-carbon and climate-resilient development in line with the country's economic and social progression. • As well as linking climate action to the Sustainable Development Goals, the updated NDC reflects concerns for women's empowerment and gender equality.	• Coastal zones • Energy • Ecosystems • Water • Forest • Health • Infrastructure • Disaster Risk Management	Electricity, Construction, Transport, Retail and Distribution, Water, Tourism, Governance, Health, Institutions / Administrative Arrangements, Finance	Yes	Minister of Environment and Biodiversity of Guinea-Bissau
Spanish	No	**Equatorial Guinea First NDC**	2018	**Reform Domains:** • From its initial NDC's conditional target to reduce greenhouse gas emissions by 13%, Guinea moved to a 17% reduction target with unconditional contributions across sectors, potentially reaching 49% by 2030 by including land-use and forestry. • Alongside their mitigation efforts, Guinea outlined enhanced adaptation goals, articulated clearer links with other national strategies and policies, and examined gender and youth inclusion along with the Sustainable Development Goals.	Water Ecosystems Coastal zones	Electricity, Construction, Transport, Retail and Distribution, Water, Tourism, Governance, Finance, Heath	Yes	Ministry Of Fisheries And Environment
Spanish	No	**National Action Programme to Combat Deforestation and Land Degradation**	2015	**Reform Domains:** • Aims to achieve the neutrality of land degradation at the national level and as one of the essential programs for the fulfilment of the Sustainable Development Goals. • It lays out a national process aligned with the Ten-Year Strategy of the United Nations Convention to Combat Desertification and Drought. • The Programme seeks to tackle deforestation and biological variation, land degradation and the decrease of local biodiversity, while enhancing sustainable food production.	• Environment • Transport • LULUCF	Construction, Transport, Governance, Institutions / Administrative Arrangements, Finance	Yes	Ministry of Agriculture, Livestock, Forestry and Environment
English	Yes	**Kenya First NDC**	2016	**Reform Domains:** Seeks to abate its GHG emissions by 30% by 2030 relative to BAU scenario	• Forestry • Ecosystems • Coastal zones • Energy • Infrastructure • Water • Health	Construction, Transport, Governance, Institutions / Administrative Arrangements, Finance	Yes	Ministry Of Environment And Natural Resources
English	Yes	**Kenya First NDC (Updated submission)**	2020	**Reform Domains:** • Kenya has enhanced its overall target in the updated NDC with 32% greenhouse gas emissions reduction compared to the 30% target communicated in the first NDC. • While the first NDC was fully conditional on support, the updated NDC commits to mobilize domestic resources to meet 13% of the required budget and requires international support for the other 87%. • Kenya has also elaborated its adaptation component with new updated information on climate risk, impacts and vulnerabilities, and commits to mobilize domestic finance to fund 10% of total costs required for adaptation. It also highlights linkages with the national adaptation plan.	• Disaster Risk Management • Agriculture • Forestry • Ecosystems • Coastal zones • Energy • Infrastructure • Water • Health • Settlement • Tourism	Healt, Tourism, Construction, Transport, Governance, Institutions / Administrative Arrangements, Finance, Water, Electricity,	Yes	Ministry Of Environment And Natural Resources
English	Yes	**National Drought Management Authority Act (No. 4 of 2016)**	2016	**Reform Domains:** • This law establishes the National Drought Management Authority, which is responsible for Overseeing Coordinating Promoting Developing Creating Establishing Designing drought management guidelines:	• Water	Construction, Transport, Governance, Institutions / Administrative Arrangements, Finance	Yes	National Council
English	Yes	**A Climate Risk Management Framework for Kenya**	2016	**Reform Domains:** • The Climate Risk Management Framework for Kenya outlines how the government intends to harmonise its climate change and disaster risk policies. According to the framework, there are ten priority areas that overlap between climate change and disaster risk policies, which can be areas for government intervention.	Buildings		No	Ministry of Environment and Natural Resources
English	Yes	**Climate Change Act, 2016**	2016	**Reform Domains:** • The Act provides a framework for promoting climate resilient low carbon economic development.	• Buildings • Social development • Transport	Construction, Governance, Institutions / Administrative Arrangements, Finance, Heath	Yes	National Council
English	Yes	**Kenya Climate Smart Agriculture Strategy 2017-2026**	2017	**Reform Domains:** • To (i) enhance the adaptive capacity and resilience of farmers, pastoralists, and fisher folk to the adverse impacts of climate change; (ii) develop mechanisms that minimize greenhouse gas emissions from agricultural production systems; (iii) create an enabling regulatory and institutional framework; and (iv) address cross-cutting issues that adversely impact climate smart agriculture.	• Agriculture • Buildings • Water	Electricity, Construction, Transport, Retail and Distribution, Water, Tourism, Governance, Institutions / Administrative Arrangements, Finance, Heath	Yes	Ministry of Agriculture, Livestock and Fisheries
English	Yes	**National Climate Change Action Plan 2018-2022 (NCCAP)**	2018	**Reform Domains:** • To 1) reduce risks to communities and infrastructure resulting from climate-related disasters such as droughts and floods, 2) Increase food and nutrition security through enhanced productivity and resilience of the agricultural sector in as low- carbon manner as possible, 3) Enhance resilience of the Blue Economy and water sector by ensuring access to and efficient use of water for agriculture, manufacturing, domestic, wildlife and other uses, 4) Increase forest cover to 10% of total land area; rehabilitate degraded lands, including rangelands; increase resilience of the wildlife and tourism sector, 5) Mainstream climate change adaptation into the health sector; and increase the resilience of human settlements, including improved solid waste management in urban areas, 6) Improve energy and resource efficiency in the manufacturing sector, and 7) Climate-proof energy and transport infrastructure; encourage electricity supply based on renewable energy; encourage the transition to clean cooking; and develop sustainable transport systems.	• Energy • Agriculture • Buildings • Water • Waste • Environment • Health • LULUCF	Electricity, Construction, Transport, Retail and Distribution, Water, Tourism, Governance, Institutions / Administrative Arrangements, Finance, Heath, Waste, Oil and Gas	Yes	Ministry Of Environment And Forestry

															English	Yes	**National Wildlife Strategy 2030**	2018	**Reform Domains:** • Resilient Ecosystems • Engagement by all Kenyans • Evidence based Decision Making • Sustainability and Governance • It recognises that climate change places Kenya's wildlife at risk, but also that ecosystem conservation and management can contribute to greater climate resilience by serving as a form of adaptation. It specifically calls for the creation of a National Wildlife Adaptation Strategy, which would determine complementarities between wildlife conservation and climate change adaptation.	• Environment	Construction, Governance, Institutions / Administrative Arrangements	Yes	Ministry of Tourism and Wildlife
															English	Yes	**Central Bank of Kenya - Guidance on Climate-Related Risk Management**	2021	**Reform Domains:** • The guidance recognises that climate change poses a substantial risk and can pose an opportunity for the financial sector and requires banks to: • a) embed the consideration of the financial risks from climate change in their governance arrangements. • b) incorporate the financial risks from climate change into their existing financial risk management practice. • c) develop an approach to disclosure on the financial risks from climate change.	• Finance	Fnance, Governance, Institutions / Administrative Arrangements	Yes	Central Bank of Kenya (CBK)
Liberia	39	12	2	48.9	English	English	Yes	**Liberia First NDC (Updated submission)**	2021	**Reform Domains:** • While its first NDC was entirely conditional upon international support, Liberia's updated NDC includes an unconditional 2030 target to reduce emissions by 10% below business-as-usual. • Aligned with the National Adaptation Plan and development plan, the revised NDC contains new sectors and elaborated adaptation measures including steps to integrate gender and youth considerations into planning. • The NDC also aligns the country's climate action with the Sustainable Development Goals.	Agriculture Forestry Coastal zones Energy Health Transport Waste	Electricity, Construction, Transport, Retail and Distribution, Water, Tourism, Governance, Institutions / Administrative Arrangements, Finance, Heath, Waste, Oil and Gas	Yes	Environment Protection Agency Republic of Liberia	English	Yes	**Liberia First NDC**	2018	**Reform Domains:** • To Establish energy policies to reduce GHG by at least 10%, improve energy efficiency by 20%, raise share of renewable energy by 30% of energy production, replace cooking stoves with higher efficiency stoves	Agriculture Forestry Coastal zones Energy	Electricity, Construction, Transport, Retail and Distribution, Water, Tourism, Governance, Institutions / Administrative Arrangements, Finance, Heath, Waste, Oil and Gas	Yes	Environment Protection Agency Republic of Liberia
						English	Yes	**Pro-poor agenda for prosperity and development**	2018	**Reform Domains:** • The document replaces the Agenda for Transformation 2012-2017 and aims to implement the Liberia Vision 2030 framework and align itself on the Africa Agenda 2063 and the Economic Community of West African States (ECOWAS) Vision 2020 over the period 2018-2023. It seeks to increase the strength and trust of state institutions, and provide greater income security while reducing poverty. • Climate-related goals include the following: 1) raise awareness, 2) incorporate related issues into national development programs so as to "climate proof" all future national policies and sectorial plans, and 3) identify adaptation needs.	• Agriculture • Environment • Finance • Rural • Social development • Transport	Construction, Transport, Retail and Distribution, Water, Tourism, Governance, Institutions / Administrative Arrangements, Finance, Heath, Waste	Yes	Ministry of Planning and Economic Affairs	English	Yes	**Liberia First NDC (Updated submission)**	2021	**Reform Domains:** • While its first NDC was entirely conditional upon international support, Liberia's updated NDC includes an unconditional 2030 target to reduce emissions by 10% below business-as-usual. • Aligned with the National Adaptation Plan and development plan, the revised NDC contains new sectors and elaborated adaptation measures including steps to integrate gender and youth considerations into planning. • The NDC also aligns the country's climate action with the Sustainable Development Goals.	Agriculture Forestry Coastal zones Energy Health Transport Waste	Electricity, Construction, Transport, Retail and Distribution, Water, Institutions / Administrative Arrangements, Heath, Waste	Yes	Environment Protection Agency Republic of Liberia
						English	Yes	**National Policy and Response Strategy on Climate Change**	2018	**Reform Domains:** • It notably assesses the country's vulnerabilities to climate change including regarding poverty and forest management. Identified pillars for the policy are improved governance, financing mechanisms, capacity building, technology innovation, infrastructure, integrated planning and data management.	• Agriculture • Buildings • Industry • Urban • Environment • Transport • Water • Waste • Health • LULUCF • Energy • Infrastructure • Water • Tourism	Electricity, Construction, Transport, Retail and Distribution, Tourism, Governance, Institutions / Administrative Arrangements, Finance, Heath, Waste, Oil and Gas, Water	Yes	Environment Protection Agency									
Lesotho	5	29	16	54.6	Lesotho, English			**NA**							English	Yes	**Lesotho First NDC**	2017	**Reform Domains:** • Energy sector mitigation policy / program and targets to improve energy efficiency, coverage and access, as well as increase in renewable energy and reduce transmission and distribution losses; conditional on financial support.	Energy Transport Waste	Electricity, Construction, Transport, Retail and Distribution, Water, Finance	Yes	Minisrty of Energy and Meteorology
															English	Yes	**National Climate Change Policy 2017-2027**	2018	**Reform Domains:** • The National Climate Change Policy establishes 22 strategies in order to ensure that stakeholders address climate change impacts and their causes through the identification, mainstreaming and implementation of adaptation and mitigation measures, while promoting sustainable development. • Its main objectives are 1) promote climate-resilient, social, economic and environmental development, 2) explore low-carbon development opportunities, nationally and internationally, in order to promote the sustainable use of resources, 3) strengthen a framework that promotes climate change governance, international cooperation, capacity building, research and systematic observations, clean technology development, transfer and use, education, training and public awareness.	Economy-wide	Mining, Electricity, Construction, Transport, Retail and Distribution, Governance, Institutions / Administrative Arrangements, Education, Finance	Yes	Minisrty of Energy and Meteorology
Madagascar	23	17	..	52.1	French, Malagasy	French	No	**National Disaster Risk Management Strategy 2016-2030**	2016	**Reform Domains:** • The National Strategy for Risk and Disaster Management (SNGRC) is applicable during the 2016-2030 period. Its vision is a nation resilient to shocks, protected from all damage, in its social, cultural dimension , economic and environmental for sustainable development. The overall objective of the document is to make risk and disaster management a pillar of sustainable development. The strategy also aims to eliminate hunger, food insecurity and malnutrition. The goal is to make food production and livelihood systems more resilient to promote food and nutrition security for communities in the face of climate hazards.	• Environment • Rural Development • Employment • Poverty • Livestock	Construction, Transport, Governance, Institutions / Administrative Arrangements, Finance, Water, PPP	Yes	The Ministerial Departments	French	No	**Madagascar First NDC**	2016	**Reform Domains:** • To Reduce Emissions from all sectors by 14% relative to BAU. And increase sinks from LULUCF by 32%.	Energy LULUCF Waste	Electricity, Construction, Governance, Waste	Yes	Ministry of Environment
						French	No	**Law No. 2017-021 on the reform of the National Electricity Fund (FNE)**	2017	**Reform Domains:** • The law introduces a reform of the National Fund of Electricity (FNE). It sets up a National Sustainable Energy Fund (FNED) intended to contribute to the financing of electricity infrastructure development projects in rural and pri-urban areas, based on renewable energies and the promotion of energy efficiency, and on from which financial aids and tools are taken for the operators holding Declarations, Authorization Contracts or Concessions.	•Urban • Energy	Electricity, Construction, Transport, Retail and Distribution, Governance, Institutions / Administrative Arrangements, Finance, Heath, Waste, PPP, Water	Yes	National Assembly	French	No	**Order No. 8090-2014 (National REDD + Coordination Office)**	2014	**Reform Domains:** • The Order creates the National Coordination Office for the Reduction of Emissions related to Deforestation and Forest Degradation (BNC-REDD +) within the Ministry of Environment and Forests.	Transport LULUCF	Mining, Construction, Transport, Governance	Yes	Ministry of Environment
															French	No	**Decree No. 2015-1042 on the National Directive for Drinking Water Supply Infrastructures**	2015	**Reform Domains:** • The Decree regulates the construction and extension of drinking water supply infrastructures, at community level, intended to make them resistant to climatic hazards and applicable on the territory of the Republic of Madagascar.	Transport Water	Water, Construction, Transport, Governance	Yes	Ministry of Water, Sanitation And Hygiene
															French	No	**Lawn° 2015-031 on the National Policy of Risk Management and Catastrophes**	2015	Reform Domains: • The Law defines the main objective of Risk and Disaster Management, its fundamental structures, and the principles governing the relations between the various stakeholders.	Environment		No	National Assembly
Mali	37	21	7	33.5	French	French	No	**Mali First NDC (Updated submission)**	2021	**Reform Domains:** • Under its revised NDC, Mali committed to reducing greenhouse gas emissions by 31% for energy, 25% for agriculture, 39% for land use and forestry, and 31% for waste sectors by 2030 compared to business-as-usual – an overall increase on their first NDC submitted in 2015. • The updated NDC also integrates gender considerations and aligns with the Sustainable Development Goals. • It also provides a detailed plan for monitoring, reporting and verifying NDC progress.	Agriculture Forestry Energy Water Waste	Water, Construction, Transport, Governance, Electricity, Waste	Yes	Ministry of Environment Sanitation and Sustainable Development	French	No	**Mali First NDC**	2016	**Reform Domains:** • The GHG emission reduction of 29% from agriculture, 31% from energy and 21% from forest compared to BAU levels by 2030	Water Energy Forestry Agriculture Waste	Water, Construction, Transport, Governance, Electricity, Waste	Yes	Ministry of Environment Sanitation and Sustainable Development
						French	No	**Cadre Stratégique pour la Relance Économique et le Développement Durable (CREDD) 2019-2023**	2019	Reform Domains: • The Strategic Framework for Economic Recovery and Sustainable Development (CREDD 2019-2023) operates on 5 axes for development in Mali. The fourth axis guarantees a healthy environment, builds resilience to climate change and focuses on sustainable development. Specific objectives and sub-objectives within this axis are are follows: • a) participaroty management of renewable natural resources, b)integrated water resource management involving the role of Water Police and other infrstructural developments, c) promoting the use of innovtaitve technology for a green economy, and for sustainable production and consumption, d) improve water, sanitation and hygiene (WASH), e) the promotion of a sustainable and modern and productive agricultural sector by strengthening land tenure, supporting small farmers, promoting agricultural entrepreneurship, improving technological capacities, etc. These objectives have been designed in accordance with the United Nations Agenda 2030 and the African Union Agenda 2063.	• Agriculture • Energy • Environment • Health • Industry • Public Sector • Tourism	Electricity, Construction, Transport, Retail and Distribution, Governance, Institutions / Administrative Arrangements, Finance, Heath, PPP	Yes	Ministry of Economy and Finance	French	No	**Mali First NDC (Updated submission)**	2021	**Reform Domains:** • Under its revised NDC, Mali committed to reducing greenhouse gas emissions by 31% for energy, 25% for agriculture, 39% for land use and forestry, and 31% for waste sectors by 2030 compared to business-as-usual – an overall increase on their first NDC submitted in 2015. • The updated NDC also integrates gender considerations and aligns with the Sustainable Development Goals. • It also provides a detailed plan for monitoring, reporting and verifying NDC progress.	Agriculture Forestry Energy Water Waste	Water, Construction, Transport, Governance, Electricity, Waste	Yes	Ministry of Environment Sanitation and Sustainable Development
						French	No	**Order No. 2016-2223 / MEASS-SG on sustainable land management**	2016	Reform Domains: • The Order creates, within the Ministry of the Environment, a Steering Committee of the Project "Intensifying the Resilience to the Climatic Changes through an integrated agricultural and pastoral management in the Sahelian zone within the framework of the sustainable management approach of the Lands.	• LULUCF • Food Security		No	Ministry of the Environment	French	No	**Order No. 2017-3581-MEADD-SG (National Steering Committee on climate risks and floods management)**	2017	Reform Domains: • The order creates the National Steering Committee, within the Ministry of the Environment, Sanitation and Sustainable Development, for the project "Climate risks and floods management in Mali" to preserve lives and goods. It establishes the compositions and functions of the Committee.	Water		No	Ministry of Environment Sanitation and Sustainable Development
						French	No	**Decree No. 2016-0102 P-RM on food insecurity**	2016	Reform Domains: • The decree establishes the organisation and operating procedures of the project to strengthen resilience to food insecurity in Mali. The Project's mission is to protect the livelihoods of the most vulnerable households; to sustainably strengthen the means of production of herdsmen, farmers and fishermen; develop their adaptation capacities to climate change; to help policy-makers to have necessary and reliable information in decision-making.	• Adaptation • LULUCF • Food Security • Agriculture	Retail and Distribution, Governance, Institutions / Administrative Arrangements, Heath	Yes	Council Of Ministers	French	No	**Decree No. 2016-0528-P-RM of 26 July 2016 laying down the organization and modalities of operation of the Management Unit of the Great Green Wall**	2016	Reform Domains: • The decree sets the organization and operating procedures of the Great Green Wall Management Unit (UGMV). The Great Green Wall Management Unit is attached to the General Secretariat of the Ministry of the Environment.	Governance		No	Council Of Ministers
															French	No	**Decree No. 2016-0346 / P-RM (National Strategy on Disaster Risk Reduction)**	2016	Reform Domains: • The Decree approves the National Strategy Paper on Disaster Risk Reduction in Mali and the 2015-2019 Action Plan.	Governance		No	Council Of Ministers
Mozambique	26	23	9	39.9	Portuguese	English	Yes	**Mozambique First NDC**	2018	Reform Domains: • Reduce climate risks through the strengthening of the early warning system and of the capacity to prepare and respond to climate risks; • Improve the capacity for integrated water resources management including building climate resilient hydraulic infrastructures; • Increase the effectiveness of land use and spatial planning (protection of floodplains, coastal and other areas vulnerable to floods); • Increase the resilience of agriculture, livestock and fisheries, guaranteeing the adequate levels of food security and nutrition; • Increase the adaptive capacity of the most vulnerable groups; • Reduce people's vulnerability to climate change related vector borne diseases or other diseases; • Ensure biodiversity's protection; • Reduce soil degradation and promote mechanisms for the planting of trees for local use; • Develop resilient climate resilience mechanisms for infrastructures, urban areas and other human settlements and tourist and coastal zones; • Align the legal and institutional framework with the NCCAMS • Strengthen research and systematic observation institutions for the collection of data related to vulnerability assessment and adaptation to climate change; • Develop and ameliorate the level of knowledge and capacity to act on climate change; and • Promote the transfer and adoption of clean and climate change resilient technologies.	• Agriculture • Livestock • Fisheries • Water • Health • Forests • Infrastructure • Tourism • Food systems food security	Mining, Construction, Transport, Retail and Distribution, Governance, Institutions / Administrative, Health, Water, Tourism, Arrangements, Finance	Yes	Ministry Of Land, Environment And Rural Development	English	Yes	**Mozambique First NDC**	2018	Reform Domains: • Reduce climate risks through the strengthening of the early warning system and of the capacity to prepare and respond to climate risks; • Improve the capacity for integrated water resources management including building climate resilient hydraulic infrastructures; • Increase the effectiveness of land use and spatial planning (protection of floodplains, coastal and other areas vulnerable to floods); • Increase the resilience of agriculture, livestock and fisheries, guaranteeing the adequate levels of food security and nutrition; • Increase the adaptive capacity of the most vulnerable groups; • Reduce people's vulnerability to climate change related vector borne diseases or other diseases; • Ensure biodiversity's protection; • Reduce soil degradation and promote mechanisms for the planting of trees for local use; • Develop resilient climate resilience mechanisms for infrastructures, urban areas and other human settlements and tourist and coastal zones; • Align the legal and institutional framework with the NCCAMS • Strengthen research and systematic observation institutions for the collection of data related to vulnerability assessment and adaptation to climate change; • Develop and ameliorate the level of knowledge and capacity to act on climate change; and • Promote the transfer and adoption of clean and climate change resilient technologies.	• Agriculture • Livestock • Fisheries • Water • Health • Forests • Infrastructure • Tourism • Food systems food security	Mining, Construction, Transport, Retail and Distribution, Governance, Institutions / Administrative Arrangements, Health, Water, Tourism, Finance	Yes	Ministry Of Land, Environment And Rural Development
						English	Yes	**Mozambique First NDC (Updated submission)**	2021	Reform Domains: • In its updated NDC, Mozambique commits to a series of mitigation actions that aim to achieve a reduction of greenhouse gas emission emissions by about 40 million tCO2 equivalent between 2020 and 2025. • These estimates will be updated with the results of the Biennial Update Report to be available in 2022. • UNDP has been supporting the country in updating its NDC by focusing on strengthening the adaptation component.	• Disaster risk management • Agriculture • Livestock and pastoralism • Fisheries • Water • Biodiversity and Ecosystems • Health • Forests • Infrastructure • Cities and Urban areas • Tourism • Food systems and food security	Health, Tourism, Water, Mining, Construction, Transport, Retail and Distribution, Governance, Institutions / Administrative, PPP, Arrangements, Finance	Yes	Ministry Of Land, Environment And Rural Development	English	Yes	**Mozambique First NDC (Updated submission)**	2021	Reform Domains: • In its updated NDC, Mozambique commits to a series of mitigation actions that aim to achieve a reduction of greenhouse gas emission emissions by about 40 million tCO2 equivalent between 2020 and 2025. • These estimates will be updated with the results of the Biennial Update Report to be available in 2022. • UNDP has been supporting the country in updating its NDC by focusing on strengthening the adaptation component.	• Disaster risk management • Agriculture • Livestock and pastoralism • Fisheries • Water • Biodiversity and Ecosystems • Health • Forests • Infrastructure • Cities and Urban areas • Tourism • Food systems and food security	Health, Tourism, Water, Mining, Construction, Transport, Retail and Distribution, Governance, Institutions / Administrative Arrangements, PPP, Finance	Yes	Ministry Of Land, Environment And Rural Development
						Portuguese	No	**Decree No. 6/2016 creating the National Fund for Sustainable Development (FNDS)**	2016	Reform Domains: • In The decree creates the National Fund for Sustainable Development (FNDS) which aims to promote and finance programmes and projects that ensure sustainable, harmonious and inclusive development. • Main objectives : 1) mobilising financial resources in actions leading to sustainable development, 2) promote and support strategies, programs and projects that contribute to rural development, 3)promote scientific research programs and actions in the field of sustainable development, 4) fund programs for environmental adaptation and mitigation of climate change, sustainable management of forests, conservation of biodiversity, land administration and land use planning, 5) finance programs for transferring technologies that contribute to sustainable development in rural areas, 6) carry out investment projects and financial applications that promote sustainable development, 7) create and participate in the capital of companies or institutions whose object competes for integrated and sustainable development, 8) finance institutional development activities.	• Environment • Wide Economy	Finance, Construction, Transport, Governance, Institutions / Administrative, PPP	Yes	Ministry Of Land, Environment And Rural Development	Portuguese	No	**Law 15/2014 Establishing the Framework for Disaster Management, Including Prevention and Mitigation**	2014	Reform Domains: • Directs the government to approve contingency plans founded in the science of climate forecasts and requires it to carve out areas of risk, likely to be affected by disasters. Disaster management plans should include forecasted risks of: floods, drought, cyclones, fire, epidemics, erosion, landslides, and oil spills. Provides for the establishment of an early warning system to monitor phenomena likely to cause disasters. Requires the system to use yellow, orange, and red risk levels and commensurate alerts to the public.	• Water • Transport	Water, Construction, Transport, Institutions / Administrative Arrangements	Yes	Council of Ministers
Mauritania	19	25	8	45.8	Arabic	French	No	**President's Expanded Priority Program (PROPEP 2020-2023)**	2020	Reform Domains: • This document introduces a stimulus Programme to combat the adverse effects of the COVID-19-induced economic crisis. It seeks to 1) intensify public investment, particularly in priority productive sectors with a view to accelerating the achievement of food self-sufficiency and in green sectors; 2) establish a Strategic Investment Fund; 3) initiate the formalization of the economy; 4) simplify administrative procedures; 5) improve the business environment; and 6) lay the institutional foundations for strong and effective governance to support the private sector.	• Economy-wide • LULUCF • Waste	Heakth, PPP, Finance, Construction, Transport, Governance, Institutions / Administrative	Yes	Interministerial Committee for Economic Recovery	French	No	**Mauritania First NDC**	2017	Reform Domains: • 22.3% overall emission reduction of which 12% is unconditional and 88% conditional pending international support.	• Agriculture • Water • Settlement • Infrastructure • Health • Education • Ecosystem and biodiversity	Construction, Transport, Governance, Institutions / Administrative Arrangements, Health, Water, Education	Yes	Ministry Of Land, Environment And Rural Development
								NA							French	No	**Mauritania First NDC (Updated submission)**	2021	Reform Domains: • Under its updated NDC, Mauritania raised its climate ambition with a new target to cut greenhouse emissions by 11% in 2030. • With more substantial support, the country could ensure carbon neutrality and potentially reach a 92% reduction of its greenhouse gas emissions. • As well as increased mitigation targets, Mauritania enhanced the adaptation component of its NDC, including the creation of green jobs. • The NDC is intended to serve as a framework for consultation and dialogue to design transformative resilience programs that meet the needs of the populations and ecosystems affected climate change.	• Ecosystem and biodiversity • Water • Settlement • Agriculture • Health • Infrastructure • Education	Water, Education, Construction, Transport, Retail and Distribution, Governance, Institutions / Administrative Arrangements, Health	Yes	Ministry Of Land, Environment And Rural Development
Mauritius	3	17	11	67.7	English, French	English	No	**Mauritius First NDC (Updated submission)**	2021	Reform Domains: • In its updated NDC, Mauritius raised ambition to reduce greenhouse gas emissions by 40% in 2030 compared to business-as-usual, instead of the initial NDC target of 30%. • The government aims to achieve 60% of energy production from green sources by 2030, phasing out the use of coal and increasing energy efficiency by 10% based on a 2019 baseline. • Domestic sources of public and private finance will fund 35% of the costs of climate action.	• Tourism • Biodiversity and ecosystem • Agriculture • Forestry • Coastal zones • Health • Infrastructure • Disaster Risk Management	Marine, Finance, Construction, Heakth, Transport, Governance, PPP, Institutions / Administrative	Yes	The Ministry of Environment, Sustainable Development	English	No	**Mauritius First NDC**	2016	Reform Domains: • 30% GHG emission reduction compared to BAU by 2030 conditional to international support	• Agriculture • Forestry • Coastal zones • Health • Infrastructure • Disaster Risk Management • Tourism • Biodiversity and ecosystem	Construction, Transport, Marine, Governance, Institutions / Administrative, Heakth, PPP	Yes	The Ministry of Environment, Sustainable Development
						English	No	**Renewable Energy Agency Act 2015 (No. 11 of 2015)**	2015	Reform Domains: • This Act establishes the Mauritius Renewable Energy Agency. The Agency's missions are to 1) promote the adoption and use of renewable energy with a view to achieving sustainable development goals, 2) advise on possible uses of liquid natural gas, 3) create an enabling environment for the development of renewable energy, 4), increase the share of renewable energy in the national energy mix, 5) share information and experience on renewable energy research and technology, and 6) foster collaboration and networking, at regional and international levels, with institutions promoting renewable energy. The Act further defines the functions, powers, composition and financing of the Agency.	Energy	Electricity	Yes	Mauritius Renewable Energy Agency	English	No	**Mauritius First NDC (Updated submission)**	2021	Reform Domains: • In its updated NDC, Mauritius raised ambition to reduce greenhouse gas emissions by 40% in 2030 compared to business-as-usual, instead of the initial NDC target of 30%. • The government aims to achieve 60% of energy production from green sources by 2030, phasing out the use of coal and increasing energy efficiency by 10% based on a 2019 baseline. • Domestic sources of public and private finance will fund 35% of the costs of climate action.	• Tourism • Biodiversity and ecosystem • Agriculture • Forestry • Coastal zones • Health • Infrastructure • Disaster Risk Management	Marine, Finance, Construction, Heakth, Transport, Governance, PPP, Institutions / Administrative	Yes	The Ministry of Environment, Sustainable Development
						English	Yes	**Strategic Plan for the Food Crop, Livestock and Forestry sectors 2016-2020**	2016	Reform Domains: • The document aims to enhance food security and nutrition in the country. It recognizes the need to adopt "climate-friendly", sustainable agricultural development methods and to safeguard farmer's livelihoods. The vision of the plan is stated as follows: " An integrated development to build vibrant non-sugar agriculture and agri-business sectors that utilize natural resources sustainably, contribute significantly to national food security and safety, empower producers to higher productivity, and enhance the welfare of the farming community.	• Agriculture • LULUCF • Social development	NA	No	The Food Crop, Livestock and Forestry Sectors	English	No	**Renewable Energy Roadmap 2030 for the Electricity sector**	2019	Reform Domains: • The document sets Mauritius' government strategy for enhancing the role of renewable energy sources within the country's electricity sector. It defines capacity targets to reach by 2025 and 2030. The technologies include solutions generating current from tidal/wave, offshore wind, solar and hydro.	Energy	Electricity	Yes	Minister of Energy and Public Utilities
						English	Yes	**Renewable Energy Roadmap 2030 for the Electricity sector**	2019	Reform Domains: • The document sets Mauritius' government strategy for enhancing the role of renewable energy sources within the country's electricity sector. It defines capacity targets to reach by 2025 and 2030. The technologies include solutions generating current from tidal/wave, offshore wind, solar and hydro.	Energy	Electricity	Yes	Minister of Energy and Public Utilities	English	No	**Climate Change Act 2020 (no 11/2020)**	2020	Reform Domains: • The document is Mauritius' framework climate law. Parts II, III and IV of the Act create climate-focused institutions and bodies and set their attributions.	• Adaptation • Economy-wide • Public Sector	Marine, Finance, Construction, Heakth, Transport, Governance, PPP, Institutions / Administrative	Yes	National Assembly
Malawi	26	13	9	54.4	English, Nyanja	English	Yes	**Malawi First NDC (Updated submission)**	2021	Reform Domains: • Under its updated NDC, Malawi adopted absolute economy-wide targets for cutting greenhouse gas emissions by 2040 : 6% unconditional, plus a further 45% conditional on support. • The updated NDC also provides a detailed implementation plan for mitigation and adaptation actions, covering all priority sectors, including the Energy, Industrial processes and product use, Agriculture, forestry and other land use, and Waste sectors for mitigation. • It also includes guidelines for mainstreaming the NDC into sectoral policies and strategies, and a framework for measuring and reporting on NDC progress.	• Agriculture • Biodiversity • Tourism • Culture • Wildlife • Energy • Disaster risk reduction and early warning systems • Fisheries • Forestry • Human health • Infrastructure • Social protection • Gender	Livestock, Marine, Health, Electricity, Construction, Transport, Governance, PPP, Institutions / Administrative, Tourism,	Yes	Minister of Forestry and Natural Resources	English	Yes	**Malawi First NDC**	2017	Reform Domains: • Estimated reduction between 14,000 and 16,000 Gg CO2eq through policies, programmes and projects conditional on external support	• Agriculture • Biodiversity • Energy • Fisheries • Forestry • Human health • Infrastructure • Social protection • Gender • Water resources and supply	Marine, Health, Electricity, Construction, Transport, Governance, PPP, Institutions / Administrative	Yes	Minister of Forestry and Natural Resources
						English	Yes	**National Climate Change Management Policy**		Reform Domains: • This Policy aims at setting the country's mitigation and adaptation strategy. Its long-term goal is to reduce the socio-economic impacts of adverse effects of climate change; its medium-term goal is to improve community resilience through the development of sustainable livelihoods and reduced emissions of GHGs. The document focuses on 1) capacity building (education, training and public awareness), 2) the Clean Development Mechanism, 3) Reducing emissions from deforestation and forest degradation and fostering carbon sinks, and 3) adaptation and mitigation in agriculture, energy, industrial processes, waste management, forestry, water resources, and wildlife sectors. The Policy is designed in accordance with the National Environmental Policy.	• Agriculture • Buildings • Energy • Environment • Industry • LULUCF • Transport • Waste • Water	Electricity, Construction, Transport, Governance, PPP, Institutions / Administrative, Water, Waste	Yes	Ministry of Natural Resources, Energy and Mining Environmental Affairs Department	English	Yes	**Malawi First NDC (Updated submission)**	2021	Reform Domains: • Under its updated NDC, Malawi adopted absolute economy-wide targets for cutting greenhouse gas emissions by 2040 : 6% unconditional, plus a further 45% conditional on support. • The updated NDC also provides a detailed implementation plan for mitigation and adaptation actions, covering all priority sectors, including the Energy, Industrial processes and product use, Agriculture, forestry and other land use, and Waste sectors for mitigation. • It also includes guidelines for mainstreaming the NDC into sectoral policies and strategies, and a framework for measuring and reporting on NDC progress.	• Agriculture • Biodiversity • Tourism • Culture • Wildlife • Energy • Disaster risk reduction and early warning systems • Fisheries • Forestry • Human health • Infrastructure • Social protection • Gender • Water resources and supply	Livestock, Marine, Health, Electricity, Construction, Transport, Governance, PPP, Institutions / Administrative, Tourism,	Yes	Minister of Forestry and Natural Resources
						English	Yes	**Malawi Growth and Development Strategy (MGDS III)**	2017	Reform Domains: • This medium-term strategy covers the period 2017-2022. It aims to move the country to a productive, competitive and resilient nation through sustainable agriculture and economic growth, energy, industrial and infrastructure development while addressing water, climate change, environmental management and population challenges. The strategy set five key priority areas: 1) agriculture, water development and Climate Change Management, 2) Education and Skills Development, 3) transport and ICT infrastructure, 4) energy, Industry and Tourism Development, and 5) Health and Population.	• Agriculture • Economy-wide • Energy • Health • Industry • LULUCF • Rural • Social development • Tourism • Transport • Urban	Health, Tourism, Electricity, Construction, Transport, Governance, PPP, Institutions / Administrative, Water, Education	Yes	Minister of Finance, Economic Planning and Development	English	Yes	**National Climate Change Management Policy**	2017	Reform Domains: • This Policy aims at setting the country's mitigation and adaptation strategy. Its long-term goal is to reduce the socio-economic impacts of adverse effects of climate change; its medium-term goal is to improve community resilience through the development of sustainable livelihoods and reduced emissions of GHGs. The document focuses on 1) capacity building (education, training and public awareness), 2) the Clean Development Mechanism, 3) Reducing emissions from deforestation and forest degradation and fostering carbon sinks, and 3) adaptation and mitigation in agriculture, energy, industrial processes, waste management, forestry, water resources, and wildlife sectors. The Policy is designed in accordance with the National Environmental Policy.	• Agriculture • Buildings • Energy • Environment • Industry • LULUCF • Transport • Waste • Water	Electricity, Construction, Transport, Governance, PPP, Institutions / Administrative, Water, Waste	Yes	Ministry of Natural Resources, Energy and Mining Environmental Affairs Department
						English	Yes	**National Resilience Strategy 2018-2030**	2018	Reform Domains: • The strategy aims to create a country free of chronic vulnerability and nutrition insecurity, where sustainable economic development creates opportunities for everyone, and where people are resilient to economic and environmental shocks that affect their lives and livelihoods.	• LULUCF • Adaptation • Agriculture • Disaster Risk Management (Drm) • Social development	Construction, Transport, Retail and Distribution, Governance, PPP, Institutions / Administrative	Yes	Department Of Disaster Management Affairs	English	Yes	**Environment Management Act (No. 19 of 2017)**	2017	Reform Domains: • This Act concerns the conservation and management of the environment in Malawi and prescribes environmental standards. It also concerns the conservation and management of biological (genetic) resources. The Act consists of 119 sections divided into 17 Parts, covering main areas of environmental concern, some of the areas covered are: the Environment Protection Authority; Environmental Planning; Environmental and social impact assessment, audits and monitoring; Environmental standards; Management of the Environment and Natural Resources; Pollution Control; The Environment Fund. Climate Change is addressed in part VIII concerning management of the environment and natural resources.	• Climate change • Envitonment	NA	No	National Assembly
						English	Yes	**Malawi Vision 2063**	2020	Reform Domains: • The document aims to increase wealth, inclusion and the country's self-sufficiency by 2063. It notably seeks to develop the resilience of the agriculture technology, notably through innovative technology.	• Agriculture • Economy-wide	Construction, Transport, Retail and Distribution, Governance, PPP, Institutions / Administrative	Yes	National Planning Commisson									
Namibia	7	27	12	59.3	English, German	English	Yes	**Fifth National Development Plan**	2017	Reform Domains: • The third pillar of Namibia's Fifth National Development Plan concerns environmental sustainability. Section 4.2 outlines Namibia's climate change goals, including its quantitative emissions reduction targets through 2022. The overall goal of the environmental and climate change management component of Namibia's Fifth National Development Plan is to manage the environment sustainably and improve the country's climate resilience. It identifies four challenges to this goal: population growth and industrialization, weak governance and institutional capacity, vulnerability to climate change, and the centralization of environmental management functions.	• Energy Supply • Industry • LULUCF	Electricity, Construction, Transport, Retail and Distribution, Governance, PPP, Institutions / Administrative	Yes	Minister of Economic Planning and Director-Genera	English	Yes	**Namibia First NDC**	2016	Reform Domains: • The Aims at a reduction of about 89% of GHG emissions by 2030 compared to BAU	• Health • Agriculture • Forestry • Coastal zones • Water • Tourism	Health, Transport, Governance, PPP, Water, Institutions / Administrative, Tourism	Yes	Ministry of Environment, Forestry and Tourism
						English	Yes	**Namibia First NDC (Updated submission)**	2021	Reform Domains: • The Namibia's updated NDC paves the way for more resilient, green growth, with a bold 2030 goal to reduce greenhouse gas emissions by 91% against business-as-usual, including 14% with unconditional contributions, together with plans to scale-up renewable energy and an elaborated adaptation component. • The mitigation target is more ambitious than the initial one in terms of the volume of avoided greenhouse gas emissions by 2030. • The updated NDC reflects comprehensive stakeholder-driven dialogue and enhanced data, as well as alignment with the Sustainable Development Goals.	• Water • Agriculture • Forestry • Coastal zones • Health • Tourism • Disaster Risk Management	Tourism, Transport, Governance, PPP, Water, Institutions / Administrative, Health	Yes	Ministery of Environment, Forestry and Tourism	English	Yes	**Namibia First NDC (Updated submission)**	2021	Reform Domains: • The Namibia's updated NDC paves the way for more resilient, green growth, with a bold 2030 goal to reduce greenhouse gas emissions by 91% against business-as-usual, including 14% with unconditional contributions, together with plans to scale-up renewable energy and an elaborated adaptation component. • The mitigation target is more ambitious than the initial one in terms of the volume of avoided greenhouse gas emissions by 2030. • The updated NDC reflects comprehensive stakeholder-driven dialogue and enhanced data, as well as alignment with the Sustainable Development Goals.	• Water • Agriculture • Forestry • Coastal zones • Health • Tourism • Disaster Risk Management	Tourism, Transport, Governance, PPP, Water, Institutions / Administrative, Health	Yes	Ministry of Environment, Forestry and Tourism
						English	Yes	**National Renewable Energy Policy**	2017	Reform Domains: • The policy seeks to provide access to modern, clean, environmentally sustainable, and affordable energy services for all Namibians. It aims to boost public and private investments in renewable energy projects, create an enabling regulatory and economic environment for the sector, promote connected and off-grid schemes, pursue climate resilience in the energy sector, and accelerate the development of energy storage facilities. The policy recommends the government to consider a subsidy framework. Solar, wind, or invader- bush based bioenergy are sources primarily favored, since the hydropower sector is subjected to high climate change uncertainty.	• Energy • Transport	Electricity, Construction, Transport, Retail and Distribution, Governance, PPP, Institutions / Administrative	Yes	Ministry of Mines and Energy									
						English	Yes	**Electricity Act 2007 as amended in 2016 (Net Metering Rules)**	2016	Reform Domains: • The document notably aims to reduce the investment requirements for independent producers adding power into the national grid, and to allow customers who generate their own energy to reduce their reliance on the grid, and to promote the production and use of sustainable renewable energy sources including in small scale projects. All renewable energy technologies are eligible for net metering. All distribution consumers are allowed to install net metered facilities. The document sets the regulatory framework on net metering, including carbon credits for consumers who self-generate energy.	• Energy • Transport	Electricity, Construction, Transport, Retail and Distribution, Governance, PPP, Institutions / Administrative	Yes	Ministry of Mines and Energy									

South Africa	2	26	12	61.2	Afrikaans, English	English	Yes	**South Africa First NDC (Updated submission)**	2021	South Africa's updated mitigation targets represent a significant progression from the first NDC : the country commits to a fixed target for greenhouse gas emissions levels of 398-510 MtCO2e by 2025, and 350-420 MtCO2e by 2030, compared to 398 and 614 Mt CO2e between 2025 and 2030 as communicated in the first NDC. The revised NDC includes the country's first adaptation communication with elaborated measures on adaptation. In its updated NDC, South Africa has also set the goal to reach net zero emissions by 2050 in its Low-Emission Development Strategy. South Africa aims to access significantly higher levels of climate finance during the periods of implementation of the NDC, with a view to achieving a floor of USD 8 billion per year by 2030. UNDP's Climate Promise work in South Africa is specifically focused on gender mainstreaming into NDC implementation, with emphasis on creating an enabling policy environment for gender-responsive climate action. UNDP also supports initiatives that empower and capacitate youth on climate issues.	Transport Agriculture Energy Settlements Biodiversity Water	Electricity, Construction, Transport, Water, Governance, Institutions / Administrative Arrangements	Yes	Several Ministries and departments
Zambia	3	35	7	54.6	English	English	Yes	**Zambia First NDC (Updated submission)**	2021	Although Zambia's commitment to reduce greenhouse gas emissions remained consistent with their first NDC – pledging, with limited international support, to reduce emissions by 25% by 2030, or by 47% with substantial international support – the updated NDC showed progression by broadening the scope of sectors and elaborating the adaptation component including the preparation of a National Adaptation Plan. The updated NDC also describes how it aligns with the Sustainable Development Goals.	Agriculture and food security Health Nutrition Water, Sanitation and Hygiene Education	Health, Construction, Water, Education, Governance, Institutions / Administrative Arrangements	Yes	Ministry of Tourism, Environment and Natural Resources
						English	Yes	**Seventh Development Plan 2017-2021**	2017	This Plan sets the government's development vision over the period 2017-2021. Point 4.9 calls for fostering national climate change mitigation and adaptation efforts. It also seeks to integrate the climate change constraint into sectoral policies, notably in the agriculture and water sectors. The third strategy of the plan focuses on promoting renewable energy sources. Carbon financing schemes are also mentioned.	Agriculture, Energy, Water	Electricity, Water, Governance, Institutions / Administrative Arrangements	Yes	Ministry of National Development Planning
						English	Yes	**Zambia's Climate Change Gender Action Plan (CCGAP)**	2018	The ccGAP is an intersectional document aiming at advancing women empowerment and enabling gender equality while setting climate change response plans. It focuses in priority on sustainable agriculture and food security; Health; Forests, biodiversity and wildlife; Water security, Disaster risk reduction, preparedness and resilience; Infrastructure; Energy; and Tourism. It promotes policy reform and synergy; education and awareness-raising; academic research, sex-disaggregated data, and information dissemination—both for public awareness and to inform policy; and capacity building and training.	Disaster Risk Management (Drm), Energy, Environment, Health, LULUCF, Tourism	Health, Electricity, Water, Tourism, Governance, Institutions / Administrative Arrangements	Yes	Ministry of Gender
						English	Yes							
Zimbabwe	8	21	11	61.3	English	English	Yes	**Zimbabwe First NDC (Updated submission)**	2021	Zimbabwe enhanced its climate ambition by setting a 40% economy-wide greenhouse gas emissions reduction target by 2030, compared to business-as-usual levels, a significant increase from the 33% initial target. The NDC draws on the climate policies and strategies adopted since 2015, including the Low Emission Development Strategy and the National Adaptation Plan to be finalized soon. In its NDC, Zimbabwe has updated its baseline scenario, expanded the greenhouse gas emissions and sectoral coverage and added new adaptation measures. The NDC also incorporates the latest findings of the assessments on green jobs, just transition, gender analysis and youth delivered with UNDP's support.	Agriculture Disaster Risk Management Infrastructure Water	Construction, Governance	Yes	Ministry of Environment, Climate, Tourism and Hospitality Industry
Nigeria	22	27	12	49.7	English,	English,	Yes	**Medium Term National Development Plan 2021 - 2025**	2021	This plan succeeds to the Economic Recovery and Growth Plan (2017-2020) in order to implement the government's 2050 agenda over the period 2021-2025. It focuses on economic growth and development, infrastructure, public administration, human capital development, social development and regional development. It notably seeks to increase awareness to climate issues, boost the production and use of renewable energy sources, and generally create the conditions for making the economy	Economy-wide, Social Development	Construction, Governance, Institutions / Administrative, Health, Electricity	Yes	Ministry of Finance, Budget & National Planning
						English,	Yes	**Nigeria's National Action Plan to reduce short-lived climate pollutants**	2018	This document lays the country's strategy to reduce the emission of short-lived climate pollutants (SLCPs), most prominently black carbon and methane, from a range of socioeconomic sectors. It sets 22 measures aiming at lowering SLCPs emissions while improving local air quality.	Agriculture, Buildings, Energy, Industry, Transport, Waste	Transport, Institutions / Administrative Arrangements, Construction, Electricity, Governance, Finance, Waste	Yes	Ministry of Environment
						English,	Yes	**National Integrated Infrastructure Master Plan**	2020	This document is Nigeria's blueprint for infrastructure development. It notably seeks to make the country's infrastructures resilient to the adverse impacts of climate change, enable a low carbon development of the transport sector, and prepare the country to natural disasters.	Buildings, Energy, Transport	Water, Construction, Transport, Governance, Institutions / Administrative Arrangements	Yes	Federal Ministry of Finance, Budget and National Planning
						English,	Yes	**National Action Plan on Gender and Climate Change for Nigeria**	2020	This document focuses on effective strategies for integrating gender into the implementation of national climate change initiatives.	Social development	NA	No	Department of Climate Change, Federal Ministry of Environment
						English,	Yes	**Nigeria Economic Sustainability Plan**	2020	This document was prepared by the Economic Sustainability Committee, which was created by Nigeria's president in March 2020. It aims at 1) stimulating the economy by preventing business collapse and ensuring liquidity, 2) retaining or creating jobs using labour intensive methods in key areas like agriculture, facility maintenance, housing and direct labour interventions, 3) undertake growth enhancing and job creating infrastructural investments in roads, bridges, solar power, and communications technologies, 4) promoting manufacturing and local production at all levels and advocate the use of Made in Nigeria goods and services, as a way of creating job opportunities, achieving self-sufficiency in critical sectors of our economy and curbing unnecessary demand for foreign exchange which might put pressure on the exchange rate; and 5) extending protection to the very poor and other vulnerable groups – including women and persons living with disabilities - through	Energy	Solar Panels Renewables covid19 Stimulus plan	Yes	Several Ministries and Departments
Tanzania	29	25	8	37.9	English, Swahili	English	Yes	**Tanzania updated NDC**	2021	Developed in a consultative manner, Tanzania's updated NDC raised its 2030 economy-wide emissions reduction target ranges for 2030 from 10-20% to 30-35%, with a focus on addressing the energy, transport, forestry, and waste sectors. The NDC also identified priority adaptation actions for this decade, from access to clean water, sustainable livelihoods and climate-smart rural electrification. The updated NDC references to the National Adaptation Plan (NAP) being elaborated. Tanzania has also developed its NDC implementation plan.	Agriculture Livestock Forestry Coastal, Marine Environment and Fisheries Water, Sanitation, and Hygiene Tourism Land Use and Human Settlements Development Health Infrastructure Disaster Risk Reduction Gender Mainstreaming Capacity Building Research and Systematic Observation	Water, Construction, Transport, Governance, Institutions / Administrative Arrangements, Livestock, Tourism, Health	Yes	Several Ministries and Departments
						English	Yes	**Tanzania Health National Adaptation Plan 2018-2023**	2018	The Plan aims at making the Tanzanian health system resilient to climate change, by mainstreaming adaptation efforts into health policies. It focuses on vector-borne diseases, nutrition, water-related diseases and disasters (flood and drought frequency). The Plan sets a long-term target and a five-year implementation strategy. The Plan also seeks to 1) guide health practitioners on the need to develop and operationalise a climate sensitive early warning system for diseases outbreaks, 2) advocate for the mobilisation and allocation of resources for adaptation to climate change in health sector, and 3) facilitate the integration of health priorities into the National Adaptation Plan and support the NDC implementation process.	Health, Water	Water, Governance, Institutions / Administrative Arrangements, Health	Yes	Ministry of Health, Community Development
						English	Yes	**National Five Year Development Plan 2016/17 - 2020/21**	2016	The National Five Year Development Plan released in 2016 by the Ministry of Finance and Planning is a broad document setting the government's vision for development over the period 2016/17 to 2020/21. It identifies climate change as a further challenge to successfully implement development policies, notably due to induced distractions of infrastructure, loss of productivity in agriculture, and disease outbreaks. Both mitigation and adaptation are explicit policy goals, including supporting research programs to improve and develop new technologies, agronomic practices, information collection and dissemination for early warning.	Agriculture, Buildings, Energy, LULUCF, Urban, Water	Water, Construction, Transport, Governance, Institutions / Administrative Arrangements	Yes	Ministry of Finance and Planning
						English	Yes	**National Energy Policy, 2015**	2015	The National Energy Policy (NEP) was updated in December 2015 by the Ministry of Energy and Minerals. It aims at sustainably providing adequate, reliable and affordable energy to the Tanzanians. The NEP notably aims at scaling up the utilisation of renewable energy per se and to diversify the country's energy mix, using solar, biomass, wind, small-scale hydro and geothermal, including in buildings and industrial designs. Feed-in tariffs should be established and renewable energy integrate both the national and isolated grids. Alternatives to wood for cooking are also promoted. Besides, the document calls for a controlled use of new petroleum discoveries in the	Buildings, Energy, Health, Industry, Transport	Water, Construction, Transport, Health, Governance, Institutions / Administrative Arrangements	Yes	Ministry of Energy and Minerals
Sierra Leone	54	5	2	31.1	English	English	Yes	**Sierra Leone First NDC (Updated submission)**	2021	In its updated NDC, Sierra Leone defined a progressive path forward for cutting greenhouse gases emissions from 2005 levels: 5% by 2025, 10% by 2030, and 25% by 2050. Unlike the initial NDC which had only conditional commitments, the updated NDC set unconditional mitigation contributions, also providing more detail on each sector's trends, strategies and goals, with quantifiable targets. Sierra Leone also expanded their adaptation targets and have sought alignment with the Sustainable Development Goals.	Agriculture Water Energy Coastal zones Forestry Tourism Mining Infrastructure Transport	Tourism, Water, Construction, Electricity, Transport, Health, Governance, Institutions / Administrative Arrangements, Mining	Yes	Ministry of Environment
						English	Yes	**Medium-Term National Development Plan (2019-2023)**	2019	The objectives of these plan are 1) to build a diversified, resilient green economy, 2) improve public health, empowerment and education, 3) improve fairness, cohesiveness, security and peacefulness, and 4) to build a competitive economy with sound infrastructure.	Economy-wide, Social development	Education, Construction, Electricity, Transport, Health, Governance, Institutions / Administrative Arrangements, Mining	Yes	Ministry of Planning and Economic Development.
						English	Yes	**Renewable Energy Policy of Sierra Leone**	2016	This document aims to enable the country to profit from its important potential in hydropower, bioenergy, solar and wind as energy sources. It seeks to enable citizens to benefit from a steady supply, both on- and off-grid.	Energy, Rural, Water	Food Security, Solar Panels, Renewables, Biofuels, FIT, Biomass, hydro, wind, Off Grid	Yes	Ministry of Energy
						English	Yes	**National Energy Efficiency Action Plan (NEEAP) of the Republic of Sierra Leone**	2015	This plan sets the government's vision of the country's needs to formulate further dedicated legislation and policy documents. It seeks to improve energy efficiency, boost related research, develop human resources, and strengthen and diversify the energy mix. It further sets detailed targets of enhanced energy efficiency.	Energy, Social development	NA	No	Ministry of Energy
Somalia	NA	NA	NA	NA	Somali	English	Yes	**Somalia First NDC (Updated submission)**	2021	Somalia set an ambitious emissions reduction target of 30% below business-as-usual by 2030, conditional on international public and private support. The country has expanded on the sectors and gases covered and has set quantifiable targets in the agriculture, energy, forestry, transport, and waste sectors. The revised NDC also includes detailed adaptation measures.	Agriculture, Energy, Forestry, Transport, Waste	Food Security, Solar Panels, Renewables, Hydro, PPP	Yes	Line Ministries and Ministry of Planning
						English	Yes	**National Water Resource Strategy 2021-2025**	2021	This strategy sets the government's vision for the water sector over the period 2021-2025. It formulates three goals: 1) Establishing a Functional Water Sector Governance Framework, 2) Operationalising Integrated Water Resources Management, and 3) Improving the Provision of Priority Water Services. It notably aims to respond to climate variability and its impacts on water resources management and development. The strategy is complemented by a roadmap to facilitate its implementation.	Rural, Social development, Urban, Water	Water	Yes	Ministry of Planning, Investment and Economic Development
						English	Yes	**Ninth National Development Plan 2020-2024**	2020	This document sets the government's plan to ensure economic growth and reduction of poverty within the next five years. It notably aims to increase the country's resilience to adverse effects of climate change, enhance water security and boost the production and use of renewable energy sources.	Economy-wide, Energy, Social development, Water	Water, Enegy, PPP, Construction, Governance, Institutions / Administrative Arrangements	Yes	Ministry of Planning, Investment and Economic Development

English	Yes	**South Africa First NDC (Updated submission)**	2021	South Africa's updated mitigation targets represent a significant progression from the first NDC : the country commits to a fixed target for greenhouse gas emissions levels of 398-510 MtCO2e by 2025, and 350-420 MtCO2e by 2030, compared to 398 and 614 Mt CO2e between 2025 and 2030 as communicated in the first NDC. The revised NDC includes the country's first adaptation communication with elaborated measures on adaptation. In its updated NDC, South Africa has also set the goal to reach net zero emissions by 2050 in its Low-Emission Development Strategy. South Africa aims to access significantly higher levels of climate finance during the periods of implementation of the NDC, with a view to achieving a floor of USD 8 billion per year by 2030. UNDP's Climate Promise work in South Africa is specifically focused on gender mainstreaming into NDC implementation, with emphasis on creating an enabling policy environment for gender-responsive climate action. UNDP also supports initiatives that empower and capacitate youth on climate issues.	Transport Agriculture Energy Settlements Biodiversity Water	Electricity, Construction, Transport, Water, Governance, Institutions / Administrative Arrangements	Yes	Several Ministries and departments
English	Yes	**South Africa First NDC**	2016	Peak, plateau and decline GHG emissions trajectory range, which will be between 398 and 614 Mt CO2–eq in 2030 Peaking year will be between 2020 and 2025	Transport Agriculture Energy	Water, Transport, Electricity, Construction, Governance, Institutions / Administrative Arrangements	Yes	Several Ministries and departments
English	Yes	**Economic Reconstruction and Recovery Plan**	2020	This plan enables South Africa's stimulus package to combat the COVID-19-induced economic crisis. The plan notably seeks to increase the use of green infrastructure bonds and green climate finance, pursue green industrialisation and other green	Economy-wide	Electricity, Construction, Governance, Institutions / Administrative Arrangements	No	Line departments and Ministries
English	Yes	**National Greenhouse Gas Emissions Reporting Regulations, 2016**	2017	This document amends the National Environmental Management Air Quality Act. The purpose of the National Greenhouse Gas Emissions Reporting Regulations is to introduce a single national reporting system for the transparent reporting of greenhouse gas emissions, which will be used to maintain a National Greenhouse Gas Inventory, allow South Africa to meet its UNFCCC reporting obligations and to inform the formulation and implementation of legislation and policy. The emission sources and data providers who are covered by the Regulations are set out in Annexure 1 and Regulation 4. The sectors covered include energy, transport, industry, agriculture and forestry. The Regulations also set out the reporting requirements, calculation methodology, verification procedure (to be carried out by the National Inventory Unit) and penalties (which include fines and imprisonment). The declaration of 21 July, 2017 officially recognises greenhouse gases as priority air pollutants.	Agriculture, Energy, Industry, LULUCF Transport	Water, Transport, Electricity, Construction, Governance, Institutions / Administrative Arrangements	Yes	Environmental Affairs, Department
English	Yes	**National Climate Change Adaptation Strategy**	2020	The National Climate Change Adaptation Strategy (NCCAS) provides a common vision of climate change adaptation and climate resilience for South Africa, and outlines priority areas for achieving this vision. It draws on South Africa's National Climate Change Response Policy (NCCRP) (DEA2011), the National Development Plan (NDP) (NPC 2011), the adaptation commitments included in its Nationally Determined Contributions (NDC), sector adaptation plans, provincial adaptation plans and local government adaptation plans. The main objective of the document is to provide guidance across all levels of government, sectors, and stakeholders affected by climate variability and change. It should also serve as the country's National Adaptation Plan and fulfils the commitment to its international obligations under the Paris Agreement. It is divided into sets of strategic objectives, interventions and outcomes with associated actions.	Adaptation, Economy-wide	NA	No	Minister of Environmental Affairs
English	Yes	**National Energy Efficiency Strategy**	2019	This document is based on the White Paper on Energy Policy (1998) and determines how to improve energy utilisation, mainly through improvements in energy intensity and decoupling economic growth from energy demand. The National Energy Efficiency Strategy (2016), only released as a draft, aims to further stimulate energy efficiency improvements, achieved through the energy efficiency strategy from 2005, through a combination of fiscal and financial incentives, and enabling measures. It expects to achieve and economy-wide reduction of 29% in final energy consumption. The document has 7 sections, the first three present the policy's background and objectives, then it presents the country's energy consumption profile and the opportunities for energy savings, then it presents goals and targets for specific sectors (i.e. residential, transports…) and finally how to achieve these goals.	Buildings, Economy-wide, Energy, Transport	Water, Transport, Electricity, Construction, Governance, Institutions / Administrative Arrangements	Yes	Minister of Energy
English	Yes	**Green Transport Strategy (2018-2050)**	2018	Enabling the transport sector to contribute its fair share to the national effort to combat climate change in a balanced fashion, taking into account the DoT and the sector's primary responsibility of promoting the development of the efficient integrated transport systems to enable sustainable socio-economic development; Promoting behavioral changes towards sustainable mobility alternatives through information, education and awareness raising; Engaging the low carbon transition of the sector, to assist with the aligning and developing of policies which promote energy efficiency and emission control measures in all transport modes; Minimising the adverse effects of transport activities on the environment, and Facilitating the sector's just transition to climate resilient transport system and infrastructure	Social development, Transport, Urban	EV, Hydrogen, Aviation, rail, road, fuels	Yes	Department Of Transport
English	Yes	**Zambia First NDC (Updated submission)**	2021	Although Zambia's commitment to reduce greenhouse gas emissions remained consistent with their first NDC – pledging, with limited international support, to reduce emissions by 25% by 2030, or by 47% with substantial international support – the updated NDC showed progression by broadening the scope of sectors and elaborating the adaptation component including the preparation of a National Adaptation Plan. The updated NDC also describes how it aligns with the Sustainable Development Goals.	Agriculture and food security Health Nutrition Water, Sanitation and Hygiene Education	Health, Construction, Water, Education, Governance, Institutions / Administrative Arrangements	Yes	Ministry of Tourism, Environment and Natural Resources
English	Yes	**Zambia First NDC**	2016	Intends to reduce emissions by implementing programs driven by county's Climate Response Strategy and supported by national development policies, extent of reduction dependend on domestic effort and international resources	Agriculture Health Nutrition Education	Health, Construction, Water, Education, Governance, Institutions / Administrative Arrangements	Yes	Ministry of Tourism, Environment and Natural Resources
English	Yes	**National Strategy for Reducing Emissions from Deforestation and Forest Degradation**	2015	This strategy aims at reducing emissions from Zambian forests, notably thanks to improved land management, inclusion of communities into sustainable agricultural and forestry activities, and adoption of more sustainable mining and energy practices. The strategy calls for ensuring equitable sharing of both carbon and non-carbon benefits among stakeholders. The document analyses the Zambian context in terms of forest resources, land management and practices, existing REDD+-oriented framework and socio-economic structure. It defines the specific drives of deforestation and forest degradation, examines the implementation of REDD+ in Zambia, including the conditions for the setting up Forest Reference Emission Levels, and exposes forest-related institutional	Agriculture, Energy, LULUCF, Transport	Construction, Water, Education, Electricity, Governance, Institutions / Administrative Arrangements	Yes	Ministry of Lands, Natural Resources and Environmental Protection
English	Yes	**The Forests Act, 2015**	2015	This Act provides for the protection of forests, related carbon stock management, biodiversity and the fight against desertification. It establishes a Forest Development Fund and a Forest Management Plan. It details rules seeking to protect biodiversity, regulations on forest economic productions including timber and enforcement.	Environment, LULUCF, Transport	Transport, Water, Governance, Institutions / Administrative Arrangements	Yes	Assembly
English	Yes	**Second National Biodiversity Strategy and Action Plan 2015-2025**	2015	This document sets the government's strategy and implementation actions for biodiversity conservation over the period 2015-2025. It incorporates climate resilient principles to improve conservation efforts. It further aims to protect forests,	Environment, LULUCF, Water	Transport, Water, Governance, Institutions / Administrative Arrangements	Yes	Ministry of Lands, Natural Resources and Environmental Protectio
English	Yes	**2016-2020 Implementation Plan on mitigating the impact of climate change**	2016	This law was identified in Zambia's NDC, however no further detail or documentation is available.	Economy-wide	Institutions / Administrative Arrangements, Energy Supply	No	Ministry of Lands, Natural Resources and Environmental Protection
English	Yes	**National Climate Change Learning Strategy of Zambia**	2020	This document systematically examines the country's learning and skills development needs to respond to the impacts of climate change. It aims to strengthen individual and institutional systemic capacities of the energy, health, forestry, agriculture and education sectors to enable them deliver climate change learning and contribute to the implementation of the NDC and NAPs. The strategy covers the period up to 2030. Priority actions are phased as short term (1-2 years); medium term (3-5 years); and long term (6-10 years). Each of the five sectors will deal with the three national priority actions: 1) awareness raising and knowledge strengthening; 2) individual and institutional capacity building and 3) mainstreaming climate change learning into the priority sector policies and systems in the short,	Energy, Health, Forestry, Agriculture, Education	Water, Education, Electricity, Health, Governance, Institutions / Administrative Arrangements	Yes	Ministry of Lands, Natural Resources
English	Yes	**Zimbabwe First NDC (Updated submission)**	2021	Zimbabwe enhanced its climate ambition by setting a 40% economy-wide greenhouse gas emissions reduction target by 2030, compared to business-as-usual levels, a significant increase from the 33% initial target. The NDC draws on the climate policies and strategies adopted since 2015, including the Low Emission Development Strategy and the National Adaptation Plan to be finalized soon. In its NDC, Zimbabwe has updated its baseline scenario, expanded the greenhouse gas emissions and sectoral coverage and added new adaptation measures. The NDC also incorporates the latest findings of the assessments on green jobs, just transition, gender analysis and youth delivered with UNDP's support.	Agriculture Disaster Risk Management Infrastructure Water	Construction, Governance	Yes	Minister of Environment, Climate, Tourism and Hospitality Industry
English	Yes	**Zimbabwe First NDC**	2017	Reduction of emissions per capita by 33% compared to BAU conditional to full implementation by developed contries to their commitments relating to finance, technology and capacity persuant to Article 4 of the Convention	Agriculture Disaster Risk Management Infrastructure	Construction, Governance	Yes	Minister of Environment, Climate, Tourism and Hospitality Industry
English	Yes	**National Renewable Energy Policy (NREP)**	2020	The National Renewable Energy Policy is the government's key document aimed at fostering the production and use of renewable sources in the grid and off-grid. It aims to raise the share of renewables in the energy mix by creating incentives from supply, to distribution and demand, in urban and rural settings. It is not clear whether the incentives and targets set out in the 2019 draft are to be	Energy	Electricity	Yes	Ministry Of Energy And Power Development
English	Yes	**Biofuels Policy of Zimbabwe (BPZ)**	2020	The Biofuels Policy of Zimbabwe fosters the production, use and sustainability of the liquid biofuels sector in the country, especially ethanol from sugar cane and biodiesel from jatropha, until 2030. Its aims are to reduce the country's dependency on oil imports, and to reduce its greenhouse gases (GHG) emissions. It is unclear whether the target of ethanol blending ratio set out in 2019 by the Energy and Power Development Minister (20% by 2030; 33% reduction of GHG emissions from	Energy Transport	Water, Transport, Electricity, Governance, Institutions / Administrative Arrangements	Yes	Ministry Of Energy And Power Development
English	Yes	**National Climate Change Response Strategy**	2019	The Strategy mainly aims to help the country and its citizens to adapt to severe droughts, increasing temperatures, irregular rainfall patterns and food shortages, attributed in part to climate change effects. The risks and impacts of climate change are analysed in the NCCRS, followed by sectora strategies (agriculture, energy, water, etc.), with varying implementation timeframes. The seven pillars of climate change responses are: adaptation and disaster risk management mitigation and low carbon development strategies capacity governance framework finance and investment technology development and transfer, including infrastructure communication and advocacy	Agriculture, Energy, Social development, Transport, Water	Water, Transport, Electricity, Governance, Institutions / Administrative Arrangements	Yes	Ministry Of Environment, Water And Climate
English	Yes	**National Agriculture Policy Framework 2018-2030**	2018	This document aims to modernise the country's agricultural sector, enable investments and a switch to sustainable production.	Agriculture, LULUCF, Social development	NA	No	Ministry Of Environment, Water And Climate
English	Yes	**National Gender Policy and Implementation Plan**	2017	This document has been identified in Zimbabwe's updated NDC, however no further documentation is available beyond an UNDP announcement. One priority area identified in the policy is the connexion between gender, environment	Social development	NA	No	Ministry Of Environment, Water And Climate
English	Yes	**National Climate Policy**	2018	The National Climate Policy aims to enable Zimmbabwe to establish the legal structures to regulate businesses in climate-related matters, and enable them to reduce their greenhouse gases emissions. The Policy further focuses on adaptation with regard to rural communities and	Agriculture, Transport	NA	No	Ministry Of Environment, Water And Climate
English,	Yes	**Nigeria First NDC**	2017	Reductions of 20% unconditinoally, and 40% conditionally below BAU. BAU not specified other than in Figure.	Economy-wide, Water, Waste	\\aste, Water, Tourism, Governance, Institutions / Administrative Arrangements	Yes	Ministry of Environment
English,	Yes	**Nigeria First NDC (Updated submission)**	2021	Nigeria's updated NDC reiterated the country's unconditional economy-wide target to reduce emissions by 20% relative to business-as-usual by 2030, increasing its conditional target from 45% to 47%. While the targets appear similar to those of the initial NDC, revised baseline conditions – based on more accurate economic growth projections – mean that they represent a rise in ambition. Updates include an analysis of the potential of Nature-Based Solutions (NBS) to contribute to mitigation efforts and the integration of the water and waste sectors to the adaptation component.	Economy-wide, Water, Waste	\\\aste, Water, Tourism, Governance, Institutions / Administrative Arrangements	Yes	Ministry of Environment
English,	Yes	**Nigeria's Climate Change Act**	2021	It mandates the government to set a National Climate Change Action Plan and a five-year carbon budget (with quantified annual objectives) accordingly. Both of these are to be validated by the Federal Executive Council. The first carbon budget should be approved by November 2022. - It creates the National Council on Climate Change and defines its members and attributions. The Council is in charge of implementing the National Climate Change Action Plan. The institution will be responsible for managing the newly-instituted Climate Change Fund. The Fund will be provisioned according to debates in Parliament, and enable the running of the Council itself as well as subventions. The Council will work with the environment ministry to organise climate action globally and for each economic sector. It will also work on identifying and implementing priority adaptation actions.	Economy-wide, Finance, Public Sector	Institutions / Administrative Arrangements, Construction, Electricity, Governance, Finance	Yes	National Council on Climate Change (the "Council")
English,	Yes	**Nigeria's National Action Plan to reduce short-lived climate pollutants**	2018	This document lays the country's strategy to reduce the emission of short-lived climate pollutants (SLCPs), most prominently black carbon and methane, from a range of socioeconomic sectors. It sets 22 measures aiming at lowering SLCPs emissions while improving local air quality.	Agriculture, Buildings, Energy, Industry, Transport, Waste	Transport, Institutions / Administrative Arrangements, Construction, Electricity, Governance, Finance, Waste	Yes	Ministry of Environment
English,	Yes	**The flare gas (prevention of waste and pollution) regulations 2018**	2018	The flare gas regulations establish a legal framework to pursue the objectives of the Federal Government for the reductions of GHG emissions by the flaring and venting of natural gas. The main objectives of the regulations are 1) to reduce the environemental and social impact caused by the flare of natural gas, 2) to prevent the waste of natural resources, 3) to create social and economic benefits from gas flare capture. The document introduces several facts: 1) the legal basis for the implementation of the Nigerian Gas Flare Commercialisation Programme (NGFCP), 2) a new payment regime for gas flaring - "polluter pays" principle 3) obligations on producers and gas flare out	Energy	Oil and Gas, Electricity, Governance, Institutions / Administrative	Yes	Ministry of Petroleum and Resources
English,	Yes	**National Action Plan on Gender and Climate Change for Nigeria**	2020	This document focuses on effective strategies for integrating gender into the implementation of national climate change initiatives.	Social development	NA	No	Department of Climate Change, Federal Ministry of Environment
English,	Yes	**Medium Term National Development Plan 2021 - 2025**	2021	This plan succeeds to the Economic Recovery and Growth Plan (2017-2020) in order to implement the government's 2050 agenda over the period 2021-2025. It focuses on economic growth and development, infrastructure, public administration, human capital development, social development and regional development. It notably seeks to increase awareness to climate issues, boost the production and use of renewable energy sources, and generally create the conditions for making the economy sustainable.	Economy-wide, Social Development	Construction, Governance, Institutions / Administrative, Health, Electricity	Yes	Ministry of Finance, Budget & National Planning
English	Yes	**Tanzania updated NDC**	2021	Developed in a consultative manner, Tanzania's updated NDC raised its 2030 economy-wide emissions reduction target ranges for 2030 from 10-20% to 30-35%, with a focus on addressing the energy, transport, forestry, and waste sectors. The NDC also identified priority adaptation actions for this decade, from access to clean water, sustainable livelihoods and climate-smart rural electrification. The updated NDC references to the National Adaptation Plan (NAP) being elaborated. Tanzania has also developed its NDC implementation plan.	Agriculture Livestock Forestry Coastal, Marine Environment and Fisheries Water, Sanitation, and Hygiene Tourism Land Use and Human Settlements Development Health Infrastructure Disaster Risk Reduction Gender Mainstreaming Capacity Building Research and Systematic Observation Technology Development and Transfer	Water, Construction, Transport, Governance, Institutions / Administrative Arrangements, Livestock, Tourism, Health	Yes	Several Ministries and Departments
English	Yes	**Tanzania First NDC**	2018	Reduction of GHG emissions between 10-20% relative to BAU by 2030	Agriculture Livestock Forestry Water Tourism Development Health Infrastructure	Water, Construction, Transport, Governance, Institutions / Administrative Arrangements, Livestock, Tourism, Health	Yes	Several Ministries and Departments
English	Yes	**Tanzania Agriculture Climate Resilience Plan**	2014	(i) amplified water stress; (ii) decreased crop yield, and (iii) increased vulnerability of smallholder farmers. Following from the risk analysis, the plan outlines four 'priority resilience actions:' (i) improving agricultural land and water management, (ii) accelerating uptake of climate smart agriculture (CSA), (iii) improving risk management to reduce climate-related shocks, (iv) strengthening knowledge and systems to target climate action. Specific policy highlights aimed at addressing the former include: the establishment of pest, disease, and early warning systems; the development of policy briefs and financial incentives to assist with mainstreaming CSA into agricultural programmes; the updating of irrigation master plans to consider availability and climate; incentivising the development of water management	Agriculture, Water	NA	No	Ministry of Agriculture, Food Security and Cooperatives
English	Yes	**Sierra Leone First NDC (Updated submission)**	2021	In its updated NDC, Sierra Leone defined a progressive path forward for cutting greenhouse gases emissions from 2005 levels: 5% by 2025, 10% by 2030, and 25% by 2050. Unlike the initial NDC which had only conditional commitments, the updated NDC set unconditional mitigation contributions, also providing more detail on each sector's trends, strategies and goals, with quantifiable targets. Sierra Leone also expanded their adaptation targets and have sought alignment with the Sustainable Development Goals.	Agriculture Water Energy Coastal zones Forestry Tourism Mining Infrastructure Transport	Tourism, Water, Construction, Electricity, Transport, Health, Governance, Institutions / Administrative Arrangements, Mining	Yes	Ministery of Environment
English	Yes	**Sierra Leone First NDC**	2016	Committed to implementing specific emission reduction actions such as advancing feed in tariff for renewable energy technologies, phasing out fossil fuel subsidies and converting to no-tillage agricultural practices pending on international support	Agriculture Water Energy Infrastructure Transport	Water, Construction, Electricity, Transport, Governance, Institutions / Administrative Arrangements	Yes	Ministery of Environment
English	Yes	**National Climate Change Policy**	2015	Mentioned in INDC and other sources, but not available online. The updated NDC mentions a 2021 revision of the National Climate Change Policy and a climate change communications strategy under the National Adaptation Plan.	Agriculture Water Energy	Water, Construction, Electricity, Governance, Institutions / Administrative Arrangements	Yes	Ministery of Environment
English	Yes	**Sierra Leone Climate Change Adaptation Plan for Coastal Landscape Complex (CCAP)**	2020	This document has been identified in Sierra Leone's updated NDC, however no further documentation is available.	Agriculture Water Energy Infrastructure	Water, Construction, Electricity, Governance, Institutions / Administrative Arrangements	Yes	Ministery of Environment
English	Yes	**Second National Biodiversity Strategy and Action Plan 2017-2026**	2017	Its core objectives to reach by 2026 are 1) a well protected biodiversity thanks to improved legislation and policy implementation across sectors, 2) Practical methods and mechanisms enhanced and functioning to safeguard biodiversity, resulting in improved conservation status of threatened and rare species, 3) Practical and robust conservation actions are significantly enhancing the status of species, habitats, sites and ecosystems in and outside protected areas, 4) Improved living standards, ecosystem services and opportunities provided to people, particularly local communities through sustainable and inclusive biodiversity conservation actions, and 5) Improved sectoral and public involvement, and enhanced capacities and awareness, are contributing to effective planning and result-oriented execution of conservation programmes.	Agriculture, Coastal zones, Environment, LULUCF	NA	No	Environment Protection Agency
English	Yes	**Somalia First NDC (Updated submission)**	2021	Somalia set an ambitious emissions reduction target of 30% below business-as-usual by 2030, conditional on international public and private support. The country has expanded on the sectors and gases covered and has set quantifiable targets in the agriculture, energy, forestry, transport, and waste sectors. The revised NDC also includes detailed adaptation measures.	Agriculture, Energy, Forestry, Transport, Waste	Food Security, Solar Panels, Renewables, Hydro, PPP	Yes	Line Ministries and Ministry of Planning
English	Yes	**Somalia First NDC**	2016	Policies and Measures for hydropower, solar PV etc.	Energy, Forestry, Waste	Solar Panels, Renewables, Hydro, PPP	Yes	Line Ministries and Ministry of Planning
English	Yes	**National Climate Change Policy, 2020**	2020	"The National Climate Change Policy, 2020 recently approved by Somalia Cabinet provides for the institutional arrangements for climate change. Some of these institutions are yet to be fully operationalized. The main entities established by the policy include:	Economy-wide, Public Sector	NA	No	Line Ministries and Ministry of Planning
English	Yes	**Somali National Disaster Management Policy**	2018	This document has been identified in Somalia' updated NDC, however no further documentation is available.	Environment	NA	No	Ministry of Environment

Seychelles	2	11	6	72.3	English, French	English	Yes	**Seychelles First NDC (Updated submission)**	2021	In updated NDC, Seychelles pledged to reduce economy-wide emissions by 26.4% by 2030 compared to business-as-usual and to achieve a decarbonized net-zero emissions economy by 2050. As a small island developing state inherently vulnerable to climate change impacts, the country has continued to prioritize efforts that will improve its resilience. This includes safeguarding the Blue Economy, while looking to align climate action and development for sustainable growth.	Coastal zones Water Agriculture Infrastructure Tourism Ecosystems	Water, Tourism, PPP, Construction, Governance, Institutions / Administrative Arrangements	Yes	Ministery of Agriculture, Climate Change and Environment	English	Yes	**Seychelles First NDC (Updated submission)**	2021	In updated NDC, Seychelles pledged to reduce economy-wide emissions by 26.4% by 2030 compared to business-as-usual and to achieve a decarbonized net-zero emissions economy by 2050. As a small island developing state inherently vulnerable to climate change impacts, the country has continued to prioritize efforts that will improve its resilience. This includes safeguarding the Blue Economy, while looking to align climate action and development for sustainable growth.	Coastal zones Water Agriculture Infrastructure Tourism Ecosystems	Water, Tourism, PPP, Construction, Governance, Institutions / Administrative Arrangements	Yes	Ministery of Agriculture, Climate Change and Environment
						English	Yes								English	Yes	**Seychelles First NDC**	2016	Economy-wide GHG emission reduction by 122.5 ktCO2eq (21.4%) in 2025 and approximately 188 ktCO2eq (29%) in 2030 relative to BAU	Water Agriculture Infrastructure Tourism	Tourism, Water, PPP, Construction, Governance, Institutions / Administrative Arrangements	Yes	Ministery of Agriculture, Climate Change and Environment
															English	Yes	**Seychelles Climate Change Policy**	2020	Specific objectives of the policy are as following: 1) advance understanding of Climate Change and its impacts on Seychelles, 2) to strengthen capacity and social empowerment at all levels to adequately respond to Climate Change, 3) mainstream and integrate Climate Change considerations into all relevant sectors and all levels of government, 4) achieve transition to a low carbon economy, 5) put in place measures to adapt, build resilience and minimise vulnerability to the impacts of Climate Change, and 6) contribute effectively to regional and global negotiations on Climate Change.	Adaptation, Economy-wide, Environment, Social development	NA	No	Ministry of Environment, Energy and Climate Change
															English	Yes	**National Waste Policy 2018-2023**	2018	The goal of this policy is to manage waste sustainably in order to protect the integrity of the environment and improve quality of life. It charges the Ministry of Environment, Energy and Climate Change to encourage waste reduction and recovery strategies, strengthen its institutional and legal framework, and upgrade waste operations in line with international practices.	Social development, Waste	Waste, Electricity, PPP, Construction, Governance, Institutions / Administrative Arrangements	Yes	Ministry of Environment, Energy and Climate Change
															English	Yes	**Seychelles Blue Economy Strategic Policy Framework and Roadmap**	2018	This document was prepared for the Seychelles and approved by the cabinet. It notably examines how to enhance resilience and adaptation to climate change.	Coastal zones	NA	No	Line Ministries and Ministry of Planning
															English	Yes	**Meteorology Act**	2015	This law establishes the Seychelles Meteorological Authority, which is responsible for conducting meteorological research, advising the government, public awareness and education programs related to climate change, cooperate with other countries' meteorology agencies, and provide weather and climate change forecasts.	Economy-wide	NA	No	Assembly
															English	Yes	**Conservation and Climate Adaptation Trust of Seychelles Act**	2015	This Act establishes the Conservation and Climate Adaptation Trust of Seychelles for the purpose of regulating debt swap transactions. The Trust shall 1) develop and administer the Endowment Fund, the Revolving Fund and the Additional Endowment Fund, and any other sources of funding, 2) administer the assets of the Trust, intended to provide a sustainable flow of funds which supplements existing and future funds from any sources to enable the Trust to support the long-term management and expansion of the Seychelles system of protected areas and other activities which contribute substantially to the conservation, protection and maintenance of biodiversity and the adaptation to the climate change as identified through consultations with stakeholders, and 3)perform exclusively for charitable, educational and scientific purposes. The Act further details the organisation and composition of the Trust.	Environment	NA	No	Assembly
															English	Yes	**Seychelles' National Biodiversity Strategy and Action Plan 2015-2020**	2014	This document outlines the government's strategy for biodiversity conservation over the period 2015-2020. It aims in particular to integrate biodiversity into climate change adaptation programmes.	Environment	NA	No	Line Ministries and Ministry of Planning

Country	% of GDP by Sector (2019)				Official Language	Name of Key Policies, Legislation or Documents Concerning National Development Priorities Relevant to the Sustainable Development Goals (SDGs)	Source	Name of Key Policies, Legislation or Documents Concerning Climate Change + Nationally Determined Contributions (NDC)	Source
	Agriculture	Industria	Manufactu	Services	Source:https://www.nationsonline.org/oneworld/african_languages.htm				
	OURCE: http://wdi.worldbank.org/table/4.								
Angola						**National Development Plan (NDP 2018-2022)**	https://www.minfin.gov.ao/PortalMinfin/#!/documentos-do-governo	**Nationally Determined Contribution of Angola Revised 2021**	https://unfccc.int/sites/default/files/NDC/2022-06/NDC%20Angola.pdf
						The National Development Plan (PND) for 2013-2017	https://www.minfin.gov.ao/PortalMinfin/#!/documentos-do-governo	**Nationally Determined Contribution of Angola 2020**	https://unfccc.int/sites/default/files/NDC/2022-06/NDC%20Angola.pdf
						(Angola 2025 strategy) National Policy for Energy Security	https://angolaenergia2025.gestoenergy.com/en/conteudo/documents	**National Strategy for Climate Change (ENAC): 2018-2030**	https://info.undp.org/docs/pdc/Documents/AGO/ENAC%202018-2030 14082017.pdf
						Atlas and National Strategy for the New Renewable Energies	https://angolaenergia2025.gestoenergy.com/en/conteudo/documents	**The Angola 2025 Long Term Strategy SOURCE**	https://angolaenergia2025.gestoenergy.com/en/conteudo/documents
Burundi						**Burundi's REDD+ National Strategy and Action Plan**	https://bi.chm-cbd.net/sites/bi/files/2020-03/strat-nat-plan-act-redd%2B.pdf	**Planned Determined Contribution to National Level (INDC)/Burundi**	https://unfccc.int/sites/default/files/NDC/2022-06/CPDN%20BURUNDI.pdf
						National Agriculture Strategy 2018-2027	http://extwprlegs1.fao.org/docs/pdf/Bur190783.pdf	**Planned Determined Contribution to National Level Revised 2021**	https://www.fao.org/faolex/results/details/en/c/LEX-FAOC188808/
						National Plan for the Development of Burundi 2018-2027 (PND BURUNDI 2018-2027)	http://www.presidence.gov.bi/wp-content/uploads/2018/08/PND-Burundi-2018-2027-Version-Finale.pdf	**First Determined Contribution to Benin National Level under the Paris Agreement**	https://unfccc.int/sites/default/files/NDC/2022-06/CDN_BENIN_VERSION%20FINALE.pdf
						Decentralized Rural Electrification Strategy (2015-2017)	https://www.climate-laws.org/geographies/burundi/policies/decentralized-rural-electrification-strategy-2015-2017		
Benin								**Nationally Determined Contribution Updated From Benin under the Paris Agreement**	https://unfccc.int/sites/default/files/NDC/2022-06/CDN_ACTUALISEE_BENIN2021.pdf
						National Rural Drinking Water Supply Programme	https://www.un.org/sustainabledevelopment/wp-content/uploads/2017/07/Benin_Water1.pdf	**Climate Change Management Policy for 2030**	https://storage.googleapis.com/cclow-staging/er1u2f3wpzinavgww72m88c4mbue?GoogleAccessId=laws-and-pathways-staging%40soy-truth-247515.iam.gserviceaccount.com&Expires=1656877779&Signature=obXJPkYrlpybt25Z8xn9%2B1eDrsdJGiLtEln7a5Xv3PVuTIPvbAFp3FMutNFxpPHX%2BsDvGU6m9176JiiNyJnu1Iu8%2BKSLnjG8tu0zScqmq%2BgO8hOzgZPBMhH4S5WTP6tU97XjQj1RIWy2ho5DTIxc50KweQanFbQiphexPwzCJiAvMorN9Z42YR%2F5fhWAcDSLtaT8qKtZIN69BEo%2BRyEbW6w706hKjLDwIy6cjIkyALCEv44FU0JyoOO15YkeHC2H4Mn4qr%2BsmLGBFjHzXSYbKQoyI2NHg8BZYg07gAUwvBPgR3W08zeBFXxd2YZotOnmP3s8GUwPiNNYs8b6Cz6uzw%3D%3D&response-content-disposition=inline%3B+filename%3D%22compte-rendu-conseil-ministres-03-fevr.-2021.pdf%22%3B+filename%2A%3DUTF-8%27%27compte-rendu-conseil-ministres-03-fevr.-2021.pdf&response-content-type=application%2Fpdf
						Benin-2025 Alafia Vision	https://www.bj.undp.org/content/dam/benin/docs/pauvrete/Evaluation%20de%20la%20vision%20Benin%202025%20ALAFIA%20-final_resume.pdf	**Low Carbon and Climate Change Resilient Development Strategy 2016 - 2025**	https://unfccc.int/files/focus/long-term_strategies/application/pdf/benin_long-term_strategy.pdf
						National Development Plan 2018-2025	http://www.mindbank.info/item/6869	**Law no 2018/18 regulating climate change actions**	https://www.climate-laws.org/rails/active_storage/blobs/eyJfcmFpbHMiOnsibWVzc2FnZSI6IkJBaHBBbFFNIiwiZXhwIjpudWxsLCJwdXIiOiJibG9iX2lkIn19--3260b7e9c9a4ea304f691e1ee8cb32d62737e990/loi-2018-18.pdf
						Law no. 008-2014/AN (concerning framework law on sustainable development)	https://storage.googleapis.com/cclow-staging/bmttnd2rnyqelm21br61g4au12c8?GoogleAccessId=laws-and-pathways-staging%40soy-truth-247515.iam.gserviceaccount.com&Expires=1656975622&Signature=lcnXQEcM8tq8QO3fQGKyqKh%2FwqoT2L7DYG4iIWKEY3uZG0ci%2F0b0qVtIwNmkBu2Vt%2FxoflhKIWuqjkAqdmkS4qdXfHRgaTXJvcxPgOIsJcuRLnPJv%2BF3qDXxHuM22FLCtIkrFFUWajPV8HoYwwB5hvelu9Q1NGmnI6rhvfp6meu0RDb%2FPfxbdahagL8DQignSbxhro%2FBiCEz9s3vpwRznuTkn%2BRtABEJHSYxbjvITGC%2FUowJE%2BFXJY4yFz8h3SksJieqriob8gYwxEYt3jWWNmis9UxeguMsC0QKeNRE7bKOPe5r4VO3GVGH%2FjFxblvTrrJEjVz9u6A68xB2ue7aIA%3D%3D&response-content-disposition=inline%3B+filename%3D%22f%22%3B+filename%2A%3DUTF-8%27%27f&response-content-type=application%2Fpdf	**The Organization of the Ministry of Environment, Green Economy and Climate Change**	https://storage.googleapis.com/cclow-staging/gssut3mqfbhn9umne0huttzi5cj4?GoogleAccessId=laws-and-pathways-staging%40soy-truth-247515.iam.gserviceaccount.com&Expires=1656971570&Signature=Pz%2BSQzPW1gKD2qZubYUWPU73KUluUGBVDnV9mlt6jUy2WGF2UNdX%2FGuQOqafAlC1nZJBtytFYPmhqum5l0dK%2BPIEuxeUMT2760oDkwPgWJ%2BF%2B%2FR4SoH5ZMpEWKadnn%2BQBqEvvb878yiG1SF9o5VroYoknF8SWm3R5wdzxzccXSIKXI%2FBSSPubaZC3Lcxhqy%2F%2FPjnHxpdNsw2l54UL13TEACQLfjhkl4nsgnnPfK5alXgOqZlpjmCnuVPPD5LmiyKYYFjHcW5QNgbiwvHUsPXV8%2BDvUchJaHbFAwzZizSAIZBUOMMveYvddhtoD1cvvaq%2FsukwZ6kZ5yEdcjrcBn9Ig%3D%3D&response-content-disposition=inline%3B+filename%3D%22f%22%3B+filename%2A%3DUTF-8%27%27f&response-content-type=application%2Fpdf
Burkina Faso						**National Plan for Economic and Social Development (PNDES) for 2016-2020**	**https://www.oneplanetnetwork.org/sites/default/files/burkina_faso_plan_national_de_developpement_economique_et_socialpndes.pdf**	**Burkina Fason National Climate Change Adaptation Plan (NAP)**	https://storage.googleapis.com/cclow-staging/7rz8hwr49lgo8b4dm6cn6jywaexr?GoogleAccessId=laws-and pathways-staging%40soy-truth-247515.iam.gserviceaccount.com&Expires=1656971824&Signature=aNe%2B4oPfjPU8Ut72BrYM1IG%2BJ27LFwzjGSWLd8g3GvW%2Bu%2F7nITWrU1ryDv9aCbgOCnAmuWHt0fWCIo6%2FpvsyOEtFCnhZIrDkEJRNPAhEb5BocRctdqf0XR%2ByOwemzldxyPJMm4IXNIDTprpkrgDb0YOxBMagWvzR%2FEBsfd5YnIqxHnSOulKF0ed0cUb61pRLJnEepELhJD6kC4Wfbq%2F4fmmpHFHmQLI%2F7xC%2BtAufCXrhsISt0MtIva%2FDSZe2YrIlcM%2BrInzv3QDzhuAgNrCgA5EB%2BTXTm%2BJTfK65jIXWWqzLiX12YvKjZ30MRVixpWuAyyKGyZNpxOkrZBfr%2FPWlbg%3D%3D&response-content-disposition=inline%3B+filename%3D%22f%22%3B+filename%2A%3DUTF-8%27%27f&response-content-type=application%2Fpdf
						Second National Economic and Social Development Plan (PNDES-II)	https://www.pndes2025.bf/en/documentation/	**Burkina Faso First NDC**	https://unfccc.int/sites/default/files/NDC/2022-06/INDC%20BURKINA%20FASO%20280915.pdf
								Burkina Faso revised NDC	https://unfccc.int/sites/default/files/NDC/2022-06/Rapport%20CDN_BKFA.pdf
Botswana						**Botswana Intended Nationally Determined Contribution Revised**	https://unfccc.int/sites/default/files/NDC/2022-06/BOTSWANA.pdf	**Botswana Intended Nationally Determined Contribution Revised**	https://unfccc.int/sites/default/files/NDC/2022-06/BOTSWANA.pdf
						National Development Plan 11 (2017-2023)	https://www.tralac.org/documents/resources/by-country/botswana/1865-botswana-11th-national-development-plan-2017-2023/file.html	**Botswana Intended Nationally Determined Contribution**	https://www.un.org/sustainabledevelopment/wp-content/uploads/2016/04/BotswanaE.pdf
						National disaster risk management plan	https://storage.googleapis.com/cclow-staging/i5r2slxmsniavv5jlquul6m8fcyg?GoogleAccessId=laws-and-pathways-staging%40soy-truth-247515.iam.gserviceaccount.com&Expires=1656985345&Signature=iXb9lrx9OXMFR74mOL0VQw9NZ5NNoY4nv3zQYtjXFQE509HDlsuXtUwNIRKwswZ1PWhE3m7TD6%2BYi3k9TDzy0JMZ%2FeiaCRHbFgjGYpidgUYQZ7WVhzor2tSfGGfZCWtxhaNmqXVfCwdxNdVdDjeyUYXpA2sX9KSJKgYW2Q0aaq%2BhtkgouxJBaiv7OqwYvzkuQK1LReAmEKqedp9noW6EdZYxT5SHq2XEqWPaJqqkr9a8X62%2FCi2rudCADwCZOu1InLgex8sENhAJ6JT%2BhqxXUywLVDNedLzKjZ%2F2xryKqZfMcQXcKr3huqlOUqvOZkJOiPn1XXPZ2uXUyhIn3Zo44g%3D%3D&response-content-disposition=inline%3B+filename%3D%22f%22%3B+filename%2A%3DUTF-8%27%27f&response-content-type=application%2Fpdf		
Central African Republic								**Central African Republic First NDC (Updated submission)**	
									Central African Republic First NDC https://unfccc.int/NDCREG
								Central African Republic First NDC	
Cote d'Ivoire						**National Action Plan to Reduce Short-Lived Climate Pollutants (SLCPs)**	https://www.ccacoalition.org/en/resources/summary-cote-divoire-national-slcp-action-plan	**Côte d'Ivoire First NDC**	https://unfccc.int/sites/default/files/NDC/2022-06/INDC_CI_22092015.pdf
								Côte d'Ivoire First NDC (Updated submission)	https://unfccc.int/sites/default/files/NDC/2022-06/CDN_CIV_2022.pdf

Cameroon	**National Development Strategy 2020-2030 for structural transformation and inclusive development**	https://storage.googleapis.com/cclow-staging/07gva8ow0270ts76fjbpivtf3k2c?GoogleAccessId=laws-and-pathways-staging%40soy-truth-247515.iam.gserviceaccount.com&Expires=1657144358&Signature=PUPmTNm8HBv3Dhz32GZIIQWAQUBXqqRNbZJRP92gGbYmS5YCfZSgbLd1JM%2FtaSH3QgEj9UWKBIWQe2dBhhlRWePRnZhkGeTua%2Brp0qG3HXJE2VsxgIJblHK7CkUZwQEFArmPzN%2FVprxDfT%2B2fDF0WWBruBvcUfAvBV4CpVXn4boMHCRks6dc6Gi%2Fwgybc0twOUGijqOetHtBV%2FqWV%2F7rBtDnGGowS1fmzZjPqiNgztKO3Qpe4hxzsSG4mSeyBAJbFowVgTDLSiaZb6H%2BtjvXjf14DMK2Sl4T8jjzUahsniU%2BefQG%2FnB0PvHFzHiDemoWMsyjEWg%2FMqE8xKRRy%2F1BQ%3D%3D&response-content-disposition=inline%3B+filename%3D%22Strategie+Nationale+de+Developpement+SND30_Fench.pdf%22%3B+filename%2A%3DUTF-8%27%27Strat%25C3%25A9gie%2520Nationale%2520de%2520D%25C3%25A9veloppement%2520SND30_Fench.pdf&response-content-type=application%2Fpdf	**Cameroon: National Climate Change Adaptation Plan**	http://www4.unfccc.int/nap/Documents/Parties/PNACC_Cameroun_VF_Valid%C3%A9e_24062015%20-%20FINAL.pdf
			Cameroon Frist NDC	https://unfccc.int/sites/default/files/NDC/2022-
			Cameroon Revised NDC	https://unfccc.int/sites/default/files/NDC/2022-06/CDN%20r%C3%A9vis%C3%A9e%20CMR%20finale%20sept%2020
Congo, Dem. Rep.	**National Adaptation Plans Readiness in Democratic Republic of the Congo**	https://www.adaptation-undp.org/GCF-NAP-DRC	**Democratic Republic of the Congo First NDC**	https://unfccc.int/sites/default/files/NDC/2022-06/CPDN%20-%20R%C3%A9p%20D%C3%A9m%20du%20Congo.pdf
	Law No. 14/011 (Electricity Sector)	https://www.climate-laws.org/geographies/democratic-republic-of-congo/laws/law-no-14-011-electricity-sector	**Democratic Republic of the Congo Revised NDC**	https://unfccc.int/sites/default/files/NDC/2022-06/CDN%20Revis%C3%A9e%20de%20la%20RDC.pdf
	Law No. 14/003 on Protection of the Nature	http://www.lse.ac.uk/GranthamInstitute/wp-content/uploads/2015/05/DRC.pdf		
	National Strategy for Sustainable Development 2016-2025	**https://www.developpement-durable.gouv.cg/wp-content/uploads/2018/09/SNDD-CONGO-BZV-VF-**	**Congo Rep. First NDC**	https://unfccc.int/sites/default/files/NDC/2022-06/NDC_Congo_RAPPORT.pdf
Congo Rep.	**Decree No. 2015-260 on the implementation of the process of reducing greenhouse gas emissions in the forestry sector**	**Decree No. 2015-260 on the implementation of the process of reducing greenhouse gas emissions in the forestry sector**	**Congo Rep. Revised NDC**	https://unfccc.int/sites/default/files/NDC/2022-06/CDN_Congo.pdf
			National REDD+ Strategy of Congo	http://wri-sites.s3.amazonaws.com/forest-atlas.org/cog.forest-atlas.org/resources/docs/Redd_registry/Strategie_nationale_REDD
			National Strategy for Sustainable Development 2016-2025	**https://www.developpement-durable.gouv.cg/wp-content/uploads/2018/09/SNDD-CONGO-BZV-VF-11jan2016.pdf**
			Decree No. 2015-260 on the implementation of the process of reducing greenhouse gas emissions in the forestry sector	**Decree No. 2015-260 on the implementation of the process of reducing greenhouse gas emissions in the forestry sector**
Comoros	**Comoros First NDC (Updated submission)**	https://unfccc.int/sites/default/files/NDC/2022-06/CDN_r%C3%A9vis%C3%A9e_Comores_vf.pdf	**Climate change policy, strategy and action plan**	https://documentspublics.org/wp-content/uploads/2019/07/SR_ED_Politique-Nationale-Changement-Climatique_2015_VF.pdf
	Climate change policy, strategy and action plan	https://documentspublics.org/wp-content/uploads/2019/07/SR_ED_Politique-Nationale-Changement-Climatique_2015_VF.pdf	**Comoros First NDC (Updated submission)**	https://unfccc.int/sites/default/files/NDC/2022-06/INDC_Comores_Version_Francaise.pdf
			Comoros First NDC (Updated submission)	https://unfccc.int/sites/default/files/NDC/2022-06/CDN_r%C3%A9vis%C3%A9e_Comores_vf.pdf
Cape Verde	**Resolution no. 87/2014 (creating the Steering Committee of the project 'Strengthening Capacity of Adaptation and Resilience to Climate Change in the Water Sector in Cape Verde')**	https://storage.googleapis.com/cclow-staging/ycjt035ngpl41tkv2y3uhgch9dt6?GoogleAccessId=laws-and-pathways-staging%40soy-truth-247515.iam.gserviceaccount.com&Expires=1657168019&Signature=jwik4j1Es%2F6ncOutjwCXTgt4ydBVy1V43I2dsoKFSsN99eEnso%2BrBfrKRBKTkRqValyWVN7sqrpG0KtN494Wt4eQHeaQCcJ63%2Fj0MRgxeIV5Me9lrQuPOblksB7C4FsP1A9NjV5b8LCobGJJHJZds6%2FCi0BLqxVSzAG1wa%2Fbqzj2RirIvaqIyIq6m6LxsNd29jZRJ8FD6DwgVYrdIVJoNC8nBzmkasuAYzX0QAhq%2BJ%2B9QsApSyhUm77DGfT6Z3ymxGWPw2SqyIt1tyg2qWfbShzQeLzT%2Fqz6lQNNI%2Bg5%2F67R1ipzXWr3Rb1z0QzJu3YimWx3%2BdnH%2B1sNm4E39afty UA%3D%3D&response-content-disposition=inline%3B+filename%3D%22f%22%3B+filename%2A%3DUTF-8%27%27f&response-content-type=application%2Fpdf	**Decree-Law no. 29/2014 (creating the Center for Renewable Energy and Industrial Maintenance)**	https://storage.googleapis.com/cclow-staging/ncdr6imylrcjpn292rhakisbp3tp?GoogleAccessId=laws-and-pathways-staging%40soy-truth-247515.iam.gserviceaccount.com&Expires=1657168700&Signature=mcwvFLfvWD2jy1iFz6j1GYh6RrBQzlsA17q3uEePamcAq3ijSAIdXVk6gxvx765Mt8RmkTcUsBO6cXOh8LWQB63JT4UUagPQFnV1tC7PqVqMNC65hHErDNVh8LJLN2olvXB3roPotKvfu6PU%2FNgNzzCzMWbql4oZssIVs3luNt1r0VRmmGaggG6mcBT%2FwnBh3Ib1IjMwUUdPsaeZmiJOlODOaM79QOKEXpSSY1pQkMME0OOgR1N6qRJkxv05Py5Odb2tjntawrLOiAqGAvb3Z%2BAB51OxeUO8FpdfckV/baasjaAbi1lwgqI2pDWpMAJjCP1jg45gg%2FnZhOSQkuNg%3D%3D&response-content-disposition=inline%3B+filename%3D%22f%22%3B+filename%2A%3DUTF-8%27%27f&response-content-type=application%2Fpdf
			Resolution no. 87/2014 (creating the Steering Committee of the project 'Strengthening Capacity of Adaptation and Resilience to Climate Change in the Water Sector in Cape Verde')	https://storage.googleapis.com/cclow-staging/ycjt035ngpl41tkv2y3uhgch9dt6?GoogleAccessId=laws-and-pathways-staging%40soy-truth-247515.iam.gserviceaccount.com&Expires=1657168019&Signature=jwik4j1Es%2F6ncOutjwCXTgt4ydBVy1V43I2dsoKFSsN99eEnso%2BrBfrKRBKTkRqValyWVN7sqrpG0KtN494Wt4eQHeaQCcJ63%2FjOlMRgxelV5Me9lrQuPOblksB7C4FsP1A9NjV5b8LCobGJJHJZds6%2FCi0BLqxVSzAG1wa%2Fbqzj2RirIvaqyIq6m6LxsNd29jZRJ8FD6DwgVYrdIVJoNC8nBzmkasuAYzX0QAhq%2BJ%2B9QsApSyhUm77DGfT6Z3ymxGWPw2Sqyit1tyg2qWfbShzQeLzT%2Fqz6lQNNI%2Bg5%2F67R1ipzXWr3Rb1z0QzJu3YimWx3%2BdnH%2B1sNm4E39afty UA%3D%3D&response-content-disposition=inline%3B+filename%3D%22f%22%3B+filename%2A%3DUTF-8%27%27f&response-content-type=application%2Fpdf
			Cabo Verde First NDC	https://unfccc.int/sites/default/files/NDC/2022-
			Cabo Verde First NDC(Updated submission)	https://unfccc.int/sites/default/files/NDC/2022-06/Cabo%20Verde_NDC%20Update%202021.pdf
Eritrea	**Eritrea Nationally Determined Contributions (NDCs) Report to UNFCCC**	https://www4.unfccc.int/sites/SubmissionsStaging/NationalReports/Documents/43195806_Eritrea-BUR1-1-Eritrea%20BUR1.pdf	**Eritrea Nationally Determined Contributions (NDCs) Report to UNFCCC**	https://www4.unfccc.int/sites/SubmissionsStaging/NationalReports/Documents/43195806_Eritrea-BUR1-1-Eritrea%20BUR1.pdf
Ethopia	**Proclamation no. 810/2013 on energy**	https://chilot.files.wordpress.com/2014/09/proclamation-	**10-year development plan (2020/21-2029/30)**	https://storage.googleapis.com/cclow-
	The Growth and Transformation Plan (GTP) II	http://www.greengrowthknowledge.org/sites/default/file	**Ethiopia First NDC**	https://unfccc.int/sites/default/files/NDC/2022-06/INDC-Ethiopia-
	10-year development plan (2020/21-2029/30)	https://storage.googleapis.com/cclow-	**Ethiopia First NDC (Updated submission)**	https://unfccc.int/sites/default/files/NDC/2022-
	Ethiopia First NDC	https://unfccc.int/sites/default/files/NDC/2022-06/INDC-		
	Ethiopia First NDC (Updated submission)	https://unfccc.int/sites/default/files/NDC/2022-06/Ethiopia%27s%20updated%20NDC%20JULY%202021%20Submission .pdf		
Gabon	**Law no 002/2014 on sustainable development**	https://www.climate-laws.org/geographies/gabon/laws/law-no-002-2014-on-sustainable-development	**Gabon First NDC**	https://unfccc.int/sites/default/files/NDC/2022-06/20150331%20INDC%20Gabon.pdf
	Gabon First NDC	https://unfccc.int/sites/default/files/NDC/2022-06/20150331%20INDC%20Gabon.pdf	**Seconde Contribution Déterminée au Niveau National (République Gabonaise)**	https://unfccc.int/sites/default/files/NDC/2022-07/20220706 Gabon Updated%20NDC.pdf
	Seconde Contribution Déterminée au Niveau National (République Gabonaise)	https://unfccc.int/sites/default/files/NDC/2022-07/20220706 Gabon Updated%20NDC.pdf		
Ghana	**Medium-Term Development Policy Framework 2022-2025**	https://ndpc.gov.gh/media/MTNDPF_2022-2025_Dec-2021.pdf	**Ghana First NDC**	https://unfccc.int/sites/default/files/NDC/2022-06/GH_INDC_2392015.pdf
	Ghana Beyond Aid Charter Strategy	http://osm.gov.gh/assets/downloads/ghana_beyond_aid_charter.pdf	**Ghana Revised NDC (Updated submission)**	https://unfccc.int/sites/default/files/NDC/2022-06/Ghana%27s%20Updated%20Nationally%20Determined%20Contribution%20to%20the%20UNFCCC_2021.pdf
	Long-Term National Development Plan (2018-2057)	https://ndpc.gov.gh/		
	The Coordinated Programme of Economic and Social Development Policies (2017-2024)	https://ndpc.gov.gh/resource_and_publications/policy		
	Ghana@100	https://ndpc.gov.gh/		
Guinea	**Ghana Renewable Energy Master Plan**	http://www.energycom.gov.gh/files/Renewable-Energy-Masterplan-February-2019.pdf	**Medium-Term Development Policy Framework 2022-2025**	https://ndpc.gov.gh/media/MTNDPF_2022-2025_Dec-2021.pdf
	National Sustainable Development Strategy (NSDS) of Guinea	https://storage.googleapis.com/cclow-	**Guinea First NDC**	https://unfccc.int/sites/default/files/NDC/2022-
	Vision 2040 for an emerging and prosperous Guinea	https://pndesguinee.org/images/documents/pndes/Visio	**Guinea updated NDC**	https://unfccc.int/sites/default/files/NDC/2022-
	National economic and social development plan 2016-2020	https://www.climate-	**National Strategy on Climate Change of Guinea**	https://www.climate-
	Guinea updated NDC	https://unfccc.int/sites/default/files/NDC/2022-06/INDC_Guinee_version%20finale.pdf	**Code de l'Environnement du 04 Juillet 2019**	https://www.climate-laws.org/geographies/guinea/laws/code-de-l-environnement-du-04-juillet-2019
			Ordinary law L/2017/060/AN (Forest Code)	https://storage.googleapis.com/cclow-staging/7kmg11se89vrkne4td8Szt57khos?GoogleAccessId=laws-and-pathways-staging%40soy-truth-247515.iam.gserviceaccount.com&Expires=1657259047&Signature=l
	The Gambia National Development Plan (2018-2021)	https://mofea.gm/ndp?p=ndp	**Gambia First NDC**	https://unfccc.int/sites/default/files/NDC/2022-06/The%20INDC%20OF%20THE%20GAMBIA.pdf
	The Gambia 2050 Climate Vision	https://ndpp.gm/wp-content/uploads/2021/08/The-Gambia-2050-Climate-Vision-MECCNAR.pdf	**Gambia Second NDC**	https://unfccc.int/sites/default/files/NDC/2022-06/Second%20NDC%20of%20The%20Republic%20of%20The%20Gambia-16-12-2021.pdf

Gambia			**Climate Change National Policy**	https://storage.googleapis.com/cclow-staging/uonbzi5iewaszuk6z7c0x18oc6xq?GoogleAccessId=laws-and-pathways-staging%40soy-truth-247515.iam.gserviceaccount.com&Expires=1657325538&Signature=siBBWg%2Bl5mTIg99HmIVpfP%2BC66sNMglHlsHvtlOtSoloNbuAyTRVIVnrFM07Tv8EypyJEKYOK%2FHLR2OpcU97cZI9UM%2BIvEPyWFpdHFpBAYKTqBYsTvDH0OKSvQTThOR0DwFePq9ejGP60VtNHCWQdFs0kndjmPlw2zrcXyWyz%2Bub2thldw%2FhdjiNyPcc3Xe8%2FUTjtXIt4ZpysEnZ%2BWgVrmwPdAUGYVEt2HtiRo8THnVrud7ZVLgXfYreUZN6vY9jsi9%2F8vFZZ2aEek%2Fq1t5h8rAPSdN2G4fXsJESE%2BvVwX7OhMkZv8qACHcch%2BPz%2F2Iz7%2BR6Z5TVar2T%2BkDLU%2F4MBw%3D%3D&response-content-disposition=inline%3B+filename%3D%22f%22%3B+filename%2A%3DUTF-8%27%27f&response-content-type=application%2Fpdf
			The Gambia 2050 Climate Vision	https://ndpp.gm/wp-content/uploads/2021/08/The-Gambia-2050-Climate-Vision-MECCNAR.pdf
Guinea-Bissau	**Guinea-Bissau First NDC**	https://unfccc.int/sites/default/files/NDC/2022-06/GUINEA-BISSAU_INDC_Version%20to%20the%20UNFCCC%20%28eng%29.pdf	**Guinea-Bissau First NDC**	https://unfccc.int/sites/default/files/NDC/2022-06/GUINEA-BISSAU_INDC_Version%20to%20the%20UNFCCC%20%28eng%29.pdf
	Guinea First NDC (Updated submission)	https://unfccc.int/sites/default/files/NDC/2022-06/NDC-Guinea%20Bissau-12102021.Final.pdf	**Guinea First NDC (Updated submission)**	https://unfccc.int/sites/default/files/NDC/2022-06/NDC-Guinea%20Bissau-12102021.Final.pdf
Equatorial Guinea	**Equatorial Guinea First NDC**	https://unfccc.int/sites/default/files/NDC/2022-06/Rep%C3%BAblica%20de%20Guinea%20Ecuatorial_INDC.	**Equatorial Guinea First NDC**	https://unfccc.int/sites/default/files/NDC/2022-06/Rep%C3%BAblica%20de%20Guinea%20Ecuatorial_INDC.pdf
	National Action Programme to Combat Deforestation and Land Degradation	https://storage.googleapis.com/cclow-staging/zh1xm6x7tlx0bwz7hj0rhnbkzlc9?GoogleAccessId=laws-and-pathways-staging%40soy-truth-247515.iam.gserviceaccount.com&Expires=1657329294&Signature=U0poU%2B8JaoqQhG4Mx8v%2Bz6VNYRvq6XuDbtDZ	**National Action Programme to Combat Deforestation and Land Degradation**	https://storage.googleapis.com/cclow-staging/zh1xm6x7tlx0bwz7hj0rhnbkzlc9?GoogleAccessId=laws-and-pathways-staging%40soy-truth-247515.iam.gserviceaccount.com&Expires=1657329294&Signature=U0poU%2B8JaoqQhG4Mx8v%2Bz6VNYRvq6XuDbtDZlhIJffxjSqpf70e
Kenya	**Climate Change Act, 2016**	https://www.climate-	**Kenya First NDC**	https://unfccc.int/sites/default/files/NDC/2022-
	National Adaptation Plan 2015-2030	https://www4.unfccc.int/sites/NAPC/Documents%20NAP/	**Kenya First NDC (Updated submission)**	https://unfccc.int/sites/default/files/NDC/2022-
	Kenya Climate Smart Agriculture Strategy 2017-2026	https://storage.googleapis.com/cclow-	**National Drought Management Authority Act (No. 4 of 2016)**	https://storage.googleapis.com/cclow-
	National Climate Change Action Plan 2018-2022 (NCCAP)	https://storage.googleapis.com/cclow-	**A Climate Risk Management Framework for Kenya**	https://storage.googleapis.com/cclow-
	National Wildlife Strategy 2030	https://storage.googleapis.com/cclow-	**Climate Change Act, 2016**	https://www.climate-laws.org/geographies/kenya/laws/climate-
			Kenya Climate Smart Agriculture Strategy 2017-2026	https://storage.googleapis.com/cclow-
			National Climate Change Action Plan 2018-2022 (NCCAP)	https://storage.googleapis.com/cclow-staging/htn22deu9c1u8kssiqhzt6mtpgl8?GoogleAccessId=laws-and-
			National Wildlife Strategy 2030	https://storage.googleapis.com/cclow-staging/72dfra1pppmxmtyqd4bv33iwrrax?GoogleAccessId=laws-and-pathways-staging%40soy-truth-247515.iam.gserviceaccount.com&Expires=1657334346&Signature=rFno6M%2BXNzjyLvB5KadEtNOSO3%2BqejEa6mhWHy2aQKA5IkL9LEmKh0XVAgpDbhBImqsCyriUCQk6IuCmkluv%2BXkyvqB2wJyttFWdLna35vCTNP%2FMGQGR3RX5bmWN9Ci%2BTcLrdvkRMFLXoOu4eqNNnQxZTz7gNiIhIaSdGXHqaPcWV2S8gCOm4i0%2Bd4EnVS8LrBA1K2R0u7Nk0mic7jTgCpG%2FEcBCe6OvXNpz5DvSKUfSuKgq3jOX8frsVHnd1jC%2FpJa0w0QgQ%2B3DWf4ks4%2FYVnxI%2BtgKnoXwMybYi9rtg5Yl0xCb2QUvT76gQ7EFzVezsAxkd8Jp1%2FP%2F7lbSPXwdUQ%3D%3D&response-content-disposition=inline%3B+filename%3D%22f%22%3B+filename%2A%3
			Central Bank of Kenya - Guidance on Climate-Related Risk Management	https://www.centralbank.go.ke/wp-content/uploads/2021/10/Guidance-on-Climate-Related-Risk-
Liberia	**Liberia First NDC (Updated submission)**	https://unfccc.int/sites/default/files/NDC/2022-06/Liberia%27s%20Updated%20NDC_RL_FINAL%20%28002%29.pdf	**Liberia First NDC (Updated submission)**	https://unfccc.int/sites/default/files/NDC/2022-06/Liberia%27s%20Updated%20NDC_RL_FINAL%20%28002%29.pdf
	Pro-poor agenda for prosperity and development	https://storage.googleapis.com/cclow-staging/z01axbg8h5id0ypwgvf9bs4ixt3y?GoogleAccessId=laws-and-pathways-staging%40soy-truth-	**Liberia First NDC**	https://unfccc.int/sites/default/files/NDC/2022-06/INDC%20Final%20Submission%20Sept%2030%202015%20Liberia.pdf
	National Policy and Response Strategy on Climate Change	https://www.climate-laws.org/rails/active_storage/blobs/eyJfcmFpbHMiOnsibWVzc2FnZSI6IkJBaHBBdGdGIiwiZXhwIjpudWxsLCJwdXIiOiJib	**National Policy and Response Strategy on Climate Change**	https://www.climate-laws.org/rails/active_storage/blobs/eyJfcmFpbHMiOnsibWVzc2FnZSI6IkJBaHBBdGdGIiwiZXhwIjpudWxsLCJwdXIiOiJibG9iX2lkIn19--
Madagascar			**Madagascar First NDC**	https://unfccc.int/sites/default/files/NDC/2022-06/Madagascar%20INDC.pdf
			Order No. 8090-2014 (National REDD + Coordination Office)	https://storage.googleapis.com/cclow-staging/9gpxxhroq4a31itidenpoy34ij55?GoogleAccessId=laws-and-pathways-staging%40soy-truth-247515.iam.gserviceaccount.com&Expires=1657338877&Signature=DHIdtQ9ClXsS9ltmx%2FMw2tF7n11yOMbbEQts1qGaIXOucxwhgM%
	National Disaster Risk Management Strategy 2016-2030	https://storage.googleapis.com/cclow-staging/pjxkc0v8hlmiwx6wn0fpwt7kpfb3?GoogleAccessId=laws-and-pathways-staging%40soy-truth-247515.iam.gserviceaccount.com&Expires=1657339607&Signature=RD9YrauPB6fleiXj2uMXVYnFanucxydmwc6DvzIkLnmcQtqufMrODCQp1hhXlI63e9UxTcj%2Bpv3czBfwdip6l5Rmm6l1bz0IWJUZitiZ65FiHMNQeWN%2BWfYYBfDcRLOW1Zy%	**Decree No. 2015-1042 on the National Directive for Drinking Water Supply Infrastructures**	https://storage.googleapis.com/cclow-staging/1pqikbvbio3r4fog1unlnohxyjlg?GoogleAccessId=laws-and-pathways-staging%40soy-truth-247515.iam.gserviceaccount.com&Expires=1657338867&Signature=Lvp0Ta1mHSsUqCdLRvKHYTKjkUILPCf7ICgD5jtubjjef9Tdo5uxNdvqM5ihP2okAKCYlD65mmWAfRxQteMKrpUo%2FA%2BJBtnq%2FAnOvSFUKreNv1Hj%2BX2wEImTh05w5TcH%2FSTzC6Qt4aXFh8mbbQ4D%2B%
	Law No. 2017-021 on the reform of the National Electricity Fund (FNE)	https://storage.googleapis.com/cclow-staging/ubuzg2jf81smz2f82fessdwppm0n?GoogleAccessId=laws-and-pathways-staging%40soy-truth-247515.iam.gserviceaccount.com&Expires=1657339939&Signature=Z4nO01W2VIml0OunoiMSPkBt4p9auJueytPLJP%2BxEbFlk9Bt1VgnUP2Bw7K7gLHzlr4vEX0xbMcEt49bSYq7pF5aTUHrC6B9l%2BKljxqa6IdEQ8lJvfxqkAgl5TxB0Z2KqQpziaOKHnX6s8uB9IM%2FdIUoxPfSdMNpRUjuWa15ayi6MTg3h5L5BhTLy	**Law n ° 2015-031 on the National Policy of Risk Management and Catastrophes**	https://storage.googleapis.com/cclow-staging/7zpgantlt4iidu1ixfde00r2k0t2?GoogleAccessId=laws-and-pathways-staging%40soy-truth-247515.iam.gserviceaccount.com&Expires=1657339225&Signature=tsS3zQW2379lZgm6R9pXdneoiXBvNBTGqx1Oz0Tre05%2FqdR%2FQBG5OJS0OzpzGuXqfws8U%2FRO7jCL%2FhzUTdw%2B2G2%2BwjDbK3sbjq0ohabcpcxXes86rUEKV2CUeg8XueNDkk82nd7%2FWqHMlU0S6%2FSPjTruUocZ8t626GT9AY2lSPEqLAMGnkCOX9dxB23JDbmx6yJYp14GgK
Mali	**Mali First NDC (Updated submission)**	https://unfccc.int/sites/default/files/NDC/2022-06/MALI%20First%20NDC%20update.pdf	**Mali First NDC**	https://unfccc.int/sites/default/files/NDC/2022-06/Mali_revised%20NDC.pdf
	Cadre Stratégique pour la Relance Économique et le Développement Durable (CREDD) 2019-2023	https://www.maliapd.org/wp-content/uploads/2019/07/Version-Finale-CREDD-2019-	**Mali First NDC (Updated submission)**	https://unfccc.int/sites/default/files/NDC/2022-06/MALI%20First%20NDC%20update.pdf
			Order No. 2017-3581-MEADD-SG (National Steering Committee on	https://www.climate-
	Order No. 2016-2223 / MEASS-SG on sustainable land management	https://www.climate-laws.org/rails/active_storage/blobs/eyJfcmFpbHMiOnsibWVzc2FnZSI6IkJBaHBBbThGIiwiZXhwIjpudWxsLCJwdXIiOiJibG9iX2lkIn19--046f1025d4a4b59c1d46e324da1cfba0d9389900/f	**Decree No. 2016-0528-P-RM of 26 July 2016 laying down the organization and modalities of operation of the Management Unit of the Great Green Wall**	https://www.climate-laws.org/rails/active_storage/blobs/eyJfcmFpbHMiOnsibWVzc2FnZSI6IkJBaHBBdUVIIiwiZXhwIjpudWxsLCJwdXIiOiJibG9iX2lkIn19--37cc6b64a6f7544d7abd0e2db877deb9848b9c63/f
	Decree No. 2016-0102 P-RM on food insecurity	https://www.climate-laws.org/rails/active_storage/blobs/eyJfcmFpbHMiOnsibWVzc2FnZSI6IkJBaHBBbXdGIiwiZXhwIjpudWxsLCJwdXIiOiJibG9iX2lkIn19--8e1e7318dad20c1c0af35285bde45a8c5e10384d/f	**Decree No. 2016-0346 / P-RM (National Strategy on Disaster Risk Reduction)**	https://www.climate-laws.org/rails/active_storage/blobs/eyJfcmFpbHMiOnsibWVzc2FnZSI6IkJBaHBBbklGIiwiZXhwIjpudWxsLCJwdXIiOiJibG9iX2lkIn19--15f66f87c1c653860ca534c4ed484c2a6ea77eea/f
Mozambique	**Mozambique First NDC**	https://unfccc.int/sites/default/files/NDC/2022-06/MOZ_INDC_Final_Version.pdf	**Mozambique First NDC**	https://unfccc.int/sites/default/files/NDC/2022-06/MOZ_INDC_Final_Version.pdf
	Mozambique First NDC (Updated submission)	https://unfccc.int/sites/default/files/NDC/2022-06/NDC_EN_Final.pdf	**Mozambique First NDC (Updated submission)**	https://unfccc.int/sites/default/files/NDC/2022-06/NDC_EN_Final.pdf
	Decree No. 6/2016 creating the National Fund for Sustainable Development (FNDS)	http://extwprlegs1.fao.org/docs/pdf/moz172403.pdf	**Law 15/2014 Establishing the Framework for Disaster Management, Including Prevention and Mitigation**	https://storage.googleapis.com/cclow-staging/cf73hnztv9z2q1jhgh0j3h67i20l?GoogleAccessId=laws-and-pathways-staging%40soy-truth-247515.iam.gserviceaccount.com&Expires=1658041501&Signature=eQw0lr4MP8ydE3qgm41AwXXs332Fx8JCOxOMuEDL9cr7tyXRMH1ZCBgoPMnUfQ3dkfIlzki%2Fsh2ahDD%2BfNlkTgoSugiuNWLCUz7h%2Fz%2BxiXec%2BDUID3P1xQ6sPSix25DBH6%2Fwo5wube5ObqifVElbdT22EGLuoIp%2Fgb57LIn5lxhwGDUHGGQtn9QOc%2F6K7DOPxkMrkNgdy%2BATDHZ1WyahlMmzGUX04ZOQRWHCKz7GMpGwDKAakwXDxfZ0FLp0Et4wBhKh9cTowA%2BttiiHS7Wn60sWAr7btM2J%2BoVOwZ6O7epHtpIzFHIMKDWudq41yERuSAEAceeoRaJWsCFO7vaL2Q%3D%3D&res
Mauritania	**President's Expanded Priority Program (PROPEP 2020-2023)**	https://www.climate-	**Mauritania First NDC**	https://unfccc.int/sites/default/files/NDC/2022-
			Mauritania First NDC (Updated submission)	https://unfccc.int/sites/default/files/NDC/2022-06/CDN-actualis%C3%A9%202021_%20Mauritania.pdf
Mauritius	**Mauritius First NDC (Updated submission)**	https://unfccc.int/NDCREG	**Mauritius First NDC**	https://unfccc.int/sites/default/files/NDC/2022-
	Renewable Energy Agency Act 2015 (No. 11 of 2015)	https://www.climate-	**Mauritius First NDC (Updated submission)**	https://unfccc.int/NDCREG
	Strategic Plan for the Food Crop, Livestock and Forestry sectors 2016-2020	https://www.greengrowthknowledge.org/sites/default/fil	**Renewable Energy Roadmap 2030 for the Electricity sector**	https://storage.googleapis.com/cclow-
	Renewable Energy Roadmap 2030 for the Electricity sector	https://storage.googleapis.com/cclow-	**Climate Change Act 2020 (no 11/2020)**	http://extwprlegs1.fao.org/docs/pdf/mat204415.pdf
Malawi	**Malawi First NDC (Updated submission)**	https://unfccc.int/sites/default/files/NDC/2022-06/Malawi%20Updated%20NDC%20July%202021%20submitted.pdf	**Malawi First NDC**	https://unfccc.int/sites/default/files/NDC/2022-06/MALAWI%20INDC%20SUBMITTED%20TO%20UNFCCC%20REV.pdf
	National Climate Change Management Policy	https://storage.googleapis.com/cclow-staging/u9o79aisrn9nv4a7004zs0fwof4x?GoogleAccessId=laws-and-pathways-staging%40soy-truth-247515.iam.gserviceaccount.com&Expires=1658049395&Sig	**Malawi First NDC (Updated submission)**	https://unfccc.int/sites/default/files/NDC/2022-06/Malawi%20Updated%20NDC%20July%202021%20submitted.pdf
	Malawi Growth and Development Strategy (MGDS III)	https://www.climate-laws.org/geographies/malawi/policies/malawi-growth-	**National Climate Change Management Policy**	https://storage.googleapis.com/cclow-staging/u9o79aisrn9nv4a7004zs0fwof4x?GoogleAccessId=laws-and-
	Department Of Disaster Management Affairs	https://www.usaid.gov/sites/default/files/documents/1860/Malawi_National_Resilience_Strategy.pdf	**Environment Management Act (No. 19 of 2017)**	https://storage.googleapis.com/cclow-staging/9cybkzcxhojqw0ioqjbccgdfr4j4?GoogleAccessId=laws-and-pathways-staging%40soy-truth-

Namibia	**Malawi Vision 2063**	https://malawi.un.org/sites/default/files/2021-01/MW2063-%20Malawi%20Vision%202063%20Document.pdf		
	Fifth National Development Plan	https://storage.googleapis.com/cclow-	**Namibia First NDC**	https://unfccc.int/sites/default/files/NDC/2022-
	Namibia First NDC (Updated submission)	https://unfccc.int/sites/default/files/NDC/2022-	**Namibia First NDC (Updated submission)**	https://unfccc.int/sites/default/files/NDC/2022-
	National Renewable Energy Policy	https://storage.googleapis.com/cclow-staging/a4z5z4h8lwi1qbppxwdocqsd8wo7?GoogleAccessId=laws-and-pathways-staging%40soy-truth-		
	Electricity Act 2007 as amended in 2016 (Net Metering Rules)	https://storage.googleapis.com/cclow-staging/i41m4zp2bj9fshsunnzwx8ytu7ik?GoogleAccessId=laws-and-pathways-staging%40soy-truth-247515.iam.gserviceaccount.com&Expires=1658129057&Signature=T0RBEEx0X8tlajwPHmKlOWG1pKqII75uiPprYDkyGkIygl4stSt2v7u9aylJfBQ4Gv4qxaqr30c3okGaLNXMpopGC4zukZjPQtBYyK1qkyBSUIlVut3vioX9HI9%2BYObfFIw6vftVYCKUfi8LrIMna9hNz92TdNPGo9uA6h3kdlPADo0Ucq40pe9rM7nEV1nl0k54bfAB1ot%2BG5ATNE8jID8b5G6SA4geN0Oychzr%2FO3y2takSbvWhy1VEWHju8RP%2FIeZJJKP4Mbahdf9yJ134sGg5ts9FRA15ZDMwgSs3KssnrRVVXe5jkb0YmQkIFL2AKSb5tI0CgAAKDTkTPgcg%3D%3D&response-content-disposition=inline%3B+filename%3D%22f%22%3B+filename%2A%3DUTF-8%27%27f&response-content-type=application%2Fpdf		
	Niger First NDC (Updated submission)	https://unfccc.int/sites/default/files/NDC/2022-06/Niger-INDC-versionfinale.pdf	**Niger First NDC (Updated submission)**	https://unfccc.int/sites/default/files/NDC/2022-06/Niger-INDC-versionfinale.pdf
Niger			**Niger First NDC**	https://unfccc.int/sites/default/files/NDC/2022-06/CDN_Niger_R%C3%A9vis%C3%A9e_2021.pdf
			National Strategy and Plan of Action for Climate Variability (SNPA-CVC)	https://www.climate-laws.org/geographies/niger/policies/national-strategy-and-plan-of-action-for-climate-variability-snpa-cvc
			National Strategy and Plan for Adaptation to Climate Change in the Agricultural Sector (SPN2A 2020-2035)	https://spn2a.org/wp-content/uploads/2020/05/AdaptAction_Niger_SPN2A_document_cadre_10042020.pdf
Rwanda	7 Years Government Programme: National Strategy for Transformation	https://www.climate-	**Law N°48/2018 on the environment**	https://waterportal.rwb.rw/sites/default/files/2018-
	Rwanda First NDC (Updated submission)	https://unfccc.int/sites/default/files/NDC/2022-	**Rwanda First NDC**	https://unfccc.int/sites/default/files/NDC/2022-
			Rwanda First NDC (Updated submission)	https://unfccc.int/sites/default/files/NDC/2022-
Sudan			**Sudan First NDC**	https://unfccc.int/sites/default/files/NDC/2022-06/28Oct15-
			Sudan First NDC (Interim updated submission)	https://unfccc.int/sites/default/files/NDC/2022-
			Sudan National Forestry Policy Statement	https://www.fao.org/forestry/15154-
South Sudan	**South Sudan Second NDC**	https://unfccc.int/sites/default/files/NDC/2022-06/South%20Sudan%27s%20Second%20Nationally%20Determined%20Contribution.pdf	**South Sudan First NDC**	https://unfccc.int/sites/default/files/NDC/2022-06/South%20Sudan%20Intended%20Nationally%20Determined%20%20%20%20Contribution.pdf
			South Sudan Second NDC	https://unfccc.int/sites/default/files/NDC/2022-06/South%20Sudan%27s%20Second%20Nationally%20Determined%20Contribution.pdf
			National Energy Policy 2015-2025	https://reliefweb.int/report/south-sudan/parliament-endorses-country-s-first-environmental-policy
			National environment policy 2015-2025	https://www.climate-laws.org/geographies/south-sudan/policies/national-environment-policy-2015-2025
Sao Tome and Principe	**Decree-Law No. 26/2014 - Legal Regime of the Energy Sector**	https://storage.googleapis.com/cclow-staging/gf45dh2m3a11zk77x28ttzq2s2jug?GoogleAccessId=laws-and-pathways-staging%40soy-truth-247515.iam.gserviceaccount.com&Expires=1658210473&Signature=Bcm2z8CZC1st2ppHbANxkfXEl9%2FYU01rpk7mvMbj3rkqUXhCmK7WPfZMOGG3lSad%2Bv E9lSZ27WlUg%2FLPC6xwaUy95Baj0Z18rxIRODtXe5Rcv2QQs%2FWFqIdzMmwsLHVC	**Sao Tome and Principe First NDC (Updated submission)**	https://unfccc.int/sites/default/files/NDC/2022-06/Updated_NDC_STP_2021_EN_.pdf
			Sao Tome and Principe First NDC	https://unfccc.int/sites/default/files/NDC/2022-06/STP INDC%20 Ingles 30.09.pdf
Eswatini	**National Development Plan 2019/20 - 2021/2022**	http://www.gov.sz/images/CabinetMinisters/NDP-2019-20-to-2021-22-final.pdf	**National Development Plan 2019/20 - 2021/2022**	http://www.gov.sz/images/CabinetMinisters/NDP-2019-20-to-2021-22-final.pdf
	Vision 2022 - National Development Strategy	http://www.snat.org.sz/New%20Page/The-National-Development-Strategy.pdf	**Vision 2022 - National Development Strategy**	http://www.snat.org.sz/New%20Page/The-National-Development-Strategy.pdf
	Eswatini First NDC (Updated submission)	https://unfccc.int/NDCREG	**Eswatini First NDC**	https://unfccc.int/sites/default/files/NDC/2022-06/Eswatini%27s%20INDC.pdf
			Eswatini First NDC (Updated submission)	https://unfccc.int/NDCREG
			National Climate Change Policy 2015	https://unfccc.int/sites/default/files/resource/eswatini-climate-change-adaptation-plan-unfccc.pdf
Chad	**Chad First NDC (Updated submission)**	https://unfccc.int/sites/default/files/NDC/2022-06/CDN%20ACTUALISEE%20DU%20TCHAD.pdf	**Chad First NDC**	https://unfccc.int/sites/default/files/NDC/2022-06/CPDN%20TCHAD%20Version%20officielle%2028%20sept%202015.pdf
	Vision 2030 and National Development Plan 2017-2021	https://storage.googleapis.com/cclow-staging/86megdkvuqcs4lraf4e6mofuspcv?GoogleAccessId=l	**Chad First NDC (Updated submission)**	https://unfccc.int/sites/default/files/NDC/2022-06/CDN%20ACTUALISEE%20DU%20TCHAD.pdf
			National strategy to combat climate change in Chad	https://storage.googleapis.com/cclow-staging/86megdkvuqcs4lraf4e6mofuspcv?GoogleAccessId=laws-and-pathways-staging%40soy-truth-
			Vision 2030 and National Development Plan 2017-2021	https://storage.googleapis.com/cclow-staging/86megdkvuqcs4lraf4e6mofuspcv?GoogleAccessId=laws-and-pathways-staging%40soy-truth-
			Action Plan for the implementation of the National Framework for Climate Services in Chad (CNSC, 2016-2020)	http://extwprlegs1.fao.org/docs/pdf/Cha173478.pdf
			Emergency Organization Plan	https://storage.googleapis.com/cclow-
Senegal	**Decrees No. 2014-880 and No. 2020-2214 on the powers of the Minister of Environment and Sustainable Development**	https://www.sec.gouv.sn/d%C3%A9cret-n%C2%B0-2020-2214-relatif-aux-attributions-du-ministre-de-lenvironnement-et-du-d%C3%A9veloppement	**Interministerial decree n ° 010 158**	https://gggi.org/site/assets/uploads/2021/01/Landscape-Analysis-Report-to-scale-up-the-installation-of-solar-irrigation-businesses-in-Senegal_FRA.docx.pdf
			Decrees No. 2014-880 and No. 2020-2214 on the powers of the Minister of Environment and Sustainable Development	https://www.sec.gouv.sn/d%C3%A9cret-n%C2%B0-2020-2214-relatif-aux-attributions-du-ministre-de-lenvironnement-et-du-d%C3%A9veloppement
			Senegal First NDC	https://unfccc.int/sites/default/files/NDC/2022-06/CDNSenegal%20approuv%C3%A9e-pdf-.pdf
Tongo	**Togo First NDC (Updated submission)**	https://unfccc.int/sites/default/files/NDC/2022-	**Togo First NDC**	https://unfccc.int/sites/default/files/NDC/2022-
	Law on the promotion of electricity generation from renewable sources	https://www.climate-laws.org/geographies/togo/laws/law	**Togo First NDC (Updated submission)**	https://unfccc.int/sites/default/files/NDC/2022-
			Finance laws 2020 and 2021	https://storage.googleapis.com/cclow-
			Law on the promotion of electricity generation from renewable	https://www.climate-laws.org/geographies/togo/laws/law-on-the-
			National Programme for Reducing Greenhouse Gas Emissions from	https://storage.googleapis.com/cclow-
Uganda	**Law on the promotion of electricity generation from renewable sources**	https://unfccc.int/sites/default/files/NDC/2022-06/Uganda%20interim%20NDC%20submission_.pdf	**Togo First NDC (Updated submission)**	https://unfccc.int/sites/default/files/NDC/2022-06/INDC%20Uganda%20final%20%2014%20October%20%202015.pdf
	Third national development plan (NDPIII) 2020/21 - 2024/25	http://www.npa.go.ug/wp-content/uploads/2020/08/NDPIII-Finale Compressed.pdf	**Law on the promotion of electricity generation from renewable sources**	https://unfccc.int/sites/default/files/NDC/2022-06/Uganda%20interim%20NDC%20submission .pdf
	Uganda's Vision 2040	https://www.climate-laws.org/rails/active_storage/blobs/eyJfcmFpbHMiOnsibWVzc2FnZSI6IkJBaHBBZ3NPIiwiZXhwIjpudWxsLCJwdXIiOiJibG	**National Climate Change Act 2021**	https://www.climate-laws.org/rails/active_storage/blobs/eyJfcmFpbHMiOnsibWVzc2FnZSI6IkJBaHBBa1FPIiwiZXhwIjpudWxsLCJwdXIiOiJibG9lX2lkIn19--
	Uganda Green Growth Development Strategy 2017/2018 - 2030-2031	http://www.npa.go.ug/about-npa/uganda-green-growth-development-strategy/	**The National Environment Act**	https://www.climate-laws.org/rails/active_storage/blobs/eyJfcmFpbHMiOnsibWVzc2FnZSI6IkJBaHBBbIVOIiwiZXhwIjpudWxsLCJwdXIiOiJibG9lX2lkIn19--ea1bc90bacb203580e33d61ee85fce3a94bc02a2/National-
	National Climate Change Policy	https://www.climate-laws.org/rails/active_storage/blobs/eyJfcmFpbHMiOnsibWVzc2FnZSI6IkJBaHBBZ3dHIiwiZXhwIjpudWxsLCJwdXIiOiJibG	**Uganda Green Growth Development Strategy 2017/2018 - 2030-2031**	http://www.npa.go.ug/about-npa/uganda-green-growth-development-strategy/
			National Climate Change Policy	https://www.climate-laws.org/rails/active_storage/blobs/eyJfcmFpbHMiOnsibWVzc2FnZSI6IkJBaHBBZ3dHIiwiZXhwIjpudWxsLCJwdXIiOiJibG9lX2lkIn19--
South Africa	**South Africa First NDC (Updated submission)**	https://unfccc.int/sites/default/files/NDC/2022-06/South%20Africa%20updated%20first%20NDC%20Septe	**South Africa First NDC (Updated submission)**	https://unfccc.int/sites/default/files/NDC/2022-06/South%20Africa%20updated%20first%20NDC%20September%20
			South Africa First NDC	https://unfccc.int/sites/default/files/NDC/2022-06/South%20Africa.pdf
			Economic Reconstruction and Recovery Plan	https://www.gov.za/sites/default/files/gcis_document/202010/sou
			National Greenhouse Gas Emissions Reporting Regulations, 2016	https://storage.googleapis.com/cclow-staging/8tlzidzwxczcvknp1nk4gu8ftu267GoogleAccessId=laws-and-pathways-staging%40soy-truth-
			National Climate Change Adaptation Strategy	https://storage.googleapis.com/cclow-staging/mwv5mr1av5irie79kd96nzsfv4vm?GoogleAccessId=laws-
			National Energy Efficiency Strategy	https://storage.googleapis.com/cclow-staging/f4ocr74wnl7gbkvferfd1p6w0jor?GoogleAccessId=laws-and-
			Green Transport Strategy (2018-2050)	https://www.transport.gov.za/natmap-2050
	Zambia First NDC (Updated submission)	https://unfccc.int/sites/default/files/NDC/2022-	**Zambia First NDC (Updated submission)**	https://unfccc.int/sites/default/files/NDC/2022-
	Seventh Development Plan 2017-2021	https://storage.googleapis.com/cclow-	**Zambia First NDC**	https://unfccc.int/sites/default/files/NDC/2022-
	Zambia's Climate Change Gender Action Plan (CCGAP)	https://www.climatelinks.org/sites/default/files/asset/do	**National Strategy for Reducing Emissions from Deforestation and**	https://storage.googleapis.com/cclow-

Zambia	**National Climate Change Learning Strategy of Zambia**	https://www.unccleam.org/wp-	**The Forests Act, 2015**	https://www.climate-
			Second National Biodiversity Strategy and Action Plan 2015-2025	https://storage.googleapis.com/cclow-
			Second National Biodiversity Strategy and Action Plan 2015-2025	https://storage.googleapis.com/cclow-
			2016-2020 Implementation Plan on mitigating the impact of climate	https://www.climate-laws.org/geographies/zambia/policies/2016-
			National Climate Change Learning Strategy of Zambia	https://www.unccleam.org/wp-content/uploads/2021/04/FINAL-
Zimbabwe	**Zimbabwe First NDC (Updated submission)**	https://unfccc.int/sites/default/files/NDC/2022-06/Zimbabwe%20Revised%20Nationally%20Determined%20Contribution%202021%20Final.pdf	**Zimbabwe First NDC (Updated submission)**	https://unfccc.int/sites/default/files/NDC/2022-06/Zimbabwe%20Revised%20Nationally%20Determined%20Contribution%202021%20Final.pdf
			Zimbabwe First NDC	https://unfccc.int/sites/default/files/NDC/2022-06/Zimbabwe%20First%20NDC.pdf
			National Renewable Energy Policy (NREP)	https://t3n9sm.c2.acecdn.net/wp-content/uploads/2019/08/Zimbabwe-RE-Policy-2019.pdf
			Biofuels Policy of Zimbabwe (BPZ)	https://www.climate-laws.org/geographies/zimbabwe/policies/biofuels-policy-of-zimbabwe-bpz
			National Climate Change Response Strategy	https://storage.googleapis.com/cclow-staging/y2cj6wpnazxjawzn0yapqb7e8oxe?GoogleAccessId=laws-
			National Agriculture Policy Framework 2018-2030	http://www.livestockzimbabwe.com/Updates/Draft-%20Zimbabwe%20Agriculture%20National%20Policy%20Framework.pdf
			National Gender Policy and Implementation Plan	https://www.climate-laws.org/geographies/zimbabwe/policies/national-gender-policy-and-implementation-plan
			National Climate Policy	https://storage.googleapis.com/cclow-staging/rxejp8komxeq5pgh08txkxfgxa04?GoogleAccessId=laws-and-
Nigeria	**Medium Term National Development Plan 2021 - 2025**	https://nationalplanning.gov.ng/wp-content/uploads/2021/03/Nigeria-MTNP-2021-2025-	**Nigeria First NDC**	https://unfccc.int/sites/default/files/NDC/2022-06/Approved%20Nigeria%27s%20NDC_271115.pdf
	National Integrated Infrastructure Master Plan	https://www.nipc.gov.ng/wp-content/uploads/2019/03/National-Intergrated-	**Nigeria First NDC (Updated submission)**	https://unfccc.int/sites/default/files/NDC/2022-06/NDC_File%20Amended%20_11222.pdf
	Nigeria First NDC (Updated submission)	https://unfccc.int/sites/default/files/NDC/2022-	**Nigeria's Climate Change Act**	https://www.ilo.org/dyn/natlex/docs/ELECTRONIC/112597/140749/
	Nigeria Economic Sustainability Plan	https://storage.googleapis.com/cclow-staging/33b9jz9wtzk5mt8tiin1googqzg6?GoogleAccessId=laws-and-pathways-staging%40soy-truth-	**National Forest Policy 2020**	https://www.climate-laws.org/geographies/nigeria/policies/national-forest-policy-2020
			Nigeria's National Action Plan to reduce short-lived climate pollutants	https://storage.googleapis.com/cclow-staging/15mnxpdz53nei538klugcc57i2x6?GoogleAccessId=laws-and-pathways-staging%40soy-truth-
			The flare gas (prevention of waste and pollution) regulations 2018	https://ngfcp.dpr.gov.ng/media/1120/flare-gas-prevention-of-waste-and-pollution-regulations-2018-gazette-cleaner-copy-1.pdf
Tanzania	**Tanzania updated NDC**	https://unfccc.int/sites/default/files/NDC/2022-06/TANZANIA NDC SUBMISSION 30%20JULY%202021.pdf	**Tanzania updated NDC**	https://unfccc.int/sites/default/files/NDC/2022-06/TANZANIA NDC SUBMISSION 30%20JULY%202021.pdf
	National Five Year Development Plan 2016/17 - 2020/21	https://storage.googleapis.com/cclow-staging/tkx1e9go8swyok2aj9rqn6wi4opi?GoogleAccessId=l	**Tanzania First NDC**	https://unfccc.int/sites/default/files/NDC/2022-06/The%20United%20Republic%20of%20Tanzania%20First%20NDC.
	Tanzania Health National Adaptation Plan 2018-2023	https://storage.googleapis.com/cclow-staging/40i2w39xs3af77b4gx15gb6rt93j?GoogleAccessId=la	**Tanzania Health National Adaptation Plan 2018-2023**	https://storage.googleapis.com/cclow-staging/40i2w39xs3af77b4gx15gb6rt93j?GoogleAccessId=laws-and-
	National Energy Policy, 2015	https://storage.googleapis.com/cclow-staging/v3yeajghibh013p8mq3vahg9k2?GoogleAccessId=laws-and-pathways-staging%40soy-truth-	**Tanzania Agriculture Climate Resilience Plan**	staging/re26jm4c9ysz6b45dc5ffvst9rks?GoogleAccessId=laws-and-pathways-staging%40soy-truth-247515.iam.gserviceaccount.com&Expires=1658522047&Signature=C
Sierra Leone	**Sierra Leone First NDC (Updated submission)**	https://unfccc.int/sites/default/files/NDC/2022-06/210804%202125%20SL%20NDC%20%281%29.pdf	**Sierra Leone First NDC (Updated submission)**	https://unfccc.int/sites/default/files/NDC/2022-06/210804%202125%20SL%20NDC%20%281%29.pdf
	Medium-Term National Development Plan (2019-2023)	http://moped.gov.sl/mtndp/	**Sierra Leone First NDC**	https://unfccc.int/sites/default/files/NDC/2022-06/SIERRA%20LEONE%20NDC.pdf
	Renewable Energy Policy of Sierra Leone	http://www.energy.gov.sl/PR_Renewable%20Energy%20policy%20of%20SL_FINAL%20for%20Print.pdf	**National Climate Change Policy**	https://www.climate-laws.org/geographies/sierra-leone/policies/national-climate-change-policy-98987248-7d8b-4d98-8266-36d613ee5928
	National Energy Efficiency Action Plan (NEEAP) of the Republic of Sierra Leone	https://rise.esmap.org/data/files/library/sierra-leone/Energy%20Efficiency/EE%201.2.pdf	**Sierra Leone Climate Change Adaptation Plan for Coastal Landscape Complex (CCAP)**	https://www.climate-laws.org/geographies/sierra-leone/policies/sierra-leone-climate-change-adaptation-plan-for-coastal-landscape-complex-ccap
			Second National Biodiversity Strategy and Action Plan 2017-2026	https://www.cbd.int/doc/world/sl/sl-nbsap-v2-en.pdf
Somalia	**Somalia First NDC (Updated submission)**	https://unfccc.int/sites/default/files/NDC/2022-	**Somalia First NDC (Updated submission)**	https://unfccc.int/sites/default/files/NDC/2022-
	National Water Resource Strategy 2021-2025	https://reliefweb.int/sites/reliefweb.int/files/resources/F	**Somalia First NDC**	https://unfccc.int/sites/default/files/NDC/2022-
	Ninth National Development Plan 2020-2024	https://mop.gov.so/wp-content/uploads/2019/12/NDP-9-2020-2024.pdf	**National Climate Change Policy, 2020**	https://www.climate-laws.org/geographies/somalia/policies/national-climate-change-policy-2020
			Somali National Disaster Management Policy	https://www.climate-laws.org/geographies/somalia/policies/somali-national-disaster-management-policy
Seychelles	**Seychelles First NDC (Updated submission)**	https://unfccc.int/sites/default/files/NDC/2022-	**Seychelles First NDC (Updated submission)**	https://unfccc.int/sites/default/files/NDC/2022-06/Seychelles%20-
			Seychelles First NDC	https://unfccc.int/sites/default/files/NDC/2022-
			Seychelles Climate Change Policy	http://www.meecc.gov.sc/wp-
			Seychelles Blue Economy Strategic Policy Framework and Roadmap	
			Meteorology Act	http://extwprlegs1.fao.org/docs/pdf/sey150949.pdf
			Conservation and Climate Adaptation Trust of Seychelles Act	https://storage.googleapis.com/cclow-
			Seychelles' National Biodiversity Strategy and Action Plan 2015-2020	https://www.climate-laws.org/rails/active_storage/blobs/eyJfcmFpbHMiOnsibWVzc2FnZSI6IkJBaHBBZ1VHIiwiZXhwIjpudWxsLCJwdXJIOiJibG9iX2lkIn19--31501caf423921d6576cb1adbf7b3fe89645c14f/f

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