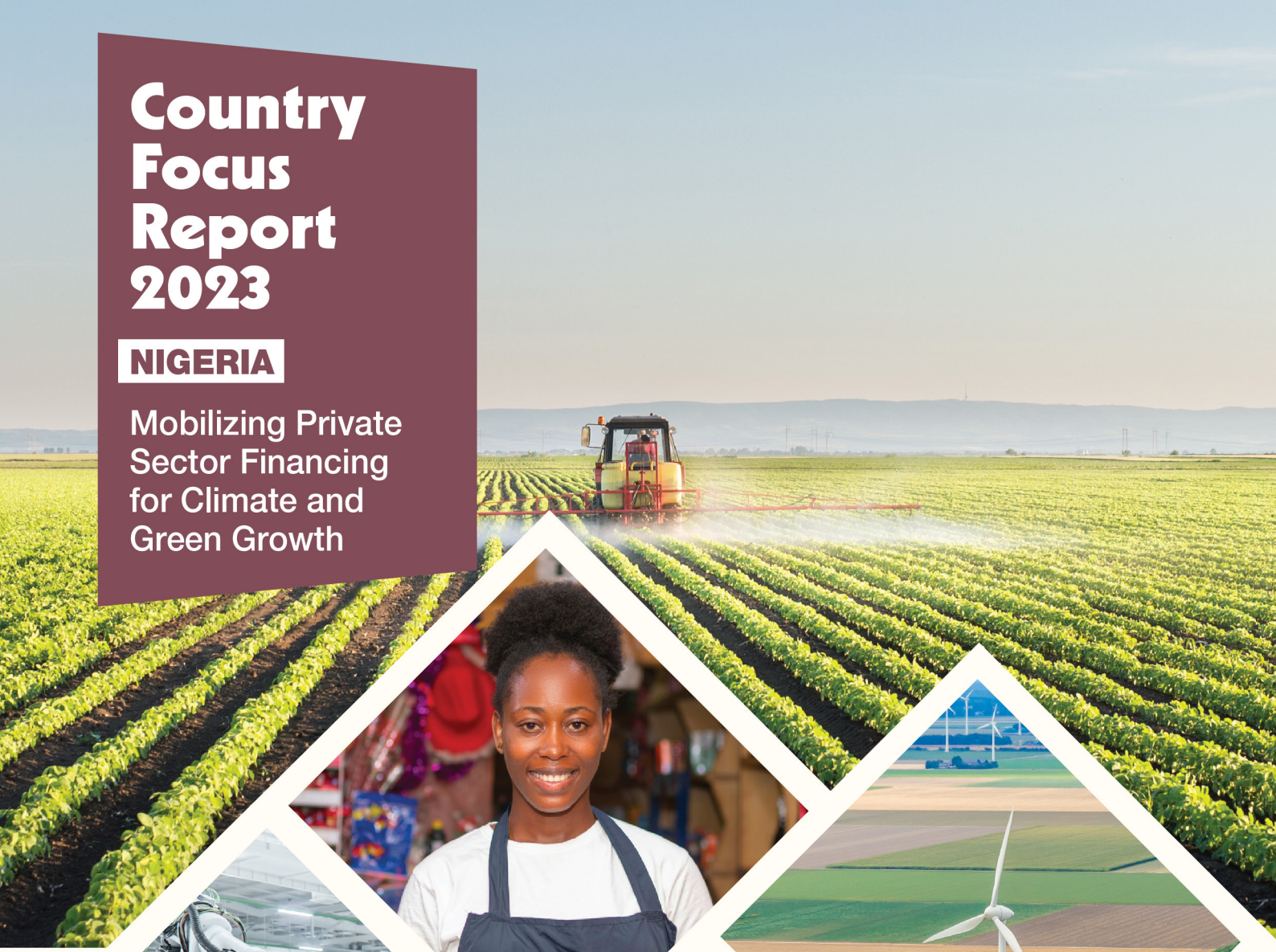
Country Focus Report 2023

NIGERIA

Mobilizing Private Sector Financing for Climate and Green Growth



AFRICAN DEVELOPMENT BANK GROUP
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LIST OF ABBREVIATIONS

AfDB	African Development Bank
CBN	Central Bank of Nigeria
CFR	Country Focus Report
CPI	Climate Policy Initiative
DBN	Development Bank of Nigeria
DFIs	Development Financial Institutions
ECOWAS	Economic Community for West Africa States
ETP	Energy Transition Plan
FC4SL	Financial Centre for Sustainability Lagos
FGN	Federal Government of Nigeria
FME	Federal Ministry of Environment
FMFBNP	Federal Ministry of Finance, Budget and National Planning
GDP	Gross Domestic Product
GGI	Green Growth Index
GW	Gigawatt
ICT	Information, Communication and Technology
IMF	International Monetary Fund
MDBs	Multilateral Development Banks
MoU	Memorandum of Understanding
MSMEs	Micro, Small and Medium Enterprises
NCIC	Nigerian Climate Innovation Centre
NDCs	Nationally Determined Contributions
NEF	New Energy Finance
NGFCP	Nigeria Gas Flare Commercialization Programme
ND-GAIN	Notre Dame Global Adaptation Initiative
NUPRC	Nigerian Upstream Petroleum Regulatory Commission
OPEC	Organisation for Petroleum Exporting Countries
PBG	Performance-Based Grant
PMS	Premium Motor Spirit
UNEP	United Nations Environmental Programme
USAID	United States Agency for International Development

Nigeria

KEY MESSAGES

Macroeconomic Performance and Outlook

- Nigeria's real GDP growth decelerated to 3.3 percent in 2022 from 3.6 percent in 2021, and growth will remain at the same level in 2023-2024.

- Slower growth is aggravated by high inflation, which reached at 22.8percent in June 2023. Unifying exchange rates into a single market-determined rate bodes well for Nigeria's long-term macroeconomic stability.

- The recovery in oil revenues and recent improvements in non-oil revenues have moderately improved Nigeria's fiscal position. The removal of the subsidy on the premium motor spirit (PMS) could help to further narrow the fiscal deficit to below 5 percent of GDP in 2023–2024, from 4.9 percent in 2022 and help alleviate the impact of high debt service costs, estimated at more than 90 percent of federally retained revenues.

- High poverty at 63 percent and rising unemployment, estimated at 33.3 percent (45.3 percent for the youth), pose significant challenges for the country. Policy support to mitigate the impact of subsidy removal on vulnerable sections of the population could elicit strong buy-in and enhance the credibility of the reforms.

Private sector financing for climate change and green growth

- Nigeria is vulnerable to climate variability, and its performance on green growth dimensions has declined, suggesting a deteriorating situation. However, the authorities have demonstrated political commitment to achieving a net-zero carbon footprint and building an inclusive and green economy.

- Tracked climate financing amounting to about US$ 2 billion for 2019 and 2020 is substantially low for the size of the Nigerian economy. The resources are dominated by the public sector, which accounted for 77.9 percent against US$ 0.4 billion (22.1 percent) in private climate financing.

- Nigeria's financing needs, an estimated US$ 247.3 billion to meet its climate change, green growth objectives is substantial. Given the country's limited fiscal space, the private sector can help bridge the climate financing gap. To fully close the gap (100 percent contribution) will require a growth rate of 42 percent in private sector financing. This is much higher than the average for West Africa (26 percent) and Africa (36 percent), implying that catalysing private sector climate financing in Nigeria may require additional policy support and effort.

- Nigeria has several national policy and strategy frameworks which provide an architecture for the mobilization of private sector financing for green growth and climate action. For instance, the government should design an implementation framework to operationalize these strategies and policies. Aligning the policies and strategies with Vision 2050 will also create synergy between the overall development agenda and sector-specific mandates in tackling the challenge of climate change and fostering green growth.

Natural capital for climate finance and green growth

Nigeria ranks 10th in the world and first in Africa with oil reserves totalling about 37 billion barrels, and it is estimated that there are 237 years of oil left at current consumption. The country also ranks 9th globally on gas reserves and first in Africa with the capacity to power the continent.

Nigeria also has at least 40 minerals, including marble, gypsum, lithium, silver, granite, gold, gemstones, bentonite, iron ore and talc. The mining and solid mineral sector has always been a viable greenfield for investment and economic transformation, but policy implementation has failed to tap into this potential.

With the large oil reserves, significant gas deposits, and abundant minerals and sunshine, Nigeria has sufficient natural resources that can help transform the economy. These resources present investment opportunities for value chain development to spur inclusive growth, climate change, and improved livelihoods.

Through the Renewable Energy Roadmap, Nigeria has demonstrated how renewable energy technologies can support the achievement of a sustainable energy mix to meet the country's growing needs. By tapping into the country's abundant, untapped renewable resources, Nigeria can provide sustainable energy for all its citizens in a cost-effective manner.

Increasing the share of renewable resources in Nigeria's energy mix could reduce the supply-demand gap and catapult the country to a higher and more sustained rate of economic growth, and energy trajectory consistent with the country's climate change and green growth agenda.

A different and pragmatic approach towards exploiting and managing oil and gas is required to harness the transformative power of natural capital for financing climate action and green growth ambitions. Therefore, the federal government, its development partners and other players should play their part to enhancing the value and returns from Nigeria's natural resources. Emphasis should be on economic diversification which will reinforce the country's climate resilience and foster a green transition.

I INTRODUCTION

The Nigeria Country Focus Report (CFR) 2023 reviews key macroeconomic developments over the past year and the outlook for the medium term (2023-2024). The report also assesses the role of the private sector in financing climate action and green growth in Nigeria and how the country can harness its abundant natural capital as a complementary source of funding climate change adaptation and mitigation and to engendering green growth. This report provides country-level counterpart analysis of the African Development Bank's flagship publication, the African Economic Outlook (AEO) 2023, under the theme: Mobilizing Private Sector Financing for Climate and Green Growth in Africa.

This CFR is structured as follows. Section 2 discusses Nigeria's recent macroeconomic performance and outlook. Section 3 discusses the landscape of private sector financing for climate and green growth in Nigeria, while Section 4 focusses on the role of natural capital as a complementary source for financing climate and green growth in the country. Section 5 draws policy recommendations across different strata - the Government, the development partners, the domestic and international private sector, and developed country governments. Section 6 offers some concluding remarks.

2 NIGERIA'S ECONOMIC PERFORMANCE AND OUTLOOK

2.1 Recent macroeconomic developments

Economic growth and drivers: Nigeria's economic recovery from the COVID-19 pandemic has been slow, and Russia's invasion of Ukraine[1] has further amplified the country's vulnerability to shocks. Real GDP growth decelerated to 3.3 percent in 2022 from 3.6 percent in 2021. The decline was mainly driven by a fall in oil production, precipitated by weak infrastructure and insecurity around oil-producing regions. Average oil production fell by more than 12 percent to 1.1 million barrels per day in 2022. This contributed to a decline of 19 percent of the oil and gas GDP and, a fall of 4.6 percent in the overall industry value added. This was, however, partially offset by the growth of 7 percent and 2 percent, respectively, in services and agriculture sectors. On the demand side, the decline in GDP growth was driven by a contraction in public consumption (2.5 percent) and net exports (80 percent). Per capita GDP declined by 0.8 percent from 1.2 percent in 2021. Table 2.1 presents key macroeconomic indicators for Nigeria.

Nigeria's real GDP growth decelerated to 3.3 percent in 2022 from 3.6 percent in 2021, and is projected to remain at the same level in 2023-2024.

Table 2.1: Macroeconomic Indicators

	2018	2019	2020	2021	2022(e)	2023(p)	2024(p)
Real GDP Growth	1.9	2.2	-1.8	3.6	3.3	3.4	3.2
Real GDP Growth per Capita	-0.6	-0.3	-4.3	1.2	0.8	0.9	0.8
Inflation	12.1	11.4	13.2	17.0	18.8	19.6	13.6
Overall Fiscal Balance, Including Grants (% GDP)	-4.2	-4.6	-5.4	-5.2	-4.9	-4.7	-4.8
Current Account (% GDP)	1.7	-3.1	-3.8	-0.4	0.1	-0.3	-0.1

Source: AfDB Statistics Department, April 2023. Data from Domestic authorities; estimates (e) and prediction (p) based on authors' calculations.

Monetary policy and inflation: Nigeria has experienced strong inflationary pressures triggered by the rising food and fuel prices. For instance, the national average price of key food commodities increased by 23 percent year-on-year while that of liquefied natural gas for a 12kg cylinder and diesel rose by about 40 percent and 182 percent, respectively. Reflecting these changes, average inflation peaked at a two-decade high of 18.8 percent in 2022; in June 2023, it was estimated at 22.8 percent. This is way above the Central Bank of Nigeria's 6–9 percent target. The high inflation rate also reflects strong pass-through effects

[1] Agreed wording at the 2022 African Development Bank Group Annual Meetings in Ghana. Algeria, China, Egypt, eSwatini, Namibia, Nigeria and South Africa entered a reservation and proposed "Russia–Ukraine Conflict."

of exchange rate depreciation, which amplifies the impact of already elevated fuel and food prices. Curbing inflation through monetary policy actions has proved elusive, despite the Central Bank of Nigeria (CBN) raising its policy rate to a high of 18.5 percent in 2023, following successive adjustments since it was reduced to 11.5 percent from 13.5 percent at the height of the COVID-19 pandemic.

Exchange rate movements: In June 2023, the CBN unified multiple exchange rates into a single rate determined by market condition forces at the investors and exports window. The unification of disparate exchange rates into a single window led to a sharp market correction of the official exchange rate, with an immediate depreciation rate of more than 25 percent. By end-June 2023, the unified exchange rate was pegged at N 778.38/US$ 1.00. This has nearly eliminated the premium with the parallel market rate. The short-term cost of foreign exchange rate reforms is the rise in inflation due to contemporaneous price adjustments. The reforms are nonetheless fundamental to restoring investors' confidence and stabilizing Nigeria's macroeconomic situation in the long run. The reforms could also spur the competitiveness of Nigeria's non-oil exports and help improve the availability of foreign exchange inflows and revenue collection. This could also boost gross international reserves, which at the end of June 2023 stood at US$ 34.1 billion (about 5 months of import cover) from US$ 37.1 billion at end-2022 (5.7 months of import cover).

Fiscal developments and debt dynamics: The recovery in revenues and recent improvements in non-oil revenues have moderately improved Nigeria's fiscal position, but the situation remains precarious. Thus, the deficit narrowed to 4.9 percent of GDP in 2022 from 5.2 percent in 2021. The deficit was financed by borrowing, bringing public debt to US$ 103.1 billion (23 percent of GDP) from US$ 92.6 billion (about 22.8 percent of GDP) in 2021. By March 2023, public debt stood at US$ 108.9 billion. This amount excludes the Federal Government's debt owed to the Central Bank of Nigeria, estimated at more than US$ 55 billion at end-2022 up from US$ 42.7 billion in 2021 through the Ways and Means Advances. Factoring in this amount raises the total public debt-to-GDP ratio to 34.5 percent, compared with 32.4 percent in 2021. Ways and means advances have risen due to the central bank's financing of the federal government's persistent deficits.

Current account: Buoyed by relative improvement in oil exports, the current account recorded a small surplus of 0.1 percent of GDP in 2022, reversing three years of deficit (see Table 2.1).

Financial developments: Banks' nominal lending to the economy rose by 22.8 percent year-on-year to ₦ 27.1 trillion (about US$ 62.9 billion) in 2022. In real terms, credit grew by 2.0 percent. Banks' maximum lending rates remained high at 7.8 percent in real terms, as banks sought to maintain positive real returns in the face of persistent increase in inflation. Despite this, the ratio of non-performing loans to gross loans declined to 4.2 percent in 2022 from 4.9 percent in 2021 and remained below the regulatory requirement of 5 percent. Similarly, the banks' consolidated capital adequacy ratio, at 13.8 percent, exceeded the regulatory benchmark of 10 percent in 2022, underpinning the soundness and resilience of the Nigerian banking industry. These positive developments reflect effective supervision and deployment of appropriate policy tools (CBN, 2021). On the stock market, the all-share index and market capitalization rose by more than 50 percent to 51,251.1 and ₦ 27.9 trillion (US$ 62.2 billion), respectively. The increase was supported by easing of risk aversion that held back investors' interest during the COVID-19 pandemic.

Poverty and social indicators: The 2022 multidimensional poverty survey shows that 63 percent of Nigerians (133 million) are multidimensionally poor with poverty rates above the national average in 18 of the 36 states plus

the Federal Capital Territory. Unemployment remains high, at 33.3 percent (45.3 percent for the youth). High poverty and unemployment rates reflect the effects of economic shocks as well as policy and structural deficiencies in the economy that undermines the potential of private investment to create quality jobs.

2.2 Outlook and risks

Growth: Real GDP growth will remain subdued, averaging 3.3 percent in 2023–2024. The continued decline in oil output, coupled with sustained gridlocks in global supply chains and tepid growth in manufacturing, will weigh down on growth in the medium-term. Domestic demand, especially investment, may also be dampened by high inflation and exchange rate depreciation. Growth in agriculture could benefit from favourable rain seasons and continued policy support to the sector.

Inflation: The projected decline in inflation to 13.6 percent in 2024 from the June 2023 outturn of 22.8 percent may be challenging because of the abolition of the subsidy on the premium motor spirit and the shift to market pricing of the commodity. Higher food prices stemming from pass-through effects of exchange rate depreciation and adjustment in the price of PMS could also keep inflation elevated beyond the earlier projections. Contractionary monetary policy is likely to remain the principal policy lever of the CBN to tame inflation, and efforts to increase food supply, following the declaration of a state of emergency by the President, coupled with stability in the exchange rate, could help decelerate inflationary pressures.

Fiscal developments: Removing the subsidy on PMS has lifted a significant source of Nigeria's fiscal risk and created room for fiscal adjustment. The subsidy reform could save the government about ₦ 3.9 trillion (equivalent to US$ 5.2 billion)[2], which could be deployed to infrastructure development and spending on critical social services. Measures to improve revenue collection will also reinforce the gains from subsidy removal, helping to narrow the fiscal deficit to below 5 percent of GDP in 2023–2024. The attendant deficit will be financed by borrowing, biased toward concessional debt and longer maturities. Improved revenue collection could significantly reduce Nigeria's debt service costs-to-revenue ratio, estimated at more than 90 percent of federally retained revenues.

Current account: The planned extension oil output reduction of 1.4 million barrels per day by the Organisation for Petroleum Exporting Countries (OPEC) and Russia into 2024 could shore up prices. Higher oil prices are likely to increase Nigeria's export earnings from crude oil but depressed output due to theft and continued vandalism of production infrastructure could offset these gains. The country's continued dependence on imports of finished petreoleum products could also weaken the country's current account. The current account is therefore projected to record a marginal deficit, averaging 0.2 percent of GDP in 2023–2024.

Risks: A positive oil price shock with OPEC's decision bodes well for the economy, but this may be offset by a low supply response due to insecurity challenges around oil fields and weak production infrastructure. Sustained support to farmers could enhance food self-sufficiency and help moderate inflationary pressures. The removal of the PMS subsidy and unification of exchange rates are fundamental policy reforms that, if effectively implemented, could help restore Nigeria's macroeconomic stability and spurt growth. High debt service costs continue to pose significant fiscal risks. Policy support to mitigate the impact of subsidy removal on vulnerable sections of the Nigerian population could elicit strong buy-in and enhance the credibility of the reforms.

[2]Using exchange rate of N 760/US$ 1.00.

3 PRIVATE SECTOR FINANCING FOR CLIMATE AND GREEN GROWTH IN NIGERIA

3.1 The imperative for green growth and the role of private sector financing

Nigeria's quest to achieve middle-income status will require catalyzing private sector climate finance for inclusive and green growth action, as articulated in the Agenda 2050.

Nigeria is Africa's largest economy, accounting for about 17 percent of the continental GDP in 2022. The country also has the largest population, estimated at 210 million, and projections show that it could surpass China by 2100 as the second most populous nation in the world after India. However, the country faces many challenges in achieving sustainable development goals and lifting 100 million people out of poverty by 2030, as outlined in its Medium-Term National Development Plan (2021-2025) and the Agenda 2050. Within the ambit of the Agenda, Nigeria is committed to achieving net-zero emissions by 2060. It has developed an Energy Transition Plan (ETP), building on its Nationally determined contributions (NDCs) in its quest to achieve a more inclusive and green economy.

These blueprints aim to build the country's resilience and adaptive capacity, as much of the economy depends on climate-sensitive ecosystems and natural resources. For example, the agriculture sector, which contributes about 24 percent to the country's GDP and is primarily rain-fed, is highly vulnerable to climate change-induced frequent and severe extreme events, such as floods and droughts. Other sectors of the economy, including its infrastructure, are also vulnerable to the effects of climate change. Oil and gas, which contributes substantially to the country's foreign exchange revenues, carbon dioxide through fuel combustion is the country's major source of greenhouse gas emissions (Dunne, 2023; Climate Transparency, 2020). In 2019, Nigeria was the second highest emitter of greenhouse gases in Africa after South Africa and 25th largest globally (Dunne, 2023). Despite this, Nigeria contributes less than 1.0 percent to global warming, yet the country bears a disproportionately high burden of climate change affects. For instance, from 1986-2015, Nigeria lost 11.4 percent of annual GDP per capita growth.

Nigeria has demonstrated political commitment to achieving a net-zero carbon footprint and building an inclusive and green economy by creating opportunities to diversify its energy sources away from fossil fuels.

The Government of Nigeria has initiated several measures at the national level to address the challenge of climate change and transition the economy to green growth. These include the adoption of policies for sustainable development and climate action, as well as the development of institutions for implementing these policies. These actions are in the following areas:

Adoption of national level climate policies and climate change mitigation and adaptation programs such as the Nigeria Agenda 2050 which is a successor to Vision 2020, the Medium-term National Development Plan 2021-2025, both of which are under the purview of the Federal Ministry of Finance, Budget and National Planning (FMFBNP, 2023); the 2050 Long-term Vision for Nigeria and National Climate Change Policy (2021–2030), which define a holistic framework to guide the country's response to the development challenge of climate change and environmental preservation. Under the overall oversight of the Federal Ministry of Environment (FME), the two policy documents also prescribe sectoral and cross-sectoral strategic actions towards climate resilient sustainable development (FME, 2021; FME, 2020).

The Department of Climate Change of the FME, has also developed the NDCs and the National Adaptation Plan Framework (FME, 2020) with an emissions target set at 453 million tonnes of CO^2-equivalent for 2020-2030 . The first of the NDCs was done in 2015 towards ratification of the Paris Agreement on Climate Change. The updated NDCs in 2021 raised the country's climate ambitions by including emissions reductions from the waste and water resources sectors, articulating other nature-based solutions not included in the 2015 NDC, and increasing its conditional contribution. The updated NDC has an unconditional contribution of 20 percent below 'business-as-usual' by 2030 and a 47 percent contribution conditional with international support. The updated NDC provides for economy-wide productive investment of US$ 177 billion for implementation covering 2021-2030, with the burden shared between the public and private sectors.

In 2021, Nigeria produced the Energy Transition Plan (ETP)[3]. The ETP seeks to achieve net-zero emissions in terms of the nation's energy consumption. To this end, the Plan shows that Nigeria's climate change agenda cannot be decoupled from its energy sector policy and targets reaching carbon neutrality by 2060. Thus, the NDC and ETP envision large expansion and transformation of the energy sector with clearly identified financing needs to achieve 8GW of grid-connected solar and 6GW of decentralized renewable capacity by 2030, to transition to a net-zero carbon footprint.

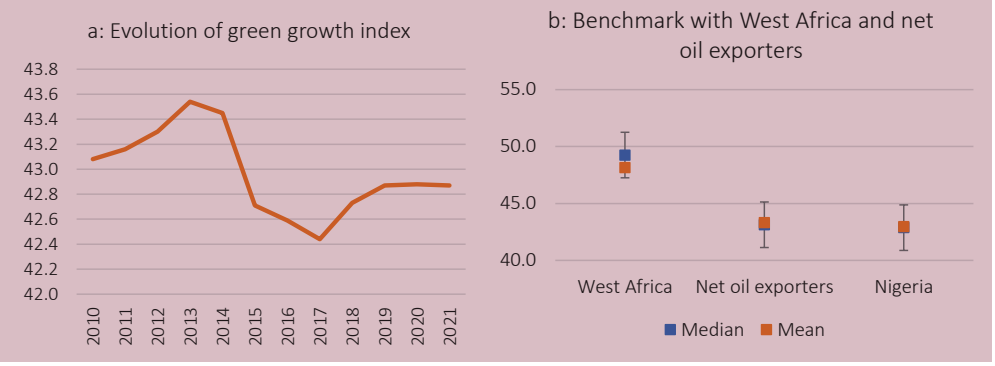
Nigeria's performance on green growth has declined and fallen below peers in West Africa and among Africa's oil producers, suggesting overall deterioration.

Nigeria has experienced cyclicality in its Green Growth Index (GGI)[4] but broadly taking on a downward trend over the past decade (Figure 3.1a). In 2010, Nigeria's GGI was 43.1 and rose slightly to 43.5 in 2013, after which it fell steadily for three consecutive years to 42.4 in 2017. The recovery in 2018 to 42.7 and further increase to 42.9 for the following three years to 2021 was insufficient to restore the country's green growth position at the beginning of the decade. The country's overall CGI performance has been below the median and average for West Africa, as well as for net oil exporting peers in Africa (Figure 3.1b). These changes highlight challenges the country faces to sustain improvements in green growth sectors, and the urgent need to ensure more investment is made in critical areas as well as decoupling the economy from dependence on oil to build resilience and greening of the economy. Implememenattion of the Energy Transition Plan and other strategies, are steps in an important direction and if well executed, could put Nigeria on a path for a greener and more resilient economy.

[3] https://www.energytransition.gov.ng//wp-content/uploads/2022/05/Investing-in-Nigeria-Energy-Transition.pdf.

[4] The index has four dimensions, each with several sub-indicators: i) efficient and sustainable resource use, related to efficient and sustainable energy, water and land use as well as material use efficiency; ii) natural capital protection, comprising indicators capturing environmental quality, greenhouse gas emission reductions, biodiversity and ecosystem protection, and cultural and social value; iii) green economic opportunities, referring to green investment, trade, employment, and innovation; and iv) social inclusion, encompassing indicators reflecting access to basic services and resources, gender balance, social equity and social protection. For more discussions on the index, see Acosta et al. (2022).

Figure 3.1: Nigeria's green growth performance, 2010-2021



Source: Staff calculations based on the Global Green Growth Institute database.

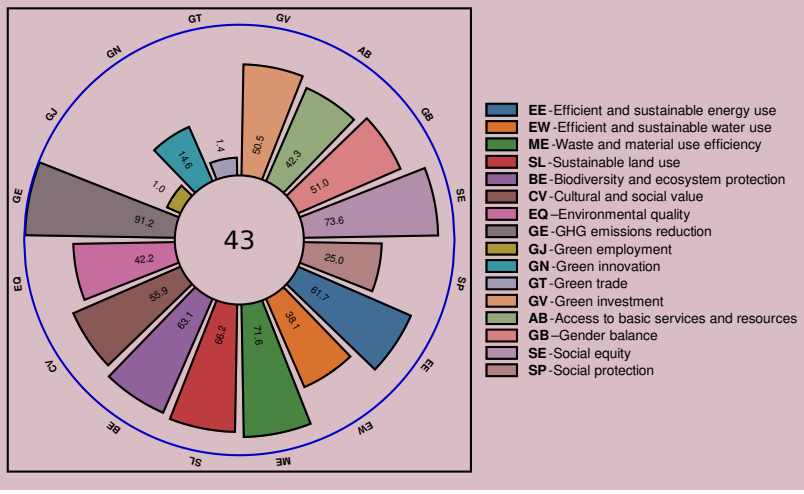
Nigeria's relatively low performance on the GGI reflects the country's overall weakness across several areas. Its vulnerability to climate change and environmengtal degradation, coupled with dependence on a single commodity for export and susceptibility to exogenous shocks, rising social exclusion and social and spatial fragility, all highlight Nigeria's main challenges.

Despite having a low average GGI of 43, Nigeria's performance on different dimensions of green growth was more favourable, largely driven by improvements in some areas (see Figure 3.2). It performed higher than the average in nine of the 16 dimensions. In the majority of these dimensions, the performance largely reflects policy intent rather than actual outcome on green growth indicators. However in some tangible progress has been made, including a reduction in greenhouse gas emissions (91.6), which show policy efforts and actual performance in tackling gas flaring. For instance, from 2000-2017, the amount of gas flaring fell by 70 percent (Dunne, 2023); social equity (76.1), waste and material use efficiency (71.6); sustainable land use (66.2); biodiversity and ecosystem protection (63.1), underpinned by progress in the development of 14 SMART (specific, measurable, assignable, realistic and time-related) National Targets with 21 Impact Indicators and 67 Actions with 123 Performance Indicators and 20 Programs (FME, 2015) and efficient and sustainable energy use (61.7).

Nigeria performed especially poorly on green employment (1.0) and trade (1.4), indicating the concentration of oil and gas exports in total trade (about 80 percent) in 2022, according to data from the Nigerian Upstream Petroleum Regulatory Commission (NUPRC, 2022). These indicators imply that Nigeria green growth agenda, despite all the policy pronouncements, is yet to translate into meaningful sustainable employment and trade opportunities. Other below-average performance indicators were social protection (25.0) and efficient and sustainable water use (38.1). The former is somewhat surprising, given the strides made in improving social protection at the height of COVID-19 with the increase in beneficiaries to conditional cash transfer to 3.5 million from 2.5 million prior to the pandemic. However, this was insufficient to reverse years of poor coverage and targeting of beneficiaries. For the latter, it reflects key challenges in improving the country's access to water and sanitation. For instance, only 11 percent of the population has access to pipe-borne water supply although two thirds of the population use water supplied through boreholes and tubewells.

The decline in Nigeria's green growth landscape mimics its overall deteriorating performance in relation to climate change and environmental quality. Nigeria is vulnerable to increasing climate variability, with effects manifested in recurring flash floods, landslides, land degradation, loss of biodiversity and ecosystem services, and increased desertification. For instance, in 2022 alone, more than 2.8 million people were affected by flooding, with an estimated 600 deaths and millions displaced from their communities.

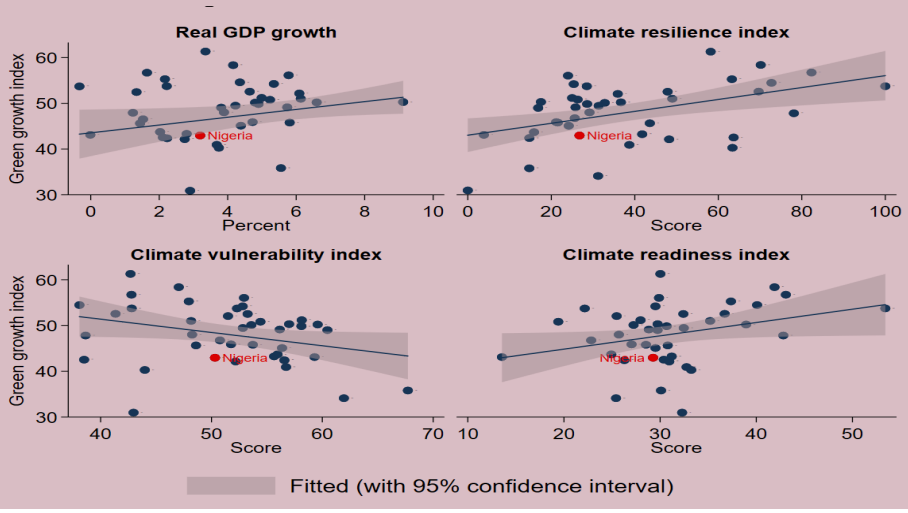
Figure 3.2: Distance to targets of green growth indicators in Nigeria, average 2010-2021



Source: Staff calculations based on the Global Green Growth Institute database.

Nigeria has also experienced increased carbon intensity with the use of fossil fuel-powered generators due to epileptic power supply and low energy resource efficiency. Many Nigerians live in conditions of despair due to extreme weather events and deteriorating environmental quality, all of which imply heightened environmental risks and social conflicts. Bruederle and Hodler, (2019) find that women exposed to oil spills before conception are likely to experience neonatal mortality by 38.3 deaths per 1,000 live births with the effect spread fairly uniformly spatially and across gender and socio-economic backgrounds. In 2023, 14,000 people from the oil producing Niger Delta launched a legal suit against Shell to seek restitution for the impact of oil spills on their lives and livelihoods (Dunne, 2023).

Figure 3.3: Selected correlates of green growth: Nigeria versus other African countries, average 2010–2021



Sources: Staff calculations based on African Development Bank statistics, Notre Dame Global Adaptation Initiative, and Global Green Growth Institute databases.

These effects are reflected in a positive correlation between the GGI and overall economic growth, climate resilience, vulnerability, and readiness (Figure 3.3). Nigeria ranks low on all four dimensions of the index relative to other African countries. Nigeria's low ranking on GGI is evidenced by the average low real GDP growth, below 4 percent over the past decade.

Similarly, Nigeria ranks lower than most countries on climate resilience relative to its GGI. It shows high vulnerability to climate change and limited readiness to withstand climate change and related shocks. In 2018, the country was ranked among the 10 most climate-vulnerable countries in the world, with Lagos consistently ranked the 10th most vulnerable city in the world since 2014. More than 41 million people -- 24 percent of Nigeria's more than 200 million population – live in high climate exposure areas, 4.5 million of whom are in areas ranging from high to very high climate exposure. According to the World Bank (2021), Nigeria ranked 160 out of 181 countries in the 2020 ND-GAIN Index.[5] A lower score depicts higher vulnerability, and a higher score shows its readiness to improve resilience.

The loss in per capita income growth is largely due to Nigeria's economic structure, which is heavily dependent on climate-vulnerable production systems. Climate change's impact is seen in crop yields declining by 7 percent in the short term (2006–2035) and 25 percent in the long term (by 2050). Projected increases in annual maximum temperature of 3–4oC between 2050 and 2070 could further undermine agricultural productivity and cause greater water stress. Already, shortages of water and grazing land are generating communal conflicts. Projected trends of climate variability and longer-term change are likely to exacerbate Nigeria's poverty situation, mainly because most of the country's economy depends on rainfed agriculture, pastoralism, and associated livestock production, both of which provide livelihoods for most of the country's more than 200 million people. As already evidenced, climate variability has triggered increased internal migration and urbanization and could perpetuate these effects with increased road damage and other physical infrastructure. Some estimates suggest that 27 to 53 million people may need to be relocated by the end of the century due to rising sea levels (USAID, 2012).

3.2 Private sector finance for green growth and climate action in Nigeria: flows, gaps and needs

3.2.1 Current flows of finance

Public finance dominates Nigeria's climate finance flows, with most of the resources channelled towards the energy sector.

Tracked climate financing is substantially low and not commensurate with the size of the country's economy, development needs and, crucially, vulnerability to climate shocks. Cumulative total climate finance inflows to Nigeria amounted to about US$ 2 billion for 2019 and 2020, out of which US$ 1.6 billion (77.9 percent) was from public sources and US$ 0.4 billion (22.1 percent) in private climate financing (Table 3.1). Over this period, Nigeria accounted for about 6.8 percent of Africa's total climate finance flows and was jointly (with Kenya) third-largest after Egypt (9 percent) and Morocco (6.8 percent).

[5] The ND-GAIN Index summarises a country's vulnerability to climate change and other global challenges.

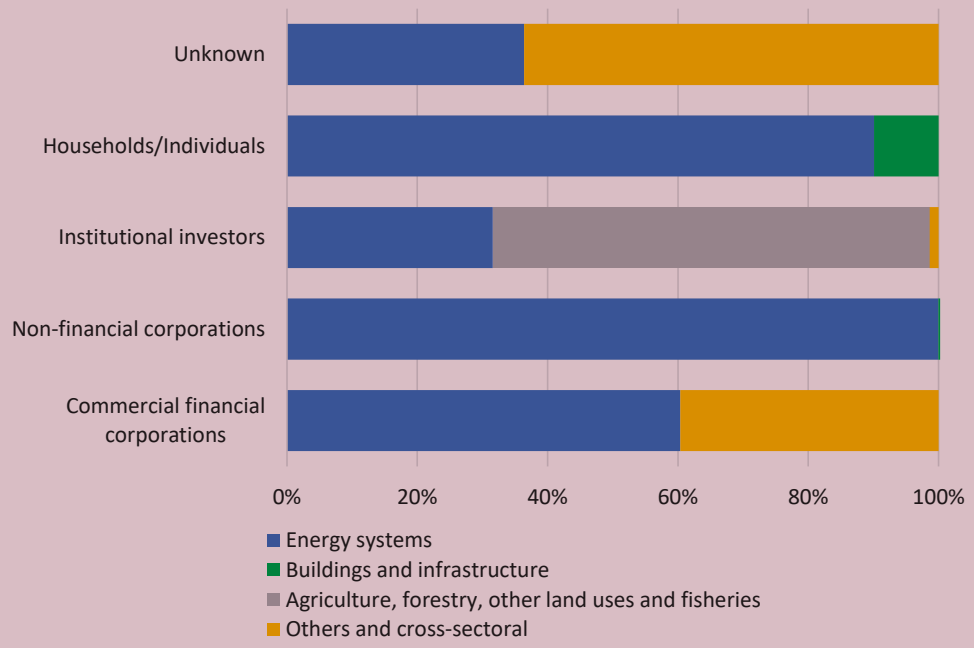
Table 3.1: Climate Financing by Source, Sector and Use

TOTAL FINANCING	**US$ 1,995 Million**	
INSTITUTION TYPE		
	Funding by value (US$)	**Funding share (percent of total)**
Private	**441.2**	**22.1**
Commercial financial corporations	52.7	2.6
Non-financial corporations	150.2	7.5
Households/Individuals	21.5	1.1
Institutional investors	21.5	1.1
Unknown	195.1	9.8
Public	**1,554**	**77.9**
Bilateral development financial institutions	317	15.9
Government	303	15.2
Multilateral Climate Funds	64	3.2
Multilateral development financial institutions	851	42.7
State owned enterprises/state owned financial institutions	18	0.9
SECTOR		
Agriculture, forestry, other land uses and fisheries	312	15.6
Buildings and Infrastructure	41	2.1
Energy systems	827	41.5
Others and cross sectoral	815	40.8
USE		
Adaptation	688	34.5
Mitigation	1,114	55.8
Multiple objectives	57	2.9
Unknown	136	6.8

Source: Staff calculations based on Climate Policy Initiative database

As Table 3.1 shows, more than three-quarters (US$ 1.6 billion) of climate finance is from public sources, the bulk of which is by multilateral development financial institutions, followed by bilateral development financial institutions and the government, in that order. Of the remaining 23 percent (US$ 435 million) of climate financing flows derived from private sources, non-financial corporations account for about US$ 150 million (7.7 percent), with unknown private sources contributing US$ 192 million (10 percent). The balance is spread across other private sector sources, collectively accounting for less than 5 percent. Private sector climate financing is concentrated in energy systems, with a total of US$ 278 million (62.9 percent) (Figure 3.4). According to CPI et al., (2022), The bulk of the investments (66 percent) for energy systems was for on-and-off grid solar projects.

Figure 3.4: Sectoral sources of private climate financing (percent share)

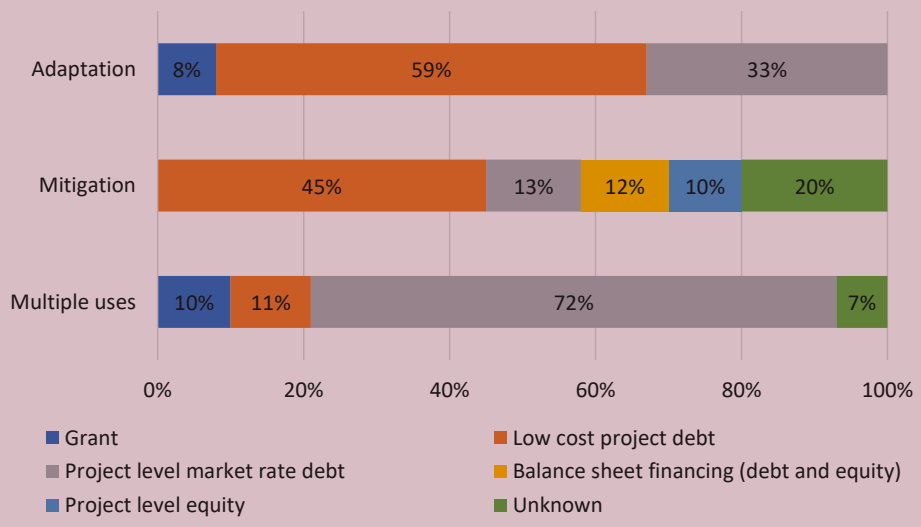


Source: Climate Policy Initiative, et al. (2022).

The concentration of private climate finance in energy systems mirrors the country's huge financing needs to bridge the infrastructure deficit in the sector. According to estimates by the Federal Government of Nigeria, US$ 759 billion is required to close the energy sector infrastructure gap over a 23-year horizon -- 2020-2043 -- (National Planning Commission, 2020). The second highest climate financing was US$ 148 million (33.5 percent) for cross-sectoral projects in such sectors as industry, water, wastewater and waste, transport and information and communications technology. Private sector climate finance in agriculture, land uses and forestry (amounted to just US$ 14 million, mainly from philanthropic organisations institutional investors, targeting smart agriculture technologies and low carbon mitigation activities.

Most climate finance flows to Nigeria are provided through low cost debt and market rate projects. Grants account for a substantially low share of climate financing, estimated at about 10 percent. Nigeria's total public debt of US$ 103 billion (about 30 percent of GDP) remains relatively low in relation to its peers in similar income category in Africa. However, the concentration of climate financing market-rate debt accounting that account for 72 percent in multiple sectors and one-third of adaptation activities, poses an additional fiscal risk. This limits the country's ability to respond to climate and environmental and associated social challenges. Therefore, any climate shock could amplify Nigeria's debt situation and exacerbate the pressure on the budget when more than 90 percent of federally retained revenues is spent on debt service payments. With domestic resource mobilization constrained by low economic growth and ineffective enforcement, a climate shock could lead to increased borrowing. This could further divert resources from investment in human capital development (education and health), which is already low at less than 1.0 percent of GDP.

Figure 3.5: Climate finance uses, by instrument in Nigeria



Source: Climate Policy Initiative, et al. (2022).

Nigeria's total financing gap to meet its climate change and green growth objectives, an estimated US$ 20.5 billion per annum, is substantial and requires strong contribution from the private sector to close the deficit.

Mitigation activities receive disproportionately higher funding than adaptation and other multiple uses (see Table 3.1). Over US$ one billion of total climate financing was for mitigation purposes, against US$ 0.7 billion for adaption activities.

This bias reflects the lopsided nature of the global climate finance architecture, which focuses on mitigation rather than channelled to build countries' adaptation capacity to climate change, especially in African countries such as Nigeria, where vulnerability to climate change is substantially high. Yet, their contribution to global climate change is significantly low.

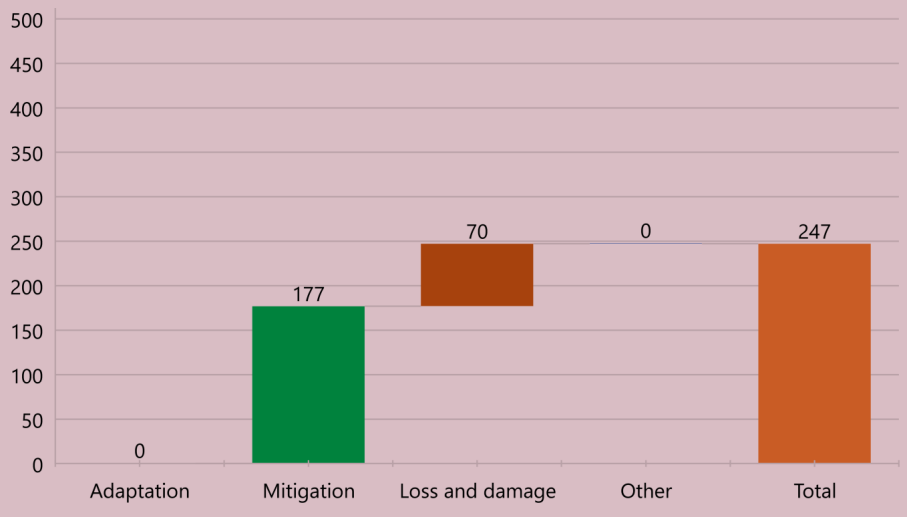
3.2.2 Private sector finance needs for the future

Nigeria's financing needs to meet its climate change and green growth objectives remain substantial, and the private sector can help bridge the financing gap

Nigeria's climate financing needs over 2020-2030 were estimated at US$ 247.3 billion (annual average of about US$ 22.5 billion). Of this amount, mitigation activities constitute the largest proportion (71.5 percent) of the financing needs, estimated at US$ 177 billion (see Figure 3.6). The total climate financing gap is US$ 20.5 billion per annum, required for investment in renewable energy, smart agriculture, sustainable transport, water and waste management solutions.

Nigeria targets a reduction in greenhouse gas emissions of between 20 percent and 45 percent by 2030.

Figure 3.6: Cumulative climate financing needs, (US$ billion), 2021-2030



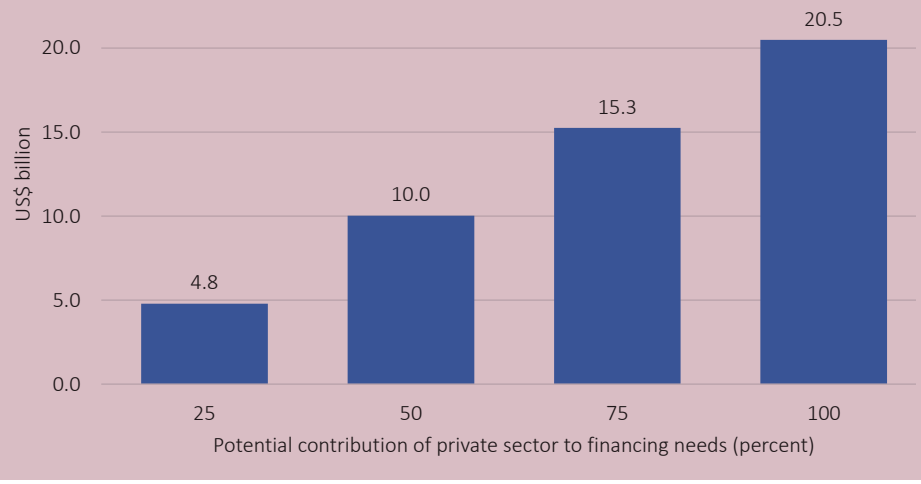
Source: Staff calculations based on data from Nigeria's revised NDC, OECD and UNFCC.

However, even under a more conservative scenario, the public sector in Nigeria is unable to mobilize the resources needed to address the country's climate crisis and transition to a greener and more resilient growth pathway. Therefore, investment in climate-smart and green growth ambitions will only be possible with enhanced private sector participation, from the current 22.1 percent of the country's total climate finance, which, although higher than the average for Africa (14 percent), remains low for the size of the Nigerian economy.

Under a conservative scenario, with the private sector assumed to contribute only 25 percent to the residual finance needs (the difference between total climate finance needs and public climate finance), the private financing gap will be US$ 4.8 billion. If the contribution is increased to 50 percent, the gap more than doubles to US$ 10.1 billion, rising by a factor of US$5.2 billion, all through to higher contribution rates of 75 percent and 100 percent, the latter being the most generous scenario where all the financing needs is taken up by the private sector (see Figure 3.7).

Nigeria's private financing gap for climate change is estimated at US$ 4.8 billion annually if the private sector contributes 25 percent of the total climate financing needs, and US$ 20.5 billion annually if it contributes 100 percent.

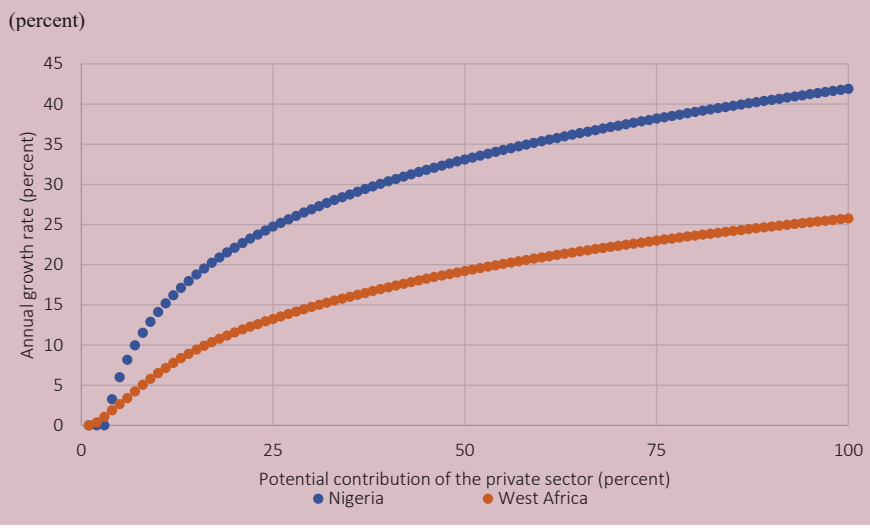
Figure 3.7: Outstanding private climate finance gap in Nigeria



Source: Staff calculations based on data from Nigeria's revised NDC, OECD and UNFCC.

From these estimates, the private sector will not be able to close the financing gap unless it increases its contribution rate at each percentile. Moreover, relative to the regional average, Nigeria can only fill its climate financing gap at higher financing rates (Figure 3.8).

Figure 3.8: Required annual growth to close the financing gap (percent)



Source: Staff calculations using data from submitted NDCs (as of April 2023) and CPI's Landscape of Climate Finance in Africa database.

To close private sector financing gap with a 25 percent contribution (US$ 4.8 billion) will require an annual growth rate of 26 percent in private sector climate resources. For a 50 percent contribution, funding would need to increase by 33 percent. To fully close the gap (100 percent contribution) will require a growth rate of 42 percent in private sector financing. This is far higher than the rate required for the West Africa region of 26 percent. The strength of the private sector to finance climate change initiatives in Nigeria lies in its ability to harness the interest of investors, investment funds, and credit institutions, which hitherto had not paid attention to climate change and sustainability investment opportunities in the country.

3.2.3 Emerging innovative private sector financing mechanisms for green growth and climate action

Nigeria's private sector climate finance landscape is nascent and addressing macroeconomic and structural constraints can support the development of this market to drive climate change and green growth ambitions

Mobilization of private climate finance in Nigeria is critical, and several innovative financing options exist to meet the country's 2030 NDC targets. As shown in Figure 3.5, the suite of climate financing is dominated by debt instruments, especially on market terms. Nigeria can tap into a wide range of innovative financing instruments which can provide an avenue for affordable, long-term financing without subjecting the country to fiscal and debt distress. The market for green bonds appears attractive, as evidenced by the high subscription rate on the government's issuance of ₦10.7 billion (about US$ 29 million) sovereign green bond in 2017 for a tenor of five years at 13.48 percent annual coupon. According to the FME (2017), this was the first in Africa and the world's first fully certified sovereign green bond.

Following a successful sovereign green bond issuance in 2018, Access Bank issued a ₦15 billion (US$ 41 million) five-year, 15.5 percent fixed rate bond to fund flood defense and refinancing of agricultural projects, energy efciency and support renewable energy solutions. This issuance, was the first certified corporate bond to benefit from the Nigerian Green Bond Market Development Programme. Since then, two other bonds have been issued, demonstrating a growing investor appetite for sustainable financing. The issuance by North South Power (NSP) of an ₦8.5 billion, 15-year, 15.6 percent bond, which the Infrastructure

Credit Guarantee Company also guaranteed, is today the longest-tenured corporate bond in the Nigerian debt capital market. The seven-year US$ 25 million issuance by OnewattSolar, a clean technology company, was a blend of green and Sukuk bonds to finance a pipeline of solar projects for residential estates, shopping malls, schools, and hospitals. This issuance was the first corporate green Sukuk in Africa. In 2017, Nigeria also issued a US$ 300 million 5-year diaspora bond at 5.6 percent. globally.
The success of both green bonds – sovereign and corporate – highlights Nigeria's potential to attract green finance. Successful issuance of sovereign green bonds show that the market for these debt instruments is attractive and Nigeria's capital market has potential to raise innovative financing, capitalizing on market appetite, especially for infrastructure indexed bonds. These securities could form an important source of mobilizing domestic resources to finance Nigeria's critical climate-resilient infrastructure and green growth imperatives, if well harnessed. Nigeria's relatively sophisticated financial system provides an opportunity to mobilize such resources to fill the private sector resource gap for climate change and green growth.

3.3 Opportunities and barriers for mobilizing private sector finance for green growth and climate action

3.3.1 Opportunities for private sector investments

The Nigerian private sector has the capacity to mobilize climate finance, and the country's investment potential remains high. Thus, if adequately incentivized, Nigeria's large private sector, non-financial and financial corporations and small and medium enterprises could contribute to filling the climate financing gap. Investment opportunities abound for innovative financing options. According to the Nigerian Sustainable Finance Roadmap, Nigeria can lurch onto a sustainable growth path through, inter alia, investment in agriculture and sustainable land use, health care and education, low-carbon transportation, ICT, digital infrastructure, and green manufacturing, that can be privately financed through the banking system and the capital markets.

While private sector investors can provide a large share of financing, the public sector can underwrite more risks, take on equity/ junior tranches, provide guarantees and credit enhancements, as well as help with project selection and assessment, capacity development, and diversification for the private sector (IMF, 2022).

In the health sector where private returns may be minimal, the private sector can leverage Nigeria's untapped potential of public private partnerships for transformational and sustainable healthcare services. For instance, private investment of US$ 0.53 billion for the planned 50MW solar electrification of 100,000 health centres serving 100 million across the country could prevent up to 1,700 deaths and 40,000 illnesses, annually. In transport, the roll out of e-mobility could crowd-in private sector financing of US$ 0.8 billion for vehicle and charging terminals (FGN, 2022).

Large cities such as Lagos offer huge opportunities for private sector financing, in such services as water and sanitation, both for revenue generation and creation of climate resilient and sustainable green habitats. For instance, the Lagos State's Wastewater Treatment Plants process only about 6 percent of total wastewater. With investment requirement projected to be abount US$733 million in 2025, budgetary sources from the State Government are insufficient to meet the investment needs. This presents an opportunity to for the private sector investment in the water sector.

3.3.2 Barriers to private sector investments

Despite the numerous climate investment opportunities and Nigeria's ranking among the top three in Africa, private sector financing for climate change and green growth has remained

Constrained capacity in identifying and implementing green projects is holding back the mobilization of climate finance at scale.

very low in relation to the economy's needs. Several barriers prevent the private sector from mobilizing climate finance at scale. In a report authored by the consortium of partners, and the Nigerian Sustainable Finance Roadmap (UNEP, 2018) key obstacles range from macroeconomic instability to structural and sector-specific bottlenecks as well as capacity constraints in identifying and implementing green projects. Some of the barriers are highlighted below:

- Ineffective and inefficient policies and regulations. The mobilization of private sector financing for climate change and green growth in Nigeria currently lacks a robust regulatory and governance framework to address risks associated with sustainable investing. One study notes that sustainable environmental management is fraught with ineffective, unenforceable and non-implementable laws and policies, and a weak and uncoordinated institutional framework (Ogunkan, 2022). Policy implementation is also not subjected to robust monitoring, evaluation and learning, to assess the efficiency of the climate and green growth policies and measures (World Bank, 2021). Lack of coordination and overlapping mandates across implementing agencies in Nigeria hampers effective implementation of otherwise well designed policies (FGN, 2023).

- Currently, private sector finance investment business models are limited to programs and projects with relatively low perceived risks while avoiding riskier investments that cover critical climate crises and green growth projects that address mitigation and adaptation and offer opportunities for higher risk-adjusted returns. For instance, the yields of relatively risk-free government bond securities have fluctuated between 13 percent and 16 percent over the past 6 years. This can create challenges for climate and green growth projects competing for scarce private capital (UNEP, 2018).

- Undeveloped domestic green bond market: despite some notable issuances, the market for green bonds remains thin, especially for non-sovereign and corporate issuances. Thus far, less than US$ billion has been mobilised through green bonds. Yet the market for risk free Federal Government of Nigeria bonds is active with total outstanding stock of 16.4 trillion (equivalent to US$ 35.7 billion) and secondary market trading at the Nigeria Stock Exchange.

3.3.3 Pathways to mobilizing private sector finance for climate action and green growth in Nigeria

Local content development policy and strategies should create incentives and opportunities for private sector investment in climate action and green growth

Furthermore, local content requirements and priorities of national development strategies should provide opportunities for private sector investment in climate and green growth . There is competition for limited private climate financing, and Nigeria should position itself in the market by creating opporutnities for private investment climate action and green growth that aligned with national policies and strategies such as the NDCs and other climate action plans. The effectiveness of the Nigerian Content Development and Monitoring Board charged with enforcing compliance with local content policy, will determine the success of Nigeria's strategic orientation in promoting private sector investment in climate-resilient and green growth pathways. According to some estimates, awarding contracts to Nigerian local firms by multinational companies could have strong economic benefits. For instance, a yearly contribution of US$ 5.6 billion to Nigeria's GDP is estimated to come from the contracts awarded to Nigerian local companies by the SHELL oil company in Nigeria.To be beneficial, the coverage of the local content policy should be expanded to include non-oil sectors through relevant policy and regulatory bodies without

creating duplication and overlapping mandates. This will ensure that clean and greener private sector investments cover all sectors of the Nigerian eocnomy.

A new approach is needed to mobilize private sector financing in profitable climate-resilient infrastructure and green growth projects

Given Nigeria's limited fiscal space, the private sector has an opportunity to scale up investment in infrastructure in general and in climate resilient infrastructure and clean energy systems more specifically. Catalyzing private investment in climate and green will require a new approach where such investment is viewed as profitable rather than social goods that does not assure return to private capital. For instance, enacting the Petroleum Industry Act (2021) has paved the way for catalytic investment in oil and gas and the entire petroleum value chain. This has been bolstered by the restructuring and commercialization of the Nigeria National Petroleum Corporation into a limited company to infuse efficiency and accountability into the country's flagship energy monopoly. This landmark policy decision is key to unlocking opportunities for private sector investment in energy through improved transparency and competitive pricing of petroleum products. Significant resources will, however, be needed along the entire energy value chain -- generation, interconnection, transmission and distribution, mini-grids, and off-grid access -- to achieve universal access to clean energy and electricity by 2030.

Designing a robust regulatory framework for climate risk assessment in portfolio management

Nigeria has a growing and vibrant financial sector, but sector players' lending and investment policies are limited to traditional industries (UNEP, 2018). Financial institutions must innovate and develop products that address the country's growing climate vulnerability. A deliberate increase of portfolio exposure to sustainable and low-carbon assets leveraging best practices will signal the sector's willingness and readiness to green the Nigerian financial sector. This should be supported by a regulatory framework that allows for incorporating climate and environmental metrics and scenario-based risk analysis into portfolio management. This could build on support from the United Nations Environmental Programme in developing a robust monitoring and disclosure framework for financial institutions to report their financial carbon footprint to the CBN and other financial regulators.

The development of blended finance can unlock private sector climate and green growth financing

Past experiences in the private sector development of mini-grids provide some valuable lessons on the potential of blended finance in addressing the fiscal constraints to infrastructure investment. Catalyseing the market for blended finance, especially in climate and green growth areas in Nigeria, can benefit from results-based incentives. The demonstration effects of the Performance-Based Grant (PBG) program launched by the African Development Bank (AfDB), World Bank, and the Nigerian Rural Electrification Agency provided classic example of the transformational impact of such incentives. These instruments can be paired with private capital to support the deployment of solar-hybrid mini-grids and other green infrastructure projects. Such incentives should however be carefully designed to minimize administrative burdens on developers. For example, using digital platforms can allow for remote metering of mini-grids to prove their reliability, rather than relying on manual verification from independent agents (BloombergNEF, 2023).

The PBG program, which uses a blended finance model, offers grants to mini-grid developers of US$ 600/connection on a first-

come, first-served basis, with a minimum grant request of US$ 10,000 per mini-grid and total concessional financing of up to US$ 48 million. Through this model, the program has gained pace, with increased private sector investment. The announced joint agreement by Engie Energy Access and CrossBoundary Energy Access in October 2022 to finance a US$ 60 million portfolio of mini-grids is instructive. The agreement is the largest mini-grid project finance transaction in Africa to date and seeks to provide electricity to 150,000 people by 2026 (BloombergNEF, 2023).

Blended finance tends to converge towards those sectors where the business case is clearer and the potential for revenue streams stronger. The federal government should therefore consider incentivizing private sector investments to support specific sectors in climate change and green growth, especially in areas of adaption. While private-sector investors can provide a large share of financing, the public sector should facilitate such investment through de-risking private capital and help with project selection and assessment, capacity development, and diversification (IMF, 2022).

3.3.4 The Role of DFIs and MDBs in unlocking private sector financing for climate change and green growth in Nigeria

Development Finance Institutions (DFIs) and Multilateral Development Banks (MBDs) are critical in unlocking private sector financing for climate change and green growth. These institutions have been critical in ameliorating the financing obstacles, especially for Micro, Small and Medium Enterprises (MSMEs) that often face difficulties accessing credit from mainstream banks and non-bank financial institutions. The main contribution of DFIs and MDBs to the financing landscape is through the provision of long-term or concessional resources and credit guarantees to ease the risk of small borrowers. Through risk-based instruments, DFIs and MDBs can unlock private sector finance and support Nigeria's transition to a low-emission, resilient development pathway. This risk-agnostic approach is critical to increasing investments in priority sectors that promote climate resilience and green growth.
As highlighted above, the results based-grant by the AfDB and World Bank has created opportunities for the emergence of a blended finance market for developing clean energy in Nigeria. Thus, by creating markets where these have been missing, MDBs can mobilize investment indirectly by supporting governments through sector governance reforms. This is even more critical in climate change and green growth, where local capacity is weak. The intervention by MDBs has helped remove specific barriers to investment to scale up climate action.

The establishment of the Development Bank of Nigeria (DBN) has changed the country's financial architecture of development finance. The DBN, established with seed capital from bilateral and multilateral institutions, including the AfDB, can stimulate the mobilization of private sector financing of climate change and green growth. Recently, the DBN, in collaboration with Financial Centre for Sustainability Lagos (FC4SL) and the Nigerian Climate Innovation Centre (NCIC), signed a memorandum of understanding (MoU) to fund green projects. The DBN will be the funding partner for green projects across the country through this MoU, while the NCIC and FC4SL will be service providers. The pact's goal is to create a dedicated fund for green projects within the MSME ecosystem to enable them to have access to finance to execute climate resilience and green projects. The MoU provides a general framework for financing green MSMEs, reviewing the ideation and design of projects, building capacity, and ensuring the financial readiness of MSME projects. One of the key focus areas is providing services for women-led MSMEs in green areas, research and data provision, and project verification.

4 NATURAL CAPITAL FOR CLIMATE FINANCE AND GREEN GROWTH

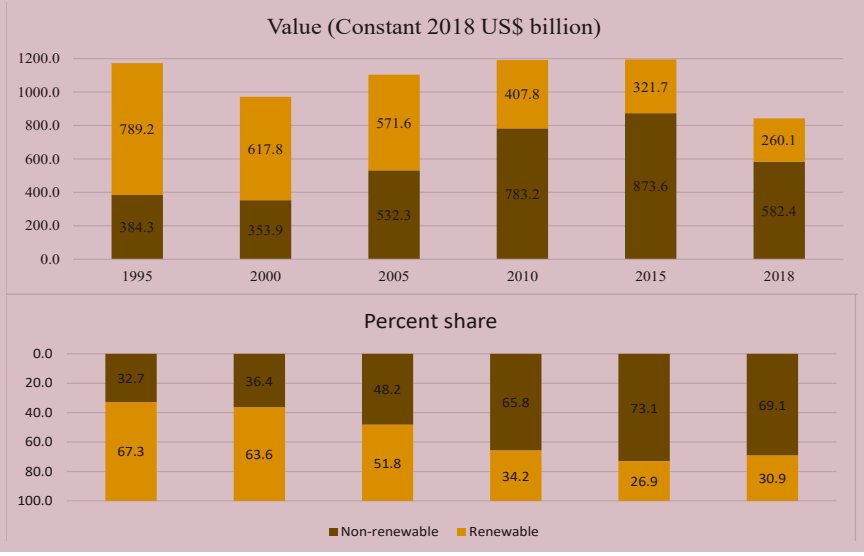
4.1 Evolution of Natural Capital

Natural capital connotes the stock of renewable and non-renewable natural resources (e.g. mineral, oil and gas deposits, forests, timber land, wild animals, air, water, soils, wind and sun) that provide one form of benefits or services to people. The renewable resources consist of forest timber and forest non-timber products, mangroves, fisheries, protected areas, cropland, and pastureland, while the non-renewable resources include oil, natural gas, coal, and minerals. Natural assets may also include unmeasured assets such as the energy potential from solar, wind and hydro resources and pristine services such as landscapes and marine assets. Disequilibrium in the usage of natural capital, especially for non-renewable assets, can harm the environment and affect people's livelihoods and therefore require prudent utilization and sustainable management for the benefit of future generations. Figure 4.1 shows the evolution of Nigeria's natural capital by broad category from 1995-2018.

Over the years, the value of Nigeria's natural capital has fluctuated, reflecting changes in use, replenishment, and management. In 1995, the value was estimated at US$ 1,174.6 billion (in constant 2018 prices), and after a decline to US$ 972 billion in 2000, there was a steady increase, reaching a high of US$ 1,195.2 billion in 2015. However, with the rise in insecurity in much of the country's forestry areas and inter-communal conflicts between herders and farmers in the country's agricultural heartland, the value decreased in 2018 to about US$ 842.6 billion, which is 70 percent of US$ 1,195.3 billion, the highest value recorded in 2015. As seen in Figure 4.1, the decrease in the value of natural capital was mainly due to a decrease in stock of renewable natural assets, which would stem from overexploitation, especially in forests and fisheries.

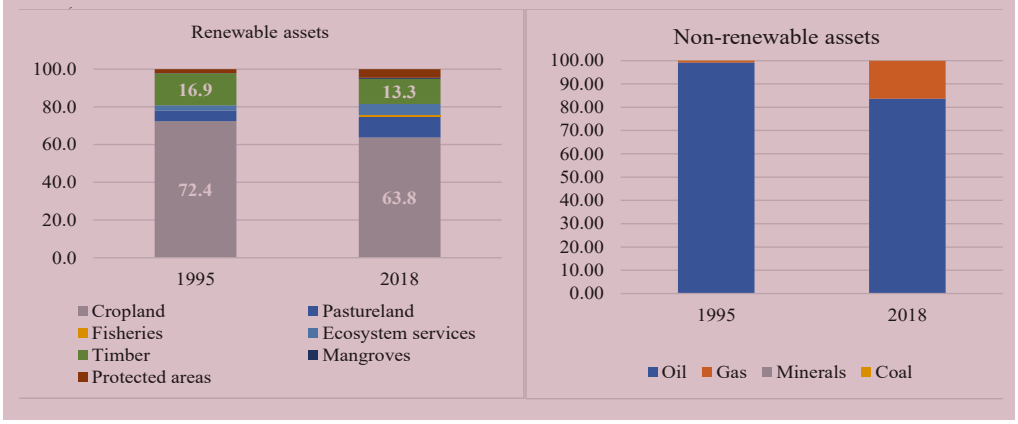
The value of Nigeria's natural capital was estimated at about US$ 842.6 billion in 2018 below its peak of US$ 1,195.3 billion in 2015, resulting from overexploitation, especially of forests and fisheries resources.

Figure 4.1: Evolution of Nigeria's natural capital by type



Source: Staff calculations using data from submitted NDCs (as of April 2023) and CPI's Landscape of Climate Finance in Africa database.

Figure 4.2: Contribution of natural capital assets (percent of total)



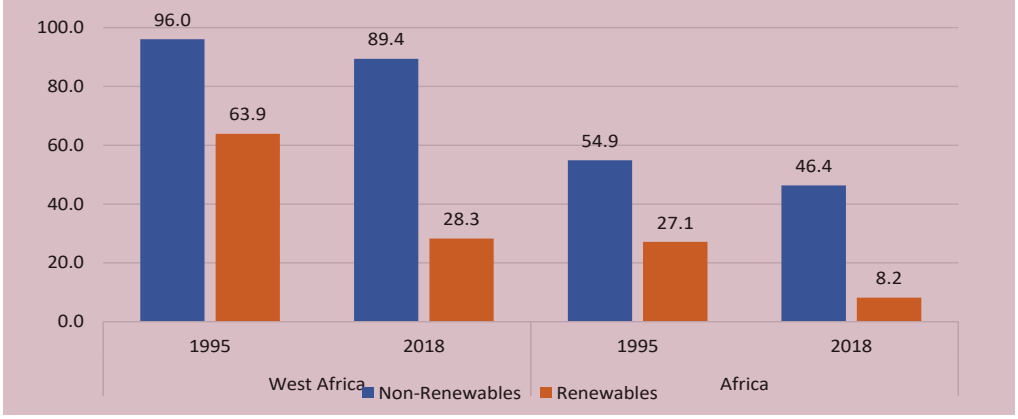
Source: AfDB Staff calculations using data from the World Bank (2021).

Whereas renewable assets accounted for about US$ 790 billion in 1995, the value decreased by more than half to US$ 264 billion in 2018, with the share of cropland and timber recording the largest decrease. All other categories recorded an increase (see Figure 4.2).

In contrast, the value of non-renewable natural capital increased from US$ 384 billion in 1995 to US$ 582.4 billion. In 2018, the value of natural capital was 70 percent below that in 1995. Oil is Nigeria's main source of energy and foreign exchange. In 1995, its value was estimated at US$381 billion, reflecting the country's large proved reserves, which stood at 20,828 million barrels, representing 2.7 percent of OPEC's total proved reserves. In terms of share (see figure 4.2), oil accounted for 99.24 percent of Nigeria's total non-renewable capital in 1995, with the rest distributed across gas (0.75 percent) and coal (0.02 percent). In 1995, gas reserves amounted to 3,474 standard cubic metres with an estimated value of US$ 2.9 billion. More reserves have been discovered, bringing Nigeria's proven natural gas deposits endowment to 208.62 trillion cubic feet in 2022 (Ripples Nigeria, 2022). The increase in gas reserves raised its share in total non-renewable assets to 16.2 percent, with that for oil decreasing to 83.7 percent, despite an increase of 28 percent in value to US$ 487.3 billion.

By regional comparison, Nigeria's share of renewable and non-renewable assets has decreased in West Africa and the continent(Figure 4.3)

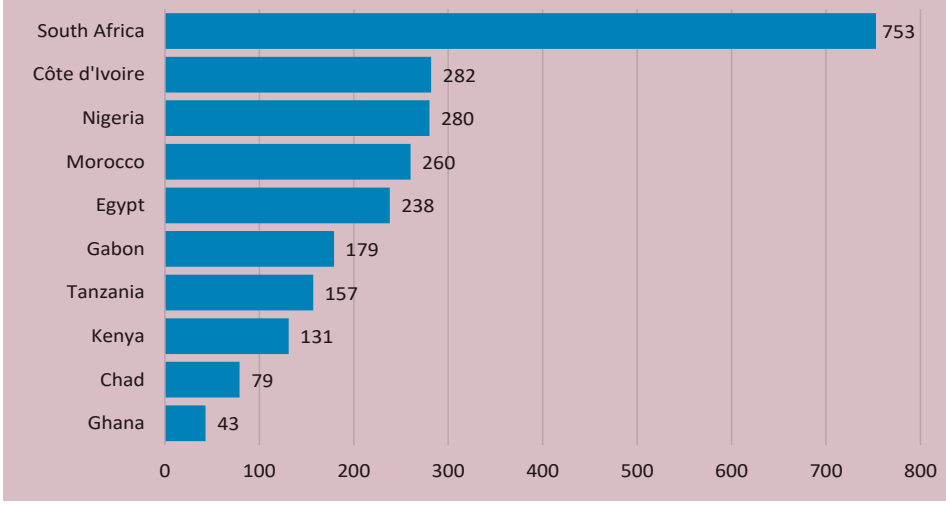
Figure 4.3: Nigeria's regional share of natural capital (percent of total)



Source: AfDB Staff calculations using data from the World Bank (2021).

In 1995, the country accounted for 96 percent of non-renewables and 64 percent of renewables in West Africa. The corresponding shares were 55 percent and 27.1 percent at the continent level, respectively. The share across both assets declined in 2018, to 89 percent and 28 percent for non-renewables and renewables in West Africa and for Africa, the largest decline was for renewables, to 8.2 percent from 27.1 percent in 1995. The share of non-renewables has fallen by more than 50 percent to 46.4 percent in 2018 for Africa. These decreases highlight the emergence of new players in both asset classes. For non-renewable natural capital, several countries have reported discoveries in oil and gas, which have sliced Nigeria's share. For example, Ghana, Senegal and Uganda accounted for about 2.0 percent of the total value of oil in 2018, up from virtually nothing in 1995. Similarly, for renewables, although Nigeria ranks third in Africa on investments in renewable energy, this investment is more than three times below South Africa's, and does not reflect the country's full potential (figure 4.4).

Figure 4.4: Top 10 African countries for renewable energy investment (US$ millions), 2021



Source: BloombergNEF (2023)

A rise in population has dwarfed the increase in Nigeria's resource endowment. In per capita terms, renewable and non-renewable assets have declined in value since 1995.This shows that natural capital has not been productively utilised. Thus, there is need for an alternative approach to add value or increase productivity of Nigeria's diverse natural capital assets.

4.2 Opportunities for Enhancing the Contribution of Natural Capital

Nigeria ranks 10th globally and first in Africa, with oil reserves totalling about 37 billion barrels. It is estimated that 237 years of oil are left at current consumption, accounting for 0.4 percent of daily global consumption. The country's gas reserves are equally huge. With an estimate of 208.62.5 trillion cubic feet of natural gas in 2022 (Ripples Nigeria, 2022), Nigeria is 9th globally, first in Africa accounting for 33 percent of the continent's gas reserves with the capacity to meet the continent's electricity needs. Yet currently, gas production stands at only 8.5 billion standard cubic feet per day. Oil production has also been falling due to bunkering and vandalism of production terminals.

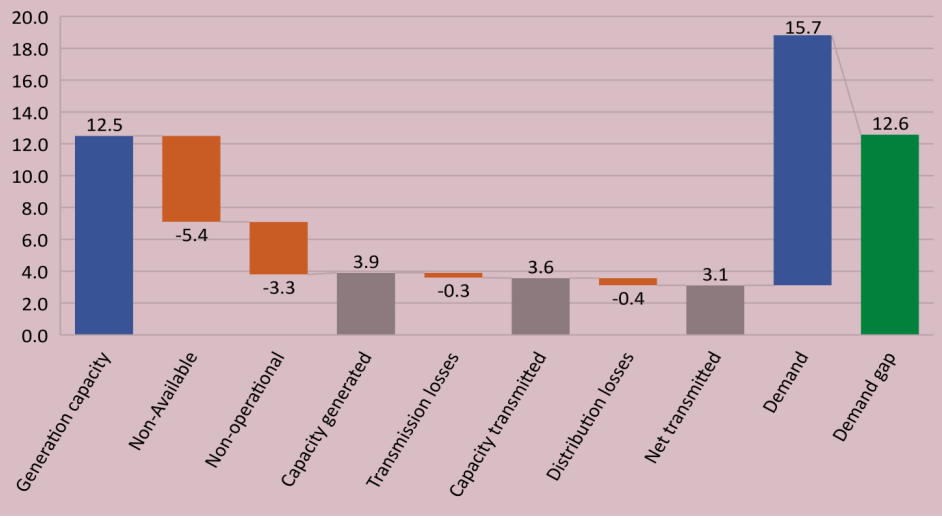
Since 1995, crude oil production has averaged less than 2 million barrels per day (mbpd) according to data by the Nigerian Upstrean Petroluem Regulatory Commission (NUPRC, 2022)and as a result, Nigeria imports the bulk of its domestic consumption of finished petroleum products. According to statistics

from the National Bureau of Statistics, imports of finished petroleum products (mineral fuels) amounted to ₦ 10.1 trillion (about US$ 22 billion). With such large oil reserves, significant gas deposits, and abundant sunshine for solar energy, Nigeria has sufficient natural resources that can help transform the economy. With the electricity sector suffering from systemic power outages, Nigeria represents a classic case of ineffective state capacity to convert natural capital into human and physical capital. Yet Nigeria has numerous opportunities to rid itself of the tag of Africa's sleeping giant.

4.3 Natural gas can help tackle climate change and engender green growth in Nigeria

Nigeria generates the bulk of its electricity from gas. Of the country's active plants, gas has the potential to generate about 12 GW of electricity, which is about 73 percent of the total installed capacity. Despite this huge potential, the gas shortage due to flaring has affected electricity generation. It is estimated that more than 40 percent of power plants in Nigeria cannot produce electricity due to insufficient gas.Thus, Nigeria has not harnessed its gas resources to create opportunities for reliable and stable electricity. As a result, the Nigerian electricity market has a deficit of more than 12 GW. (Figure 4.5). The overburdened power supply results in systemic disruptions, which impose substantial economic costs.

Figure 4.5: Demand gap in Nigeria's electricity market (GW)



Source: Nigeria Power Baseline Report.

Power outages are estimated to cost about US$ 26.2 billion (equivalent to about 2.0 percent of GDP, the same as public expenditure on health and education combined). This has been exacerbated by subsidizing fossil fuels, with attendant implications and risks to environmental sustainability, green growth, and human health.

Removing the subsidy on PMS, the effective implementation of the 2017 Gas Policy and operationalization of the ETP present significant opportunities for Nigeria's energy transition, climate change and green growth pathway. Gas remains a key pillar in Nigeria's national development agenda, and 2021 was declared a year of natural gas. In 2022, the federal government enacted the Petroleum Industry Act 2022, ending years of procrastination to advance petroleum sector reforms. Nigeria has also launched the Gas Master-Plan Policy initiative, launching the Nigeria Gas Flare Commercialisation Programme (NGFCP), which aims to reduce waste, promote the monetization of natural gas, and set a target to eliminate flaring. Nigeria ranks 7th in the world

for gas flaring, with approximately 40 percent of gas from crude oil production flared, the same share as for Africa's total gas flaring.

Efforts to improve gas usage, complemented by legislation in other areas, reflect political commitment and support to transform the energy sector for prosperity, building Nigeria's climate resilience and fostering green growth. The NGFCP seeks to attract about US$ 3 billion in capital investments and develop a transparent market mechanism through a competitive procurement process for allocating gas flares under clear and transparent criteria. The NGFCP could provide six million households with clean energy using Liquefied Petroleum Gas (LPG), eliminating 20 million tonnes of CO^2 emissions. It also targets to generate 2.5 gigawatts of electricity and create over 300,000 jobs.[6] The gas flare regulation has been signed into law to promote gas monetization, which mandates the oil producer to provide access to any off-takers and increases the financial penalty on flared gas. In the long-term, and as part of the ETP, the government targets to produce 10 GW of electricity from gas by 2060.

Besides oil and gas, Nigeria has at least 40 minerals, including marble, gypsum, lithium, silver, granite, gold, gemstones, bentonite, iron ore and talc. The mining and solid mineral sector has always been a viable greenfield for investment and economic transformation, but policy implementation has failed to tap into this potential. The solid minerals sub-sector also presents an opportunity to diversify exports and fiscal revenues. Nigeria could benefit from this transition with global dynamics shifting towards green development. But more is needed to tap into growing opportunities. The minerals sub-sector is plagued with issues ranging from inadequate infrastructure to illegal artisanalmining and community challenges. Addressing these issues can support the country's drive towards climate resilience and green growth in Nigeria.

The dominance of oil and gas has dwarfed the development of the solid minerals sub-sector. However, the growing global market for electric vehicles and other green technologies presents an opportunity for investment in green development minerals, such as lithium and copper, for revenue diversification and driving inclusive and climate-resilient economic growth. The reported discovery of over 3000 lithium pegmatite bodies across the country with grades comparable to leading global producers bodes well for Nigeria's future of green development. Even without the benefits of the rising global market, Nigeria can leverage its large domestic market for the deployment and beneficiation of such minerals in the manufacturing of lithium-ion batteries and components of smart electronic devices as well as clean energy.

There is already an emerging albeit small market for lithium-ion batteries, with projections to expand by more than 60 percent from 2020-2025. Nigeria has been a source of raw materials, but this narrative can be reversed by developing its strategy to enhance mineral value chains. Leveraging mineral resource opportunities requires a blueprint to guide investments in the sector and critical metals such as the lithium-ion battery value chain development. The lithium-ion battery manufacturing can also help power the two-and three-wheelers. Nigeria is Africa's largest importer of motorcycles, with a spending of about US$ 450 million (2.4 percent of total global imports) in 2015, ahead of Egypt (US$ 166 million), South Africa (US$ 123 million), Kenya (US$ 98 million), and Tanzania (US$ 93 million). The benefits derivable from such efforts include creating green jobs in the transport and manufacturing sector and mitigating climate change impacts.

Currently Nigeria's two-wheeler market is projected to surpass US$ 153 million by end of 2023 (Research and Markets, 2018). Despite the huge demand for motorcycles, Nigeria relies on the importation of used motor vehicle spare parts from Asian countries. Nigeria can use its major market status as well as other

[6] Nigeria Gas Flare Commercialisation Programme (2018) Harnessing Nigeria's flare gas for sustainable wealth creation, presentation to the Ministry of Finance, January 2018.

markets in the Economic Community for West Africa States (ECOWAS) region to develop a regional market for motorcycles. This is a huge opportunity for import substitution as well as creating value addition along the battery and electric vehicle (especially motorcycles) value chain.

4.4 Tapping Nigeria's renewable resource potential for economic transformation

Nigeria's growing population will increase domestic demand for energy and other social services. This presents an opportunity to develop renewable natural capital resources to spur inclusive growth, climate change, and improved livelihoods. Meeting the country's aspirations for a prosperous country in line with its Vision 2050 and the Medium-Term National Development Plan 2021-2025 hinges on the provision of sustainable energy sources to meet the growing needs of all sectors of the economy and achieve universal access to modern energy services. It also involves the transformation of the country's agriculture through the green revolution, focusing on smart and climate-resilient farming practices whilst ensuring sustained food security for the country.

Through the Renewable Energy Roadmap, Nigeria has demonstrated how renewable energy technologies can support the achievement of a sustainable energy mix to meet the country's growing needs. By tapping into the country's abundant, untapped renewable resources, Nigeria can cost-effectively provide sustainable energy for all its citizens. According to the ETP target, Nigeria seeks to transition to net zero and fully electrify its economy by 2060. Specific targets focusing on renewable energy sources are, inter alia: the development of nearly 100 GW of solar energy, leveraging its enormous potential of sunshine, especially in the northern part of the country; 34 GW from hydrogen, 11 GW hydro, and 15 GW decentralized renewable energy. These are ambitious targets but reflect the reality of the country's potential to develop a sustainable renewable energy system that can support socioeconomic transformation and address climate challenges and energy poverty. Increasing the share of renewable resources in Nigeria's energy mix could reduce the supply-demand gap and catapult the country to a higher economic growth rate and energy trajectory consistent with the country's climate change and green growth agenda. This means that Nigeria needs to exploit technologies and build an energy infrastructure to drive green industrialization and create green jobs. The projected switch to 90 percent renewables could generate significant savings of about US$ 121 billion in fossil fuel costs for power.

Nigeria's forestry sector also has large potential to generate jobs and state revenues and for carbon sequestration. However, the industry is impacted by illegal logging and the illicit trade in timber and other rare tree species. Nigeria's forest area has dwindled over the years due to deforestation, expansion of agricultural lands and other agents of forest conversion. Today the country has a moderate forest cover of 11 percent and 20 percent. The loss of forest cover from illicit logging and wood for cooking threatens efforts to tackle climate change in Nigeria. There are currently large gaps in forest governance laws reflected in weak capacity, lack of resources and enforcement of sanctions. There is thus a need for a robust policy and regulatory framework to curb illicit activies in the forestry sub-sector. Policies should also encourage the adoption of sequestration technologies and approaches which could also benefit from carbon trading.

Nigeria's agriculture sector is also prone to the vagaries of climate change heightening the country's food security. A 2022 report by the Foundation for Environmental Rights, Advocacy and Development shows that climate change is reducing crop yields and the nutritional quality of major cereals and lowering livestock productivity. Due to northern Nigeria's desertification and water depletion, nomadic herders have shifted southwards in search of

pasture and water for their animals. This has stirred up clashes between competing land uses for subsistence farming and pastoralism such as between herders and farmers. The southward advance of the Sahara Desert, at an alarming rate of 0.6km per year, threatens to turn Nigeria into a desert. About 350,000 hectares of land have already been lost to desertification, maiming arable land and displacing thousands of people in villages across 11 states in the north.

Turning this harsh climate change reality into an opportunity requires collaboration among federal, state and local government agencies. Key focus areas include (i) integrated land and water management to protect soils from erosion, salinization, and other forms of degradation; (ii) protecting the vegetative cover, which can be a major instrument for soil conservation against wind and water erosion; (iii) integrating the use of land for grazing and farming with involvement of herders and farmers to create conditions for co-existence within the broader framework of Nigeria's agricultural policy; (iv) empowering local communities with skills and knowledge to better plant and manage forests through the integration of traditional practices with locally acceptable and locally adapted land use technologies; and (v) improving natural capital governance (laws, regulations and systems) which influence management of resources (relationships between various communities and social groups involved in competing land uses).

5 CONCLUSION AND POLICY RECOMMENDATIONS

5.1 Conclusion

Nigeria's real GDP growth decelerated to 3.3 percent in 2022 from 3.6 percent in 2021, and is projected to remain at the same level in 2023-2024. The removal of the subsidy on the premium motor spirit in February 2023 is expected to help narrow the fiscal deficit to below 5,0 percent of GDP in 2023–2024, from 4.9 percent in 2022.

Nigeria's climate financing is extremely low and dominated by public resources. However, given the country's fiscal constraints, leveraging its large private sector and small businesses, if properly incentivized, could contribute to climate finance and drive green growth. The country is also endowed with abundant natural resources, oil and gas reserves, vast forests, and land, providing additional and complementary investment opportunities for meeting the country's climate and green growth ambitions. Tapping into private climate finance and natural capital could accelerate Nigeria's transition to a climate-resilient, green economy. Achieving this will require implementing deliberate and carefully tailored domestic policies supported by the international community, in order to harness the transformative potential of private financing and natural capital. The following set of policy recommendations should be considered at different levels of intervention and actors:

5.2 Policy recommendations for a stable macroeconomic performance and outlook

To achieve a stable macroeconomic performance and outlook, Nigeria needs a mix of short term and medium to long-term policies.

In the short term:

- The recent reforms, including the removal of fuel subsidies and unification of exchange rates, should be supported by social protection measures to cushion the vulnerable groups from the short-term effects of the policy actions and preserve private consumption.

- A tight monetary policy, supported by a prudent fiscal policy, will help mop-up the excess Naira liquidity in the economy to achieve lower inflation at minimum cost to the economy.

Over the medium to long term:

- Scaling up domestic revenue mobilization remains a critical policy action for Nigeria to restore fiscal sustainability and finance inclusive growth and sustainable development.

- Enacting strategic export-led industrial policies to accelerate revenue diversification in Nigeria would limit the effects of recurrent headwinds and global shocks, particularly emanating from oil price volatilities.

Strengthening governance through public financial management to improve efficiency of public spending.

5.3 Policy recommendations for private sector financing for climate change and green growth

5.2.1 For the Nigerian government authorities

Nigeria has several national policy and strategy frameworks that provide an architecture for mobilizing private sector financing for green growth and climate action.

- The government should design an implementation framework to operationalize these strategies and policies. Aligning these policies and strategies with Vision 2050 will also create synergy between the overall development agenda and sector-specific mandates in tackling the challenge of climate change and fostering green growth.

- The ETP provides ambitious targets for achieving net zero transition, including financing. Costing of the ETP provides a strong signal to domestic and international private investors on the resource needs to finance Nigeria's climate agenda and green growth ambitions. However, It is important that the authorities closely monitor and update the costs and indicator targets and ensure close alignment across all sectors outlined in the ETP, namely energy, transport, housing, and infrastructure.

- Strengthening governance and institutional accountability systems would ensure that private sector financing goes to relevant sectors with the largest resource needs and potential to generate the expected and maximum impact for green growth.

- Nigeria's financial sector is relatively dynamic and sufficiently complex to handle green finance instruments, as evidenced by the issuance of green bonds. Regularly updating the supervisory and regulatory framework is needed to facilitate market innovation and ensure developments in green financing are consistent with regulatory provisions.

- There is an urgent need to accelerate economic diversification by investing in non-oil and green economic sectors, support for private enterprise, removing barriers to growth (energy, finance, infrastructure, regulations) and applying resource rents to nurture green economic sectors through national instruments such as the Sovereign Wealth Fund.

- The authorities should allocate more public resources towards the development of blended finance instruments particularly in sectors that are currently underfunded but important for the green growth such as solid minerals, the gas sector to address flaring, and in renewable energy infrastructure, especially in mini-grids to increase the accessibility of electricity to the country's underserved rural areas.

- The government could use part of it's natural resource rent for robust data collection for natural capital valuation and accounting, empowering the National Bureau of Statistics to coordinate and transparently publish such data. Nigeria should develop natural capital accounts across key natural resources and ecosystem services and ensure it's integration into the national system of accounts. The recommendation on data collection should be accompanied by human capital development and capacity building across all government agencies and institutions.

5.2.2 Domestic and international private sector

Exercise stewardship through green investments to advance Nigeria's green growth agenda.

- Local and foreign investors should align their investment with national development stratgegies especially blueprints that promote the development of the green and climate resilient infrastructure.

- Both local and foreign rating agencies should recognize the full potential of the Nigerian green growth market without assigning risk ratings that do not reflect the underlying and relevant macroeconomic, climate and structural fundamentals.

5.2.3 Multilateral development banks and development financial institutions

Support Nigeria's ongoing efforts to address climate vulnerability and the risk of debt distress

- Nigeria's debt remains broadly sustainable, but the country's large funding needs amidst low revenue imply that additional borrowing may be required, including in the financing of the climate agenda. By scaling up the provision of concessional finance for green growth and climate change, multilateral development banks and development financial institutions (including the African Development Bank) will support Nigeria's sustainable growth while simultaneously ensuring the country does not fall into the risk of debt distress.

- The MDBs and DFIs should continue to de-risk and facilitate private investment in climate-proof projects that provide a forward-looking perspective for the green transition.

- Financial international development institutions should also provide technical support for developing a vibrant local currency domestic debt market, particularly tailored towards green bonds and other sustainable debt instruments.

- Invest in plugging data gaps, e.g. data on climate risksand capacity building to enable more effective policymaking.

5.2.4 Developed country governments

Meet international climate finance commitments and increase investments towards green growth

- Nigeria has a large climate finance gap, and to unplug this requires substantial support from developed partners. Developed countries should therefore meet the US$ 100 billion global climate finance target identified in the Paris Agreement. and take steps to balance investment between adaptation and mitigation.

5.4 Policy recommendations for increasing the natural capital contribution to climate finance and green growth

The focus on oil and gas has held Nigeria back. Yet, the country has other forms of natural capital that, if adequately and sustainably utilised, have the potential to drive economic transformation and poverty reduction through increased revenues, export diversification and employment creation. Further, a different strategy to decouple the Nigerian economy from its dependence on fossil fuels and towards more greener and climate-friendly sectors, such as green hydrogen and green minerals, is required to harness the transformative power of natural capital for financing climate and green growth ambitions. Therefore, the federal government, its development partners and other players should all play their part in enhancing the value and returns from Nigeria's natural resources. Possible areas of policy consideration for each player are highlighted below.

For the Nigerian government

- Address the problem of insecurity in attracting investment and harnessing the role of natural capital for economic transformation. Tackling insecurity has the added premium of building investors' confidence and drawing foreign capital in flagship investment projects across the country's six geopolitical zones and a broad spectrum of the economy – in agriculture, mining, oil and gas and manufacturing. Tourism has also suffered due to concerns of insecurity.

- With the enactment of the Petroleum Industry Act 2021, there is a need for policy coherence and harmonization across the industry value chain and allied sectors to exploit the synergies between the various sources of energy, especially power and gas. Rather than have separate and isolated policy directions and pathways for oil and gas, electricity, and clean cooking technologies, an integrated energy policy is essential to drive the ETP optimally and align with the broader developmental goals of the country regarding the role of the petroleum industry within the the context of the energy transition.

- Owing to the upfront capital intensity of renewables and the size of the challenge in developing the sector, there is need for transparent regulatory oversight and support to foster an enabling environment for investment in Nigeria's abundant natural assets. Nigeria can learn from other countries in Africa that have employed incentives and green subsidies in the development of renewables.

- Strong and sustained commitment to good governance is needed, especially in implementing different development and sector strategies to curb systemic resource leakages through illicit activities, including oil theft, smuggling, illegal refining, and illegal timber logging, among others.

- Adopt a holistic approach to reducing gas flaring to reduce carbon emissions and decarbonize by applying emission abatement technologies, implementing efficient operation measures, and using carbon offsets. Need for renewed commitment towards the Gas Flaring Reduction Partnership.

- Provide incentives for establishing the battery and electric vehicle (EV) value chain in Nigeria. Nigeria's two-wheeler market is projected to surpass US$153 million in value by end of 2023[7]. With such projected growth, private invetsors have a strong business case for manufacturing these emerging models of transport across major subrubs of the country. Nigeria can also use its economic size in the ECOWAS region to develop a regional market for the two-wheelers.

- For improved governance of natural resources, there must be deliberate efforts to safeguard biodiversity and ensure that extraction of various resources is done sustainably and equitably through proper Environmental Impact Assessment and Strategic Environmental Assessment to safeguard host communities' rights and protect biodiversity and natural habitat.

For regional and global international development community

- To invest in sustainable management of Nigeria's natural capital, there is a need for increased collaboration and coordination among stakeholders, including international and regional multilateral organizations, national governments, and the private sector (both international and local).

- Honor pledges and commitments in international agreements such as the

[7] https://www.researchandmarkets.com/reports/4482793/nigeria-two-wheeler-market-by-vehicle-type

agreement on a Loss and Damage Fund, the post-2020 Global Biodiversity Framework and the Paris climate agreement.

- There is great potential for the global community to recognize natural gas as a transition fuel and support resource-dependent poor countries to navigate the contours of the transition. Harnessing the opportunities created by the transition to low-carbon economies is at the heart of mobilizing targeted financial resources to support climate resilience and green growth.

- There is immense potential for the development of the circular economy in Nigeria. The international community should support and guide the country in different aspects of environmental, social and governance of natural capital, including how to catalyze investment opportunities in material reuse and recycling and overall protection of biodiversity. Initiatives that increase forest cover and/or reduce deforestation are crucial for low carbon development in Nigeria.

- Institutions such as the AfDB can play an important role in de-risking investments in climate adaptation, mitigation and nature-based assets. They can also support the effective operationalization and implementation of the Adaptation Benefits Mechanism and similar initiatives, such as the Global Biodiversity Framework.

- The AfDB and other regional bodies should continue supporting the Nigerian government in building capacity and institutional governance to reduce, eliminate, or halt illicit resources trade and financial flows.

- The AfDB and other regional bodies should continue to support the Nigerian government in adding value to its natural resources. For instance, it is estimated that Nigeria suffered huge trade deficits of US$ 5.37 billion over a period of ten years (2011 to 2020) or US$ 537 million per year associated with the importation of a few processed wood products: three secondary processed wood products[8] and seven tertiary wood products[9], valued at US$1.25 billion and US$ 4.12 billion respectively[10]. The AfDB could support the establishment of domestic wood product processing plants in Nigeria through the Special Export Processing Zones (SEPZs).

[8] Wooden furniture, builder wood, and cane/bamboo
[9]Printing/writing papers, packaging/paperboards, household/sanitary papers, newsprint, chemical wood pulp, cartonboards and wrapping papers.
[10]African Natural Resources Centre (ANRC). 2021. Wood processing and trade of wood products in Africa. African Development Bank. Abidjan, Côte d'Ivoire.

ANNEX

Indicators	Unit	2010	2015	2018	2019	2020	2021	2022 (e)	2023 (p)	2024 (p)
National Accounts										
GNI at Current Prices	Million US $	342,830	524,388	392,807	416,774	420,821	443,875	...	...	...
GNI per Capita	US$	2,130	2,850	1,980	2,050	2,020	2,080	...	...	...
GDP at Current Prices	Million US $	369,062	492,437	421,737	448,120	429,423	441,541	506,060	545,388	596,415
GDP at 2010 Constant prices	Million US $	369,062	466,144	471,192	481,597	472,956	490,205	506,168	523,142	539,665
Real GDP Growth Rate	%	9.7	2.7	1.9	2.2	-1.8	3.6	3.3	3.4	3.2
Real per Capita GDP Growth Rate	%	6.7	0.1	-0.6	-0.3	-4.2	1.2	0.8	0.9	0.8
Value Added: Mining and quarrying	Million US $	56,252	31,561	44,591	39,291	30,210	26,926	40,527	...	...
Value Added: Mining and quarrying	% GDP	15.2	6.4	10.6	8.8	7.0	6.1	7.8	...	...
Value Added: Fishing	Million US $	1,661	2,464	2,751	3,730	4,615	5,593	3,986	...	...
Value Added: Fishing	% GDP	0.5	0.5	0.7	0.8	1.1	1.3	0.8	...	...
Prices and Money										
Inflation (CPI)	%	13.6	9.0	12.1	11.4	13.2	17.0	18.8	19.6	13.6
Exchange Rate (Annual Average)	local currency/US$	150.3	193.3	306.1	325.0	359.2	398.8	423.3	463.2	480.2
Government Finance										
Total Revenue and Grants	% GDP	13.2	3.2	2.8	3.1	2.5	2.7	2.9	2.8	2.6
Total Expenditure and Net Lending	% GDP	15.2	5.7	7.0	7.5	7.5	7.9	7.8	7.5	7.4
Overall Deficit (-) / Surplus (+)	% GDP	-2.0	-2.5	-4.2	-4.5	-5.0	-5.2	-4.9	-4.7	-4.8
External Sector										
Terms of Trade Growth	%	8.9	-26.6	13.8	-5.9	-19.6	22.2	12.6	-9.6	-4.2
Current Account Balance	Million US $	14,469	-15,695	7,271	-13,673	-16,106	-1,896	605	-1,768	-457
Current Account Balance	% GDP	3.9	-3.2	1.7	-3.1	-3.8	-0.4	0.1	-0.3	-0.1
Debt and Financial Flows										
Debt Service	% exports	4.0	12.4	28.2	13.5	32.3	21.2	15.3	20.2	24.0
External Debt	% GDP	6.9	14.5	21.5	22.8	24.4	25.3	24.5	23.3	22.4
Net Total Financial Flows	Million US $	1,266	22,496	3,914	6,396	3,505	5,954	...	...	...
Net Official Development Assistance	Million US $	2,052	2,432	3,303	3,275	3,376	3,357	...	...	...
Net Foreign Direct Investment	Million US $	6,099	3,064	775	2,305	2,385	4,844	...	...	...
Demography										
Total Population	Millions	161.0	184.0	198.4	203.3	208.3	213.4	218.5	223.8	229.2
Population Growth Rate	%	2.8	2.6	2.5	2.5	2.5	2.4	2.4	2.4	2.4
Urban population	% of total	42.8	47.1	49.7	50.6	51.4	52.3	53.1	53.9	54.7
Life Expectancy at Birth	Years	50.9	51.8	52.6	52.9	52.9	52.7	53.6	53.9	54.1
Fertility Rate	births per woman	6.0	5.6	5.4	5.4	5.3	5.2	5.1	5.1	5.0
Poverty and Income Distribution										
Pop. living below national poverty line	% of total population	...	...	40.1	...	...	...	...	...	...
Population living below $2.15 a day	% of total population	34.9	32.3	30.9	...	...	...	...	...	...
Gini Index	%	35.7	35.9	35.1	...	...	...	...	...	...
Labor Indicators										
Labor Force participation (total)	%	60.4	56.5	58.3	58.9	58.3	58.4	58.9	59.0	...
Labour Force participation (youth)	%	30.7	24.0	24.6	24.8	24.5	24.6	25.1	25.2	...
Unemployment rate (total)	%	3.8	4.2	5.0	5.2	6.0	5.9	5.8	5.8	5.8
Unemployment rate (youth)	%	9.6	10.8	12.2	12.6	14.4	13.6	13.4	13.6	13.6
Natural Resources rents										
Total natural resources rents	% GDP	14.8	5.1	11.5	9.4	6.2	...	...	...	...
Oil rents	% GDP	12.9	3.0	8.8	7.4	4.4	...	...	...	...
Natural gas rents	% GDP	0.8	0.9	1.5	1.0	0.8	...	...	...	...
Mineral rents	% GDP	0.0	0.0	0.0	0.0	0.0	...	...	...	...
Forest rents	% GDP	1.1	1.2	1.1	1.0	1.0	...	...	...	...
Coal rents	% GDP	0.0	0.0	0.0	0.0	0.0	...	...	...	...
Natural Capital Renewable Resources										
Arable land	1000 hectare	33,000.0	35,000.0	35,000.0	35,000.0	35,000.0	...	...	...	...
Agricultural land	1000 hectare	67,817.0	68,633.6	69,123.5	69,286.8	69,450.1	...	...	...	...
Other land	1000 hectare	...	...	...	...	...	...	...	...	...
Forest land	1000 hectare	23,260.0	22,443.5	21,953.6	21,790.3	21,627.0	...	...	...	...
Planted Forest	1000 hectare	232.6	224.4	219.5	217.9	216.3	...	...	...	...
Annual freshwater withdrawals, total	% of internal resources	5.6	5.6	5.6	5.6	...	...	...	...	...
Total Fisheries Production	metric tons	817,516.0	1,027,058.0	1,169,478.0	1,114,556.3	1,044,812.4	...	...	...	...
Climate Finance and Green Growth										
Total Climate Finance*	Million US $	...	...	...	...	1,994.9	...	...	...	...
Green Growth Index**	%	43.1	42.7	42.7	42.9	42.9	42.9	...	...	...

Source : AfDB Statistics Department: African; IMF: World Economic Outlook,April 2023 and International Financial Statistics, April 2023;
AfDB Statistics Department: Development Data Portal Database, April 2023. United Nations: OECD, Reporting System Division.

Notes: ... Data Not Available (e) Estimations (p) Projections Last Update: June 2023

* Source: Climate Policy Initiative (www.climatepolicyinitiative.org)

**Source: Global Green Growth Institute (GGGI). The scores for the Green Growth Index range from 1 to 100, with 1 having the lowest or very low performance and 100 having the highest or very high performance

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