OYAN DAM

9-MEGAWATT

HYDR-ELECTRIC POWER PROJECT CONCESSION

INFORMATION MEMORANDUM

March 2024

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EXEUCUTIVE SUMMARY

Geographical Location

The Oyan River Dam is in Abeokuta North local government area of Ogun State in the West of Nigeria, about 20 km northwest of the state capital Abeokuta. The dam crosses the Oyan River, a tributary of the Ogun River. It is used primarily to supply raw water to Lagos and Abeokuta but has potential for use in irrigation and power generation.

Structure

The dam was commissioned on 29 March 1983 by President Shehu Shagari and is operated by the Ogun-Osun River Basin Development Authority (O-ORBDA). The lake is in the savannah region, with sparse trees and grasses and low fertility.

Impact

During construction, 22 villages were submerged, with the displaced people moved to three settlement camps. Some of the settlers fish the lake and farm vegetables along the fertile shoreline as the lake recedes in the dry season. A 2009 study of levels of urinary schistosomiasis in the Ibaro-Oyan and Abule Titun communities, which depend on the Oyan Dam for their livelihood, found high levels of infection due to use of untreated water.

An earlier study in 1990-1993 had indicated that the risk of the disease, which is carried by snails, could be greatly reduced if the reservoir were continuously discharged during the hot dry season.

Operations

In May 2009, after heavy rainfall the dam operators were forced to release exceptional amounts of water from the dam for safety reasons, causing some flooding over an area of 2,800 hectares. In February 2010 the dam was failing to deliver sufficient raw water for the Abeokuta water works to meet demands. The water works was also struggling with equipment failure due to a power surge. Residents of Abeokuta were forced to rely on rivers

and streams to meet their water needs. The Ogun State Water Corporation attributed the problem to the unreliable supply of electricity from the Power Holding Corporation of Nigeria.

Potential

In 2010 the federal government budgeted N43 million for construction of the gravity irrigation scheme at the dam and N11 million for dam operations. The dam was intended to support 3,000 hectares in the first phase, but the land had been lying fallow.

In November 2009 the Minister of Power, Rilwan Lanre Babalola paid an inspection visit to the dam and said the Federal Government had earmarked a substantial sum for rehabilitation of hydro-electric Dams across the country. The lake is relatively rich in fish and other wildlife, and has potential for ecotourism.

Environmental and Social Impact Assessment

The hydro project is dam based and has the preliminary structure already in place.

The project entails rehabilitation of existing structure and construction of additional infrastructure to exploit the power generation potential resulting from the storage of water in the dam and the other renewable energy source: solar. Therefore, there is minimal impact on the surrounding environment due to new constructions or transportation of fuel. There is no requirement for resettlement of population around the Project. As the projects on their own: hydro and solar, are of smaller capacity (10 MW or less), environmental impact is minimal.

From a power project perspective, the environmental aspects are broadly divided into 2 categories, i.e., during construction and post commissioning of the Project. The major environmental issues during construction phase include: temporary shelter of construction workers and managerial staff, conflicts due to large construction force, downstream water quality (reduced dissolved oxygen), barriers to aquatic life.

Since the dam was constructed more the 30 years ago, community displacement and resettlement issues are not a concern. Similarly, the possible conflict and health impacts on local population are also not envisaged due to this project.

Statutory Consideration

- The BPE, serving as the secretariat for National Council on Privatisation (NCP), is charged with the overall responsibility of implementing the council's policies on privatisation and commercialization, is empowered to engage the private sector to concession the Oyan Dam 9 MW Hydro-electric Power Plant project, provided that this is done in compliance with the provisions of the ICRC Act and other applicable Federal and State laws.
- The ICRC provides the legal and regulatory guide for the participation of private sector in the development, operation or maintenance of infrastructure or development projects of the Federal Government, through Concessions.
- The BPE, in carrying out its statutory duty is already relating with other relevant agencies of government that will help facilitate the achievement of the objective for the Oyan Dam 9 MW Hydro-electric Power Plant.

Transaction Process

The transaction structure for the concession of the Oyan Dam 9 MW Hydro-electric Power Plant will take the form of a Rehabilitate, build, finance operate, manage and maintain and transfer contract. It will require competent firms with extensive technical, financial and managerial capabilities, and experience due to the size of the plant. The levels of investment requirements will be taken care of in the concession agreement.

An open and competitive procurement process for the purpose of engaging a competent concessionaire/operator for the Oyan Dam 9 MW Hydro-electric Power Plant will be implemented. It will involve a one stage

procurement process, that will be marked by the issuance of both the Request for Qualification (RfQ) and the Request for Proposal (RfP), and the successful companies will be invited to the bidding phase, heralded by the signing of a Non-Disclosure Agreement.

The requirements and guidelines for each of the stages will be clearly communicated and opportunities for clarifications provided to ensure fairness to all interested bidders. Prequalified bidders will be provided the opportunity of a virtual data room. The processes would be transparent to ensure that the best concessionaire available emerges through the process and the concession agreement executed, upon fulfilment of all conditions precedent.

Opportunities in the Nigerian Electricity Market

The Federal Government of Nigeria has tried to increase private sector and foreign investor participation in the electric power sector by commissioning independent power producers IPPs) to generate electricity through the privatisation/ concession of existing assets and soliciting investors for the construction of new power plants. Thus, as part of measures to address the monumental infrastructural gap in the power sector, the Federal Government of Nigeria FGN in July 2019, signed a project implementation agreement with Siemens AG ("Siemens") for the Nigeria Electrification Roadmap ("NER") in the bid to resolve existing challenges in the power sector, and expand capacity for Nigeria's future electricity needs. The Nigeria-Siemens electricity programme is for the delivery of about 7,000 megawatts of electricity and is expected to kick-off fully this year 2022.

The NER is designed to be implemented in three 3 phases over the span of six 6years, from 2020 to 2025. Phase 1 entails an upgrade of the operational capacity of the power sector system to 7GW, which will be followed by measures to address other impediments to the full use of existing generation and distribution capacities and increase the power sector system operational capacity to 11GW under Phase 2. Furthermore, it is contemplated that upgrades and expansions across the generation,

transmission, and distribution segments of the power sector in Phase 3 will lead to an increase in operational capacity to 25GW.

1. Nigeria

1.1 Overview

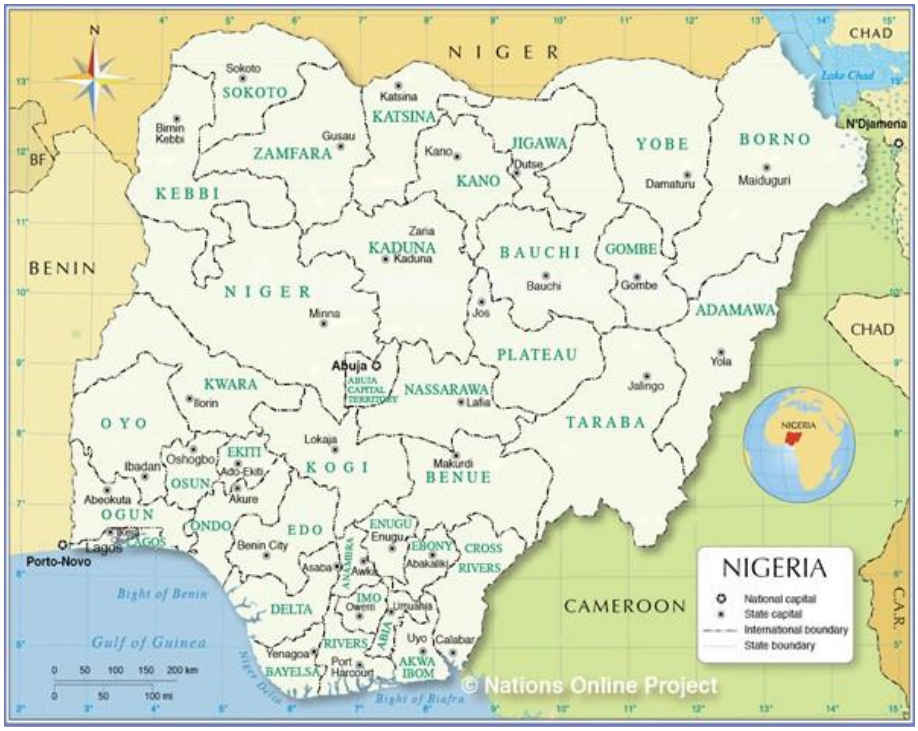
Nigeria is located in West Africa and shares borders with Niger in the north, Chad in the northeast, Cameroon in the east and the Republic of Benin in the west, and the south of the country is bound by the Atlantic Ocean. Nigeria is Africa's most populous country with an estimated population of 218.5 million as at mid-year 2022, according to Statista. The country is organized as a Federal Republic and is divided into 36 states and a Federal Capital Territory, Abuja, which serves as the national capital and seat of government. Lagos, Nigeria's largest city is the country's economic and commercial centre. Other major cities include Kano, Ibadan, Enugu, Kaduna, and Port Harcourt. Nigeria's economy is currently the largest on the continent, closely followed by South Africa and Egypt.

Nigeria recorded a Gross Domestic Product (GDP) growth of 3.10% (year-on-year) in 2022, exceeding its projected GDP growth rate of 3% for the fiscal year, according to KPMG. This modest annual GDP growth came on the back of five consecutive quarters of positive growth, following the country's brief economic recession in 2020 when the economy contracted by 6.10% and 3.62% in the second and third quarters of the year respectively. Nigeria's exit from the 2020 economic recession was weak, as the GDP growth rates for Q4 2020 and Q1 2021 were 0.11% and 0.51%, respectively. The country's economic growth stabilized in the second, third and fourth quarters of 2021, as it recorded positive GDP growth rate of 5.01%, 4.03%, and 3.89, respectively. Admittedly, these growth rates were boosted by the base effect of the economic contractions that Nigeria experienced in 2020 due to the twin shocks of COVID-19 and low crude oil prices. Nonetheless, it is important to note that the country's overall year-on-year economic growth of 4.03% in 2021 was no mean feat, considering that the effects of the pandemic lingered in 2021, as the Delta and Omicron variants of COVID-19 negatively affected global economic recovery and triggered new restrictions and lockdowns in many countries.

The non-oil sector of the economy grew by 4.4% in 2021, following a contraction of 1.25% in 2020. The Information, Communication and Technology (ICT), Agriculture and Manufacturing sectors of the Nigerian economy grew by 6.55%, 2.13% and 3.35% respectively, in 2021, and served as key drivers for the growth witnessed in the country's non-oil sector. The non-oil sector contributed $4.8 billion to the country's GDP in 2022, according to the Nigerian Export Promotion Council. Notwithstanding the increased demand for crude oil and the surge in oil prices, Nigeria's oil sector declined by 8.30% in 2021, as it continued to suffer setbacks due to technical and social issues. The country failed to meet its oil production target of 1.86 million barrels per day (mbpd), as average crude oil production declined steadily from 1.72 mbpd in Q1 2021 to 1.50 mbpd in the fourth quarter of the year. This decline in production volumes also had significant budgetary implications, as Nigeria fell short of its oil revenue projection of N1.843 trillion (January to November pro-rata) by 47.4%, notwithstanding the 69 percent year-on-year increase in the average price of Bonny Light crude, from US$42.1 per barrel in 2020 to US$71.1 per barrel in 2021.

In the first half of 2022, Nigeria's dominant sectors collectively contributed N75.22 trillion, comprising 72.8% of the total non-oil sector input, marking a modest 1.6% increase compared to 2021 year-end figures of 71.2%, according to Naira metrics. The services sector in particular has become an increasingly important engine of economic activity, with financial services, transport and telecommunications acting as key drivers of growth. The International Monetary Fund (IMF) has forecast that the Nigerian economy will grow by 3.2 percent in 2023, up from the 3.1 percent it previously projected in April 2022. The IMF, which released its World Economic Outlook report on Tuesday, left its 2022 growth projection for Africa's biggest economy unchanged at 3.4 percent.

Figure 1: Nigeria



1.2 Population

Nigeria's 223.8 million people populate a land mass of 923,773 sq. km (356,671 sq. miles). Lagos is the most significant urban centre with a population of 14 million. The greater Lagos city area reportedly contains more than 21 million people. The capital, Abuja has a population of around 3.5 million. If satellite towns are taken into consideration, the greater Abuja city area is estimated to have more than 6 million people.

While English is the official language, and serves as the language of administration, other nationally recognized languages include Hausa, Yoruba and Igbo. Pidgin, a local English vernacular dialect is also in common use. The use of these languages reflects Nigeria's diverse ethnic heritage. the Hausa-Fulani, Yoruba and Igbo are the largest ethnic groups. The Hausa-Fulani concentrated in the far north, the Yoruba of the southwest and Igbo of the southeast. These groups represent about 71% of the Nigerian population. Of the remaining 29% of the population, about one-third consists of groups numbering more than 1 million members each, while

the balance is represented by over 300 other ethnic groups. In addition to the big three, more than 250 minority groups are also recognized. Nigeria is a secular country. Islam and Christianity are the two predominant religions though indigenous religions are still common in certain regions.

1.3 Resource Endowment

1.3.1 Oil and Gas Reserves

Nigeria has the 10th largest oil reserves in the world, estimated at 37.2 billion barrels (2010 proven estimates). Nigeria current crude oil production as of May 2022 is 1.024million barrels per day, However, Nigeria pumps above this level when output is not disrupted. Nigerian crude output is of very high quality, with low sulphur content; Nigerian 'Bonny Light' regularly sells at a premium to other oil designations. The country's reserves rest along the coast and in the Niger Delta. Currently, Nigeria does not have enough operational refinery capacity to meet domestic needs. As a result, despite being the fourth largest OPEC crude oil producer, Nigeria is also a net importer of refined petroleum products.

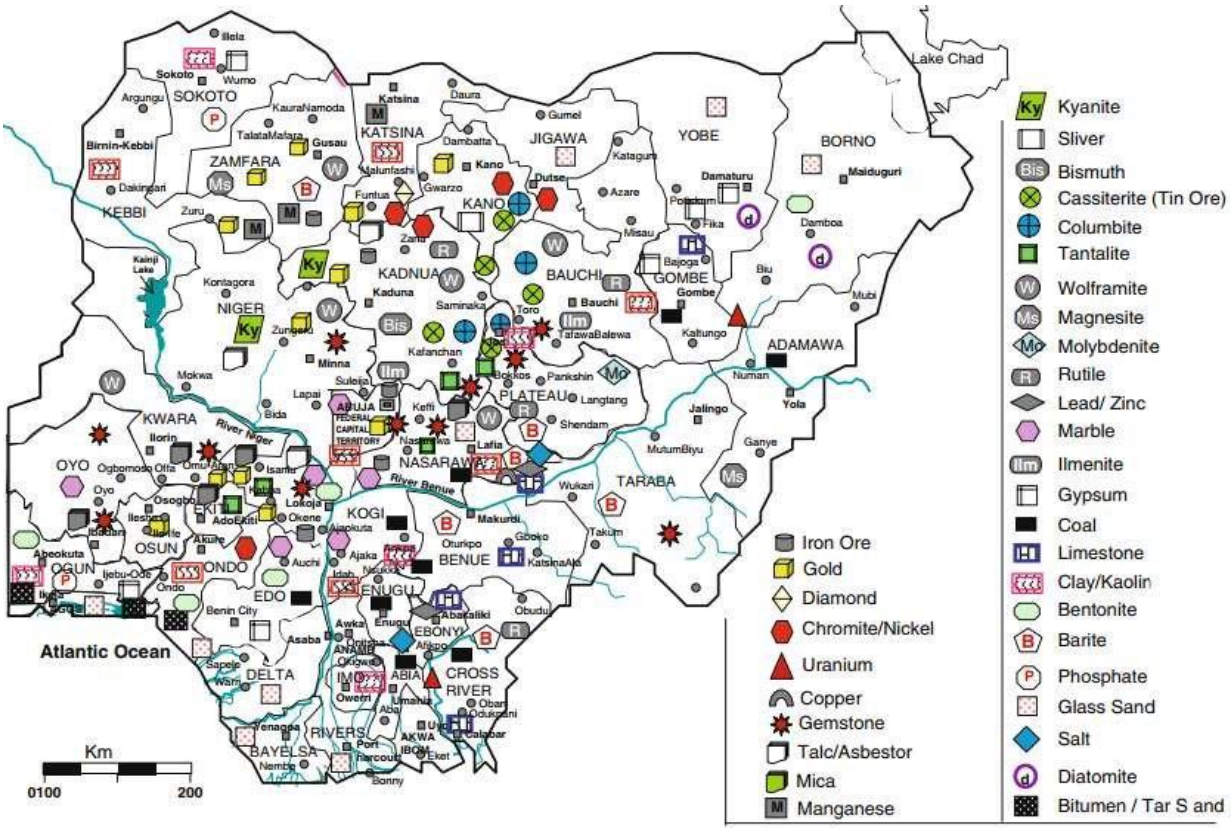
Nigeria also benefits from large gas reserves. Proven gas reserves amount to 185 trillion cubic feet, additional reserves, reportedly, could amount to as much as 882 trillion cubic feet. Nigeria averages production of 4,944 billion cubic meters per day of gas, around 40% of which is flared. Flaring results in billions of dollars of lost potential revenues and creates many environmental complications. As a result, Nigeria is participating in a number of projects intended to curtail flaring, including the Trans Sahara Gas Pipeline project, West Africa Gas Pipeline Project and the train seven (7) of the Nigeria LNG Project at Bonny Island of Rivers State, Brass LNG in Bayelsa State and the proposed Olokola LNG in Ondo State. As these projects become operational gas exports will boost Nigeria's revenue and foreign exchange earnings.

1.3.2 Solid Minerals

Nigeria is rich in various solid minerals. The mineral extraction industry is administered by the Federal Government through the Ministry of Mines and

Steel Development. Nigeria's mineral extraction industry is sub-divided into three sub-sectors: industrial, metallic and mineral fuels. Industrial solid minerals include gypsum, limestone, kaolin, marble and phosphate; iron ore, lead and zinc are examples of the metallic variety while coal is the prime example of mineral fuels.

Figure 2: Nigeria showing Solid Minerals



1.4 Political Environment

1.4.1 Political System

Nigeria gained independence from Britain in 1960 and became a republic in 1963. President Muhammad Buhari has been the President since 29th May 2015, after a successful election that saw the defeat of an incumbent for the first time in the country. He won his re-election and was sworn in for a second term of four years on 29th May 2019. Nigeria's democracy is built around a federal republic model comprising the Executive, Legislature and Judiciary as defined by the Constitution of the Federal Republic of Nigeria

1999 as amended. Executive powers are vested in the President who is the Head of State and presides over the Federal Executive Council, while legislative powers are vested in the National Assembly comprising a 109-seat Senate and a 360-seat House of Representatives. Judicial powers rest with the courts, the highest is the Supreme Court of Nigeria. The executive and legislative arms are elected by popular vote for a term of four years.

State governments consist of an elected governor, deputy governor and a directly elected State House of Assembly. A minister appointed by the President heads the Federal Capital Territory.

Figure 3: Political Overview

Political Overview	
Political Structure	Federal Republic
President	Bola Ahmed Tinubu
Vice-President	Kashim Shettima
Legislative Bodies	House of Representatives (360 members) Senate (109 members)
Major Parties	All Progressives Congress (APC) People's Democratic Party (PDP) Labor Party (LP) All Progressives Grand Alliance (APGA) Nigeria has a total of 18 registered political parties
Last Elections (Legislative and Presidential)	February 25th, 2023
Next Election (Presidential)	February XX, 2027

1.4.2 Governance

The civil service is the bedrock of Nigerian governance system at the federal, state, and local government levels of political administration. The civil service is governed by rules that forbid corruption and conflict of interest in the implementation of government policies. To ensure the adherence to these rules, the National Assembly issued The Corrupt Practices and Other Related Offences Act, 2000 (the Anti-Corruption Act) in June 2000. The Act formally prohibits bribery, corruption and other corrupt

practices involving Nigerian public officials and specifies sanctions, including jail sentences, for offences committed. In 2004, an Economic and Financial Crime Commission was established to prevent, investigate, prosecute and penalise economic and financial crimes and is charged with enforcing the provisions of other laws and regulations related to these issues.

1.4.3 International Associations

Nigeria is an active partner in the international system through membership in the United Nations, the British Commonwealth of Nations, the Organization of Petroleum Exporting Countries (OPEC), the World Trade Organization and the International Monetary Fund (IMF) and has recently signed the Paris Climate Agreement. Nigeria is also very active regionally; Nigeria is a member of the African Union, a leading partner in the Economic Community of West African States, a member of the African Development Bank and a participant in the Lake Chad Basin Commission. In December 2020, Nigeria became the 34th member to ratify the African Free Trade Agreement.

1.5 Fiscal and Economic Overview

1.5.1 Investment Promotion

The Nigerian Investment Promotion Commission (NIPC) was formed in July of 1995 to encourage foreign investment in Nigeria. The NIPC performs the following functions:

- Serves as a one stop shop for investment and business promotion in the country.
- Advises the government on policy issues related to investment.
- Guarantees the protection of foreign interests in Nigeria against expropriation.
- Administers investment promotion incentive packages.
- Guarantees transferability of profits and other funds by investors.

- Initiates, organises and participates in promotional activities such as trade fairs, exhibitions, workshops, conferences and seminars to simulate and attract investment.
- Identifies difficulties and problems encountered by proffering solutions to and rendering assistance to investors.

The Nigerian Investment Promotion Commission (NIPC) Act of 1996 set a favourable environment for future investment. The NIPC permits full foreign ownership of Nigerian companies in most sectors, except those activities determined strategic by the executive arm of the Government, such as, for example, the production of arms. The NIPC Act formally protects all enterprises against nationalisation or expropriation and provides that funds imported into Nigeria for the purpose of investment in enterprises or securities should not be forfeited, seized or expropriated by the federal, state or local governments.

The Foreign Exchange (Monitoring and Miscellaneous Provisions) Act 1995 guarantees unconditional repatriation of, inter alia, dividends, profits and proceeds of sales arising from foreign currency imported into Nigeria and invested in any enterprise or security in accordance with the Act. No approvals are required for foreign currency inflows.

In addition to the NIPC, investment has been encouraged through legislation allowing foreign investors to participate in the Nigerian Stock Exchange (NSE), improving the regulation of the capital market and providing for a reduced government role in certain key sectors of the economy. Protection of investment in Nigeria is further afforded through the international system. Nigeria is a participant in the World Bank's Multilateral Investment Guarantee Agency (MIGA) as well as a participant in multiple International Promotion and Protection Agreements. These include the following agreements between Nigeria and other parties:

- The US-Nigeria Trade and Investment Framework Agreement: This agreement has established a framework for future guarantees and generated a number of feasibility studies as well as guaranteed loans for infrastructure projects.

- The African Growth and Opportunity Act: An agreement allowing a number of countries preferential market access to the US market.
- The African, Caribbean and Pacific Countries with Preferences in the EU: An agreement allowing preferential access to the EU market for agricultural products.

1.5.2 Tax Regime

The Companies Income Tax Act of 1979 is the main law governing the taxation of companies registered or operating in Nigeria. The worldwide income accruing to a Nigerian company, except investment income, is currently taxable at a rate of 30% plus an Education Tax of 2%. However, only the Nigerian income of a foreign company is taxable in Nigeria. Tax credits are available for taxes paid only where Nigeria has a double-taxation treaty with the country from which the credit is sought. Investment income earned by Nigerian companies overseas is exempt from further taxation where a double-taxation treaty exists with the country in which the income was earned. Nigeria has double tax agreements with Belgium, Canada, France, Pakistan, Romania, the Philippines, South Africa, the Netherlands and the United Kingdom.

Dividends and interest payable in Nigeria is subject to a 10% withholding tax, deductible at source, which constitutes the final tax on such income. The Value Added Tax (VAT) is charged at 7.5% even though there is a current legal dispute among the tiers of government on which tier of government is legally empowered to collect the VAT.

1.5.3 Economic Development

Modern Nigeria's economy has largely been driven by resource extraction, particularly petroleum and natural gas. However, before the discovery of energy Nigeria was largely a pastoral economy and Nigeria's largest contributor to GDP was the agricultural sector. However, in recent decades the economy has diversified greatly. Today the Nigerian economy thrives on industrial output, a busy commercial sector and vibrant services offerings that cater not only to Nigerians but also the rest of West Africa and

Africa at large. For example, 'Nollywood', Nigeria's film industry, is Africa's most vibrant entertainment business and is visible across the continent.

Nigeria recorded a Gross Domestic Product (GDP) growth of 3.10% (year-on-year) in 2022, falling short of its projected GDP growth rate of 3.75% for the fiscal year. This growth was lower than the 4.03% recorded in 2021, as the country faced several economic challenges, such as rising inflation, exchange rate volatility, insecurity, and the impact of the COVID-19 pandemic. In 2023, the GDP growth rate is expected to decelerate further to 2.9%. The country's economic growth in the first and second quarters of 2023 was 2.31% and 2.51%, respectively, barely above the population growth rate of 2.6%. The third and fourth quarters of 2023 are projected to record a growth of 2.8% and 2.7%, respectively.

The non-oil sector of the economy grew by 3.58% in 2022, following a growth of 4.4% in 2021. The Information, Communication and Technology (ICT), Agriculture and Manufacturing sectors of the Nigerian economy grew by 5.69%, 2.05% and 2.81% respectively, in 2022, and contributed to the growth of the non-oil sector. However, the performance of the non-oil sector was hampered by the high inflation rate, which eroded the purchasing power of consumers and reduced the demand for goods and services. In 2023, the non-oil sector is expected to grow by 3.2%, as the government implements various policies and reforms to improve the business environment and diversify the economy.

The oil sector of the economy declined by 0.94% in 2022, following a decline of 8.3% in 2021. The country failed to meet its oil production target of 1.69 million barrels per day (mbpd), as average crude oil production declined from 1.34 mbpd in Q4 2022 to 1.22 mbpd in Q2 2023. This decline in production was due to the compliance with the OPEC production cuts, as well as the technical and social issues that affected the oil industry. The oil sector also faced the challenge of low crude oil prices, which averaged US$64.9 per barrel in 2022, lower than the US$71.1 per barrel recorded in 2021. In 2023, the oil sector is projected to grow by 1.5%, as the OPEC production cuts are expected to ease and the global demand for oil recovers.

Nigeria's headline inflation increased to 27.33% in October 2023, the highest level since February 2005. The inflation rate increased from 18.85% in December 2022 to 24.08% in July 2023, before moderating slightly to 23.97% in August 2023 and then rising again to 26.72% in September 2023 and 27.33% in October 2023. The inflationary pressures were driven by the removal of fuel subsidies in June 2023, which led to a sharp increase in the pump price of petrol from N162 per litre to N256 per litre, and currently N650 per litre. This, in turn, increased the cost of transportation and the prices of other goods and services. The inflation rate was also influenced by the depreciation of the naira in the foreign exchange market, which increased the cost of imported inputs and finished goods. The naira exchanged for N605 per US dollar in the parallel market in October 2023, compared to N500 per US dollar in December 2022. The high inflation rate eroded the real income of households and businesses and reduced the economic welfare of Nigerians.

Economic Overview	
Nominal GDP (2020)	USD 448.12 billion[1]
2022 Q2 Real GDP Growth Rate at Basic Prices	3.54%[2]
Currency	Nigerian Naira (NGN, ₦)
Exchange Rate (Official)	1 USD = 1410
Inflation Rate	19.64%[4]
Exports (commodities)	Petroleum and petroleum products (95%), cocoa, rubber,
Imports (commodities)	Machinery, chemicals, transport equipment, manufactured goods, food, live animals

Figure 4: Economic Overview

Agriculture is a historically important industry in Nigeria and had contributed significantly to both total and non-energy GDP in the past. However, since the rebasing of the Nigerian GDP in year 2013, its contribution is behind that of services sector put together. In fact, in 2021, agriculture grew by 2.13%. The non-oil sector in general contributed about 82% to the Nigerian GDP in 2020 and grew by 4.4% in 2021 as against the decline of the oil sector by 8.30% in 2021. In Nigeria, the climate favours the cultivation of various economic and subsistence crops such as Rice, groundnut, cotton, rubber,

cocoa, wheat, millet, maize, oil palm, tea, cassava, yam and fruits. Livestock includes cattle, sheep, goats, poultry and fish. However, the traditional export crops are oil palm, cocoa, rubber, groundnut, and cotton.

Industry in Nigeria is concentrated around the country's urban centres. While the oil sector has led to a significant logistics industry built around port cities, manufacturing is also a significant industrial sub-sector. Industries concentrated in the south-western region, accounts for the greatest proportion of industrial production. Nigerian manufacturers produce a broad range of products, including sugar confectionery, soft drinks, beer & stout, cotton, synthetic fabrics, footwear, paints, cement, roofing sheets, vehicles, soap & detergents and refined petroleum.

1.5.4 Foreign Direct Investment in Nigeria

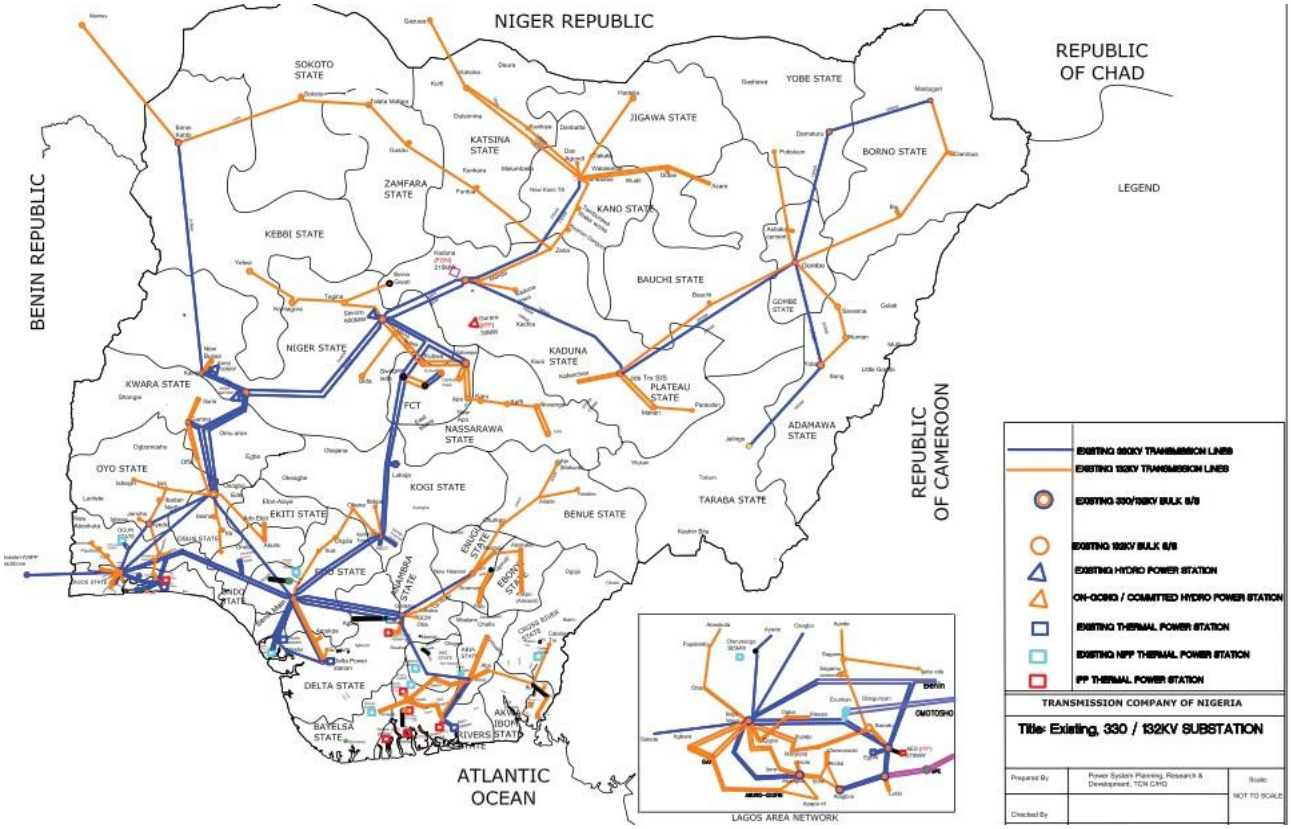
Inflows of foreign direct investment (FDI) into Nigeria are primarily from multinational oil companies operating in the country. Nigeria's oil sector is attractive to international oil companies due to low production costs and high-quality of its crude oil. In addition, Nigeria offers international companies' access to Africa's largest market, where growth potential is considered significant. While historically FDI in Nigeria has originated from private companies, recent years have witnessed a spike in foreign investment from state owned entities, notably from China, India and Russia. According to the National Bureau of Statistics, year 2022 saw a further decline in Foreign Direct Investment into Nigeria by $511.78m to $187m, from the total sum of $698.78m recorded in 2021. The details showed that equities investment of the FDI totaled $180.03m, while other capital was put at $6.97m. Similarly, Nigeria recorded $47.6m, 86.03m, -0.19m and $53.56m FDIs during the first, second, third and fourth quarters of 2022, respectively. The report revealed that portfolio investment in the country also fell by $1.39bn to $2bn in 2022 from $3.39bn recorded in 20211. It also showed that "Other Investments' fell by $1.02tn from $2.62tn in 2021 to $1.6tn in 2022, with the total value of capital importation into Nigeria in the fourth quarter of 2022 stood at $1.19bn from $2.19bn in the preceding quarter, indicating a decrease of 45.66%.

In the first half of 2023, Nigeria's FDI inflows showed some signs of recovery, as they increased by $565.6m to $752.7m, from the total sum of $187m recorded in 2022. The details showed that equities investment of the FDI totalled $746.7m, while other capital was put at $6m. Nigeria recorded $495.7m and $257m FDIs during the first and second quarters of 2023, respectively. The report revealed that portfolio investment in the country also increased by $1.02bn to $3.02bn in the first half of 2023 from $2bn recorded in 2022. It also showed that "Other Investments' increased by $0.4tn from $1.6tn in 2022 to $2tn in the first half of 2023, with the total value of capital importation into Nigeria in the second quarter of 2023 stood at $3.03bn from $1.73bn in the preceding quarter, indicating an increase of 75.14 per cent.

2. Investment Considerations

2.1 Capitalise on Growth Opportunities in the Nigerian Electricity Market

Nigeria with a total population of approximately 218 million people has a huge gap for demand and supply of electricity in the country. Only about half of the population has access to electricity. The total installed electricity generation capacity in the country is approximately 14,500 MW. Nigeria's national grid has been plagued with challenges in the transmission and distribution subsectors, which has made it difficult to evacuate the available generation capacity through the grid. The Nigeria Electricity Regulatory Commission (NERC), based on data obtained in 2021, reported that power distribution in 2021, averaged 4,094.09 megawatt (MW), despite available generation capacity of about 8,000 MW, with an average unutilized power generation increased year-on-year, YoY, to 3,008.18 Megawatts, MW in 2021, from 1,030.80 MW in 2013. The movement towards integrated grid with efficiency and consumption working together for mutual benefit is advancing rapidly through Distributed Energy Resources (DER). DERs are small scale unit of power generation/mini grids that operate locally and are connected to a larger power grid at the distribution level. They are also intended to operate independently from the local distribution licensee. In recent years, support for mini-grid development has increased due to improved commercial viability and recognition of the co-benefits of electrification, such as local economic development. By Nigerian electricity law, mini-grids are stand-alone power generation systems of up to 1 MW capacity that provide electricity to multiple consumers through a distribution network.



2.2 Established Platform for Investments in Nigeria

Nigeria has demonstrated its readiness for business and particularly to the global business community with the establishment of the Nigerian Investment Promotion Council. The present administration has taken this readiness further by making the ease of doing business in Nigeria as part of its cardinal programmes (with the Presidential Enabling Business Council PEBEC), and the result is demonstrated in the latest ease of doing business report of the World Bank. Several regulatory agencies such as Infrastructure Concession and Regulatory Commission (ICRC), Bureau of Public Enterprises (BPE) as well as Bureau of Public Procurement (BPP), have been established and strengthened to ensure transparency in the private sector transactions with the government.

2.3 Recent Private Sector Participation in Nigeria Renewable Energy Market Segment

The most recent private sector investment in Nigeria is the successful concession of the Gurara Phase 1, 30 MW hydropower plant in Kaduna State, while negotiation with the preferred bidder is currently, ongoing for the concession of the Kashimbila 40MW hydropower plant in Taraba State. Other prospective hydropower project in the offing includes the 182MW Bawarku hydropower plant in Benue State and 136MW Manya hydropower plant in Taraba State both unsolicited projects, and Itisi 40MW multipurpose dam and hydropower project all approved by the ICRC and at the procurement stage of implementation. Prior to these projects, 14 investors were granted licenses and Power Purchase Agreements (PPAs) for solar power generation of about 1,125 MW in the northern part of the country, and the Rural Electrification Agency also developing, promoting several solar Mini grid systems. However, during the privatisation of the PHCN successor companies, the Federal government successfully concessioned the three legacy hydroelectric power plants at Shiroro, Jebba and Kanij all in Niger State in September 2013. The government has encouraged investment by further liberalising the sector through encouragement of captive power and embedded generation, off-grid and micro-grid power generation.

2.4 FGN Support for Power Diversification

The growing environmental concerns and immense population pressure on existing energy resources have cast a spotlight on energy conservation across the world. In Nigeria, the optimal energy consumption needed for a healthy and meaningful living hasn't been met. The FGN has continuously demonstrated commitment in the quest to diversify sources of electricity generation in the country and encourages private sector firms to follow suit. In terms of availability natural sources of energy Nigeria is vastly blessed. For instance, Nigeria receives abundant solar energy, which can be harnessed at an average of 6,372,613 PJ/year (approximately 1,770 TW h/year). With a 10% conversion rate, this solar resource is about 23 times the total energy demand for Nigeria in 2030, as predicted by Nigeria's Energy Commission. Similarly, there is a great opportunity for wind utilization in electricity production, particularly in the northern Nigeria, some central and eastern

parts of the country, and offshore areas of the country, where the wind is available throughout the year.

Apart from the licenses and Power Purchase Agreements signed in 2016 in solar power sub sector, the government commitment in the renewable energy subsector could be seen in the number of high-capacity hydropower project under different stages of completion. Projects like the 3,050MW Mambilla hydropower projects in Taraba State, are a testament to the government's commitment in the sector. Another potential project currently at the initiation stage is the 360MW Gurara Phase 2 hydropower project, whilst the 40MW Itisi multipurpose dam and hydropower project in Kaduna State, 136MW and 182MW hydropower projects in Manya and Bawarku respectively are at varied stages of project development.

These hydro projects are developed as part of government efforts to shore up generation capacity in the country.

2.5 Multi-Year Tariff Order (MYTO)

The Multi-Year Tariff Order (MYTO) lays out the methodology used to set the price of electricity on the grid in Nigeria. The EPSR (2005) Act, which established the current liberalized electricity sector in Nigeria, empowers NERC through Section 32(d) to ensure fair prices for consumers and a fair return on investment for investors. The EPSR (2005) Act also empowers NERC through Section 76 to create a methodology to determine the price of electricity on the grid. The MYTO I & II which elapsed in 2015 allowed electricity sellers to sell electricity at cost-reflective tariffs, with the objective of bringing some certainty to the pricing regime with a view to efficient risk allocation to industry stakeholders.

The MYTO II was also an incentive-based tariff model which rewarded utilities' performance on loss reduction and improved standards.

While cost-reflectivity was a key consideration in the first MYTO, full burden of the cost-reflective tariff was not passed on to the consumer instead successively higher tariff rates were introduced with the intention that the tariff would reach sustainable levels. Subsidized rates were introduced for

the first three years to allow consumers to adjust to the cost increases. Between 2008 and 2010, the Commission carried out a review of the tariff to adjust for changes in inflation, exchange rate, and feedstock (gas) of 5% or greater, known as minor reviews. In September 2020, a new tariff regime that is both cost and service reflective was introduced, the details are available in subsequent sections on MYTO.

The Nigerian Electricity Regulatory Commission in 2015, came up with 3 windows for grid connection in line with the National Policy on Renewable Energy and Energy Efficiency. Whereas small hydropower plants of up to 30MW of electricity can enjoy feed-in tariffs, hydropower plants above 30MW will pass through competitive tendering for power produced or sell to the Nigerian Bulk Electricity Trading company (NBET) or to an eligible customer under the Eligible Customer Rule of 2017 by NERC.

2.6 Power Purchase Agreements (PPA)

The Nigeria power sector needs significant upgrading and improvement in reliability. With demand already exceeding supply, the investors present a compelling turnaround opportunity, with manageable risks – FGN support, increasing global interest in Africa, indigenous feedstock, and substantial unmet demand – even incremental improvements in service are expected to contribute to top line growth. The Nigerian power sector provides a compelling investment opportunity for qualified investors. Based on the eligible customer rule, electricity generation companies are at liberty to negotiate directly with willing buyers of their output or better still supply to the national grid through NBET.

2.7 Water Supply and other Relevant Agreements

The Oyan River, a tributary of the Ogun River, with its earth dam, reservoir and other tributaries such as Rivers Ifiki, Abafon and Ocha all discharges into Ogun River which flows downstream into Lagos Lagoon.

The project area is well drained by networks of river channels. Relevant transaction agreements and licenses for water rights will be made with the Nigerian Integrated Water Management Commission (NIWRMC). Full

disclosures and all relevant information to support seamless and successful transaction are provided. The government is on hand to provide further support and regulatory oversight to ensure smooth take off the project.

3. Current State and Structure of Power Sector in Nigeria

3.1 Background

Historically, the Federal Government of Nigeria (FGN) has been responsible for generating, transmitting, and distributing electric power in Nigeria, through the state-owned National Electric Power Authority (NEPA) (which later became the Power Holding Company of Nigeria). Unable to accommodate the demand for electricity in Nigeria, the FGN decided, in 2001, to initiate an overhaul of the framework of the Nigerian power sector through privatisation, in order to adequately meet the electric power needs of its people.

The FGN's intentions manifested in form of the 2001 National Electric Power Policy (NEPP) and 2005 Electric Power Sector Reform (EPSR) Act, which set the reform agenda and guidelines for sector goals. The efforts provided the policy, legal and regulatory frameworks for the reform in the sector. The three fundamental activities of the reform program were:

- Restructuring of national electric power sector with the establishment of an independent electricity regulator, a changed role for the Ministry of Power, and a substantial reduction in FGN's direct involvement in commercial activities in the power sector.
- Unbundling of the state-owned power company (NEPA) into distinct business units under the control of PHCN.
- Privatisation of the unbundled generation and distribution companies.

In 2010, the FGN went a step further by developing the power sector road map, which detailed the processes towards the completion of the reform of efforts in the sector. The processes were driven by the agencies of government namely the Bureau of Public Enterprises and the Presidential Taskforce on Power with oversight provided by the Federal Government.

The processes as supervised by the BPE saw the partial or complete privatisation of eleven distribution companies and six generating companies, the two hydro power generating companies were privatised through concessions to private operators for a minimum period of 25 years.

FGN retained the ownership of the transmission through Transmission Company of Nigeria (TCN), but initially went into a management contract with a private sector firm with the aim of promoting efficiency and transparency in the operations of the company to attract further investments. The management contract was, however, terminated.

The divestment of the PHCN companies to private sector was expected to introduce efficiency and reduce technical and commercial losses and ensure a cost reflective tariff regime to both the consumers and producers in order to profitably sustain the power sector. The cost reflective tariff was structured in accordance with the Multi-Year Tariff Order (MYTO) which attracted minor adjustment periodically, and a major adjustment to the component factors every five years. To ensure liquidity in the sector prior to maturity, the FGN went further to support the market with comprehensive transitional measures, such as establishing a state-owned bulk purchaser NBET to execute contract management and bulk trading (on behalf of the distribution companies) until the industry is comfortable with the settlement, accounting, managerial and governance systems required for successful, direct bilateral contracting. These are in addition to financial and liquidity support to the sector to ensure self-sustainability and stability in the electricity market supply.

The government has carried on with further investment in generation capacity particularly in hydropower which the completion and concession of the Gurara Phase 1; 30MW plant in Kaduna and the 40MW Kashimbila plant, while the 3,050MW Mambila plant in Taraba is currently under construction with intention to concession upon completion, in line with government policy to diversify the sources of electricity generation in the country particularly from the renewable sources in line with global climatic aspirations.

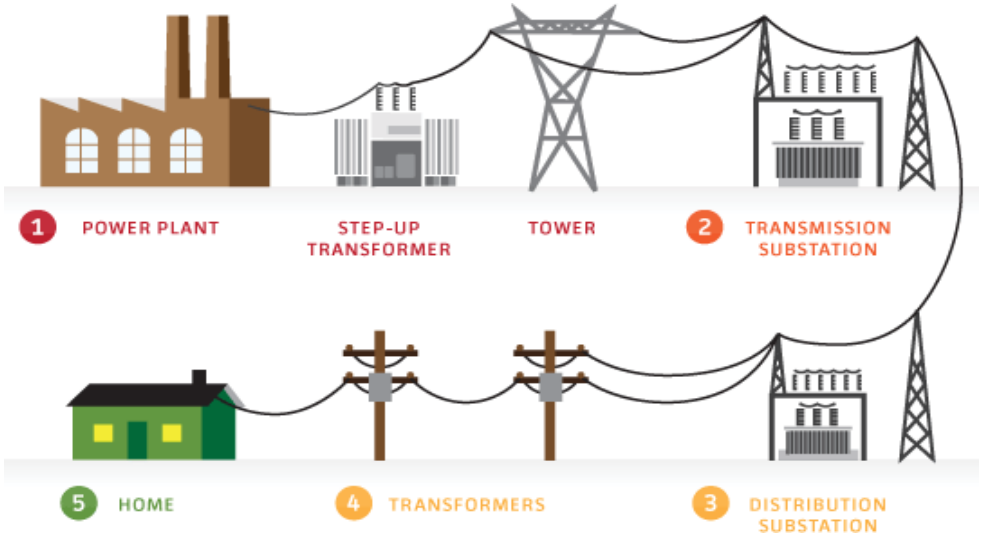


Figure 6: Electrical Energy Supply Chain

Presidential Power Initiative

As one of the measures to address the monumental infrastructural gap in the power sector, the Federal Government of Nigeria (FGN) in July 2019, signed an implementation agreement with Siemens AG ("Siemens") for the Nigeria Electrification Project now named Presidential Power Initiative in the bid to resolve existing challenges in the power sector, and expand the capacity for Nigeria's future electricity needs. The Project is designed to be implemented in three (3) phases over the span of six (6) years with an objective to upgrade the operational capacity of the power sector system to 7GW and possible expansion to 25GW.

Plans and Potential of the Power Sector

In order to bring a solution to these problems, the Federal Government of Nigeria (FGN), in its Power Sector Reform Roadmap (2013), set the ambitious targets to increase installed hydro to 5,690 MW, thermal to over 20,000 MW and renewable 1000 MW capacities by 2020. The targets also aim at diversifying Nigeria's energy mix to reduce its natural gas dependence.

As an emergency solution, many Electricity Distribution Companies (through Independent Power Producers – IPPs) and States are currently investing in embedded generation (medium scale generation, generally

less than 20MW, directly connected to the distribution network). There are 3 licenses for embedded generation with a total installed capacity of 133 MW. Examples are the Eko Electricity Distribution Company that launched a bidding process for several Independent Power Producer (IPP) gas power plants below 20 MW and the Sokoto State Government that is in the process of finalizing the construction of a 38 MW diesel power plant (to be then converted into gas). Another example is Nigerian Electricity Supply Company (NESCO), a company based in Plateau that has been operating a small-hydropower plant as an Independent Power Producer (IPP) since 1993 and from which the State Government buys electricity in bulk.

Nigeria has vast crude oil (37.2 billion barrels as of 2012) and natural gas (5.2 trillion cubic metres as of 2012) resources that could be exploited to increase its generation capacity. As of mid-2014, four thermal power plants were being constructed: Calabar Generation Company Ltd (634 MW), Egbema Generation Company Ltd (381 MW), Gbarain Generation Company Ltd (254 MW) and Omoku Generation Company Ltd (265 MW). Other large gas power plants are being planned such as the 459 MW Azura Edo Independent Power Producer (IPP) and the 533 MW Qua Iboe Independent Power Producer (QIPP) projects. Nigeria also envisages the use of its coal reserves to produce power. The country also aspires to generate power from nuclear.

A 10 MW pilot wind plant has been built in Katsina and is awaiting commissioning. A number of smaller hydropower plants are also being planned such as Gurara (30 MW) or Kashimbilla (40 MW). The 3,050 MW Mambilla hydropower plant project is currently being reviewed. In addition, the Nigerian Electricity Regulatory Commission (NERC) has issued licenses for 8 solar projects totalling a capacity of 868 MW and a 100 MW wind park. Furthermore, investors are increasingly enthusiastic about developing large solar plants in the country.

The Rural Electrification Agency (REP) of Nigeria have also been implementing several off-grid and mini-grid programs. They include:

- Energizing Economics Initiatives (EEI): This program supports the rapid deployment of off-grid solutions in economic clusters such as markets and agricultural industrial complexes.
- Energizing Education Programme (EEP): It aims to develop off-grid Independent Power Plant (IPP) Projects for powering 37 Universities and 7 University Teaching Hospitals; provision of street lighting and the development and operation of Training Centers to train university students.
- Nigeria Electrification Project (NEP): This program by REP is supported by the World Bank and the African Development Bank. It provides a pipeline of local investments and incentives required to catalyse the off-grid market through Market Data, Grant Funding and Technical Assistance.
- Rural Electrification Fund (REF): This provides funds for cost-effective expansion of electricity in un-electrified areas. The first round of call for proposals (REF Call 1) is ongoing and aims to support 12 mini-grid projects ranging between 30-100kW with a total installed capacity of 1016 kW. These planned mini-grids aim to electrify 5272 households. The Call also aims to support 14 Solar Home Systems projects with an installed capacity of 245W and 20,000 units.
- Nigerian Energy Support Programme (NESP): This program is supported by the German Government and the European Union and is implemented by GIZ. Under this program two schemes are rolled out to support the mini-grid market called: Mini-Grid acceleration scheme (MAS) and the

Inter-connected Mini-Grid acceleration scheme (IMAS). MAS includes a non-site specific open tender to provide 21,000 electricity connection. IMAS includes both the mini-grid and grid interconnection element.

3.2 Overall Reform Process

The key goal of Nigeria's power sector reforms was to transition the sector from a monopoly to a market-based system, with a vibrant 'wholesale electricity market.' This was with knowledge that wholesale electric competition will occur when competing electricity generators offer their

output directly to retailers (distribution companies), negating the need for a bulk trading body and in turn, retailers re-price the electricity for sale to end users. The reform implementation of Nigeria's power market envisaged three stage processes that will lead to maturity and electricity market stability. These stages are:

- Transitional Market Stage: Characterized as competition for the market.
- Medium-Term Market Stage: Characterized by full wholesale competition for the market and in the market.
- Final Market Stage: Open to full wholesale competition and retail competition.

3.3 Legislative and Regulatory Framework

The reform process was tailored to meet the requirements of the EPSR Act which was to introduce competition to the entire sector. This therefore means a transition towards a wholesale power market and a diversification of participants and non-discriminatory open access to the transmission system, as well as non-discriminatory market and transparent administration services. The first steps were undertaken with the corporatisation of six individual generating companies and eleven distribution companies under the umbrella of PHCN which was later privatised. The transmission company of Nigeria was retained as a government entity with interest for private sector efficiency.

3.3.1 National Electric Power Policy (2001)

The NEPP, adopted in 2001, was central to the FGN's program of reform and reengineering of the electricity supply industry of Nigeria; the policy outlined the following objectives:

- To ensure a system of generation, transmission, distribution and marketing that is efficient, safe, affordable and cost-reflective throughout the country.
- To ensure that the power sector attracts both domestic and foreign private investment.

- To develop a transparent and effective regulatory framework for the power sector.
- To develop and enhance indigenous capacity in electric power sector technology.
- To participate effectively in international power sector activities in order to promote electric power development in Nigeria, meet the country's international obligations and derive maximum benefit from international cooperation in these areas.
- To ensure that the Government divests its interest in the state-owned entities and entrenches the key principles of restructuring and privatisation in the electric power sector.
- To promote competition to meet growing demand through the full liberalisation of the electricity market; and
- To review and update electricity laws in conformity with the need to introduce private sector operation and competition in the sector.

3.3.2 Electric Power Sector Reform Act (2005)

The EPSR Act provided the legislative framework on which the whole reform efforts were anchored. The Act was designed to liberalize the power sector by ending government control. In accordance with its clauses, the initial implementation of the EPSR Act included the following:

- Founding of the Power Holding Company of Nigeria Plc in order to take over the functions, assets, liabilities and employees of NEPA;
- Fragmenting PHCN into 18 distinct companies dealing with generation, distribution and transmission of electric power; and corporatisation of the successor companies into entities for privatisation and concessioning, and
- Forming the Nigerian Electricity Regulatory Commission (NERC), which plays an important role in issuing operating licenses and developing the Multi Year Tariff Order, and overall regulatory oversight

3.3.3 National Renewable Energy and Energy Efficiency Policy (NREEEP) (2015)

The objectives of the NREEEP include:

- To ensure the development of the nation's energy resources, with diversified energy resources option, for the achievement of national energy security and an efficient energy delivery system with an optimal energy resource mix,
- To guarantee adequate, reliable, affordable, equitable and sustainable supply of renewable energy at cost-reflective and appropriate costs and in an environmentally friendly manner, to the various sectors of the economy, for national development,
- To accelerate the process of acquisition and diffusion of technology, managerial expertise and indigenous participation in the renewable energy and energy efficiency sector industries, for stability and self-reliance,
- To guarantee efficient, location-specific and cost-effective consumption pattern of renewable energy resources and improved energy efficiency,
- To promote increased investments and development of the renewable energy and energy efficiency sector, with substantial private sector participation,
- To ensure a comprehensive, integrated and well-informed renewable energy and energy efficiency sector, with plans and programmes for effective development.

3.3.4 Multi Year Tariff Order (MYTO)

The objective of the reform in the electricity sector was to open up the market to competition. One of the key attributes of competition is appropriate pricing of goods and services provided. The challenge of electricity pricing was therefore resolved in the EPSR Act 2005 when it provided for appropriate pricing in the sector for market sustainability.

The Act empowers NERC in section 76 (2) to regulate the prices of the activities in the electricity value chain for market sustainability as follows;"

prices for the activities mentioned in subsection (1) of this section (generation, trading, transmission, distribution and system operation) shall be regulated according to one or more methodologies adopted by the Commission for regulating electricity prices and such tariff methodologies shall: (a) allow a licensee that operates efficiently to recover the full costs of its business activities, including a reasonable return on the capital invested in the business".

This methodology for creating a multi-year tariff for the electricity industry takes into consideration the interest of consumers and investors simultaneously in addressing the problem of electricity supply and proper pricing of power in Nigeria. The multi-year tariff model calculates electricity prices based on revenue requirements of the whole industry, providing incentives and recovering costs (including operating expenses, depreciation and rate of return), and spanned a 15-year period (2008 – 2023) with major/minor revisions in the interim.

While cost-reflectivity was a key consideration in the first MYTO, full burden of the cost-reflective tariff was not passed on to the consumer instead successively higher tariff rates were introduced with the intention that the tariff would reach sustainable levels. Subsidized rates were introduced for the first three years to allow consumers to adjust to the cost increases. Between 2008 and 2010, the Commission carried out a review of the tariff to adjust for changes in inflation, exchange rate, and feedstock (gas) of 5% or greater, known as minor reviews. In September 2020, a new tariff regime that is both cost and service reflective was introduced, the details are available in subsequent sections on MYTO.

3.4 The Current State of Affairs

The privatisation exercise was completed in September 2013 with the execution of share purchase agreements for the successor companies and concession agreements for the two hydro power plants. The ownership of the PHCN successor companies were duly transferred as expected to the new owners.

The privatisation exercise has not translated to immediate success in terms of improved generation capacity and distribution due to myriads of problems inherited by the new owners of these assets as well as liquidity challenges.

The FGN is, however, working with the operators to provide stability by injecting liquidity into the system. Government has carried on with further investment in generation and transmission capacities through new projects particularly in the renewable energy sources of hydro, solar and wind energy. The operators are equally encouraged to provide additional investment to improve generation capacities within their power assets as well as introduction of new technologies to minimize technical and commercial losses.

More recently, The Federal Government has announced that it has successfully completed the takeover of struggling distribution companies, including Kaduna, Kano, Ibadan and Port Harcourt DISCOs. The restructuring and take-over of these 5 electricity distribution companies (DisCos) across the country by some banks relates to their inability to meet up with the repayment of their debt obligations. The Federal Government also stipulated a time for the banks to return ownership.

In July 2022, the Senate passed the Electricity Bill 2022, which seeks to fend off the Electricity Power Sector Reform Act 2005 and enact the Electricity Act. The bill de-monopolises the generation, transmission and distribution of electricity at the national level to grant states, companies and individuals the ability to generate, transmit and distribute energy.

Nigeria Power Sector Value- Chain

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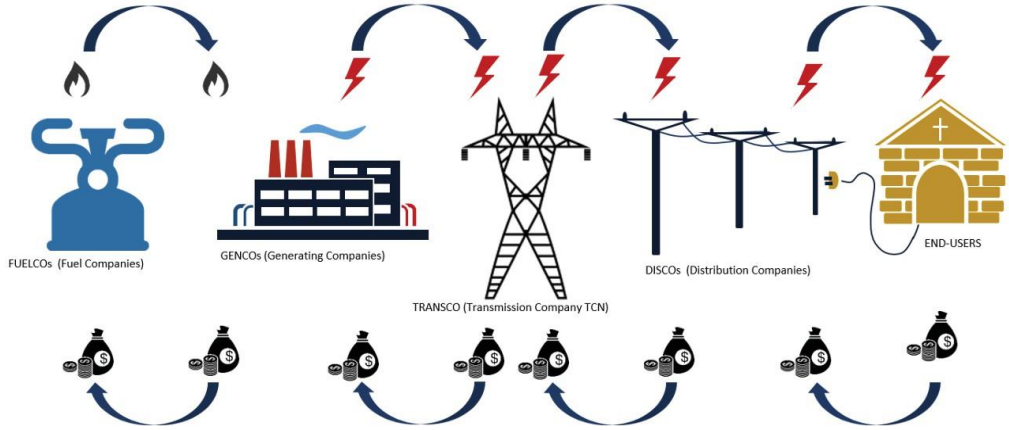

Figure 7: Power Sector Value Chain

4 Overview of the Oyan Dam 9 MW Hydro-electric Power Plant

4.1 Background of Oyan Dam Project

The dam was commissioned on 29 March 1983 by President Shehu Shagari, and is operated by the Ogun-Osun River Basin Development Authority (O-ORBDA). The lake is in the savannah region, with sparse trees and grasses and low fertility.

4.2 The Structure of the Oyan Dam

It covers 4,000 hectares and has a catchment area of 9,000 km2. The dam has a crest length of 1044 m, height 30.4 m and gross storage capacity of 270 million m3. It was designed to supply raw water to Lagos and Abeokuta, and to support the 3,000 hectare Lower Ogun Irrigation Project. Three turbines of 3 megawatts each were installed in 1983 but have not been used.

The Oyan River, a tributary of the Ogun River, with its earth dam, reservoir and other tributaries such as Rivers Ifiki, Abafon and Ocha all discharges into Ogun River which flows downstream into Lagos Lagoon. The project area is well drained by networks of river channels.

Geographical Location

The Oyan River Dam is in Abeokuta North local government area of Ogun State in the West of Nigeria, about 20 km northwest of the state capital Abeokuta. The dam crosses the Oyan River, a tributary of the Ogun River. It is used primarily to supply raw water to Lagos and Abeokuta but has potential for use in irrigation and power generation.

Oyan River Dam	
Location	Ogun State, Nigeria
Coordinates	7°15′30″N 3°15′20″E 7.25833°N 3.25556°E
Opening date	29 March 1983
Dam and spillways	
Impounds	Oyan River
Height	30.4 m
Length	1044 m
Reservoir	
Creates	Oyan lake
Total capacity	270 million m^3
Catchment area	9,000 km^2
Surface area	4,000 hectares
Power station	
Turbines	3
Installed capacity	9 MW
Annual generation	0 MW

4.3 The Oyan Dam 9 MW Hydro-electric Power Plant

The power plant consists of construction of the power house, procurement and installation of three (3 Nos.) turbines for generation of 9 MW hydro-power. To-date, the power house has been completed, one (1 No.) turbine installed and partially tested in 1986.

The remaining two (2 Nos.) turbines are yet to be completed while the construction of the switchyard is also outstanding. Power so generated is expected to meet the energy requirement for the operations of the dam, while the greater part will be fed into the National Grid or the Ibadan Disco Network to supplement supply to Abeokuta and its environs.

This status was reached some 30 years ago (1986), presently the status of the turbines and the Stator/Rotor of the electrical generators can no longer be guaranteed.

In addition, Garbe-Lahmeyer was bankrupt and wound up in 1993. Therefore, the most recommended option is replacement with new and advanced turbines with greater capacity and efficiency.

4.4 Access Road

The Oyan dam project site is accessible directly from Abeokuta although the access road is in a state that requires some rehabilitation. Within the dam premises, tarred roads connect different areas of the facility.

4.5 Operations of the Dam

In May 2009, after heavy rainfall the dam operators were forced to release exceptional amounts of water from the dam for safety reasons, causing some flooding over an area of 2,800 hectares. In February 2010 the dam

was failing to deliver sufficient raw water for the Abeokuta water works to meet demands. The water works was also struggling with equipment failure due to a power surge. Residents of Abeokuta were forced to rely on rivers and streams to meet their water needs. The Ogun State Water Corporation attributed the problem to the unreliable supply of electricity from the Power Holding Corporation of Nigeria.

5. Legal and Regulatory Environment

5.1 Relevant Power Sector Legislation

5.1.1 National Electric Power Policy

The National Electric Power Policy (NEPP) was approved in April 2001. It expressed the determination of the Federal Government to reform the electric power sector, and to modernize and expand the Nigerian Electricity Supply Industry (NESI) through private sector funding. The policy provided the framework for the restructuring and privatisation of the state-owned utility.

The main priorities of the policy are:

- Creation of efficient market structures for the NESI within a clear regulatory framework.
- Ensuring economically sound development of the system with the help of private sector investment. The industry is to be reformed to attract and encourage private sector participation, attract capital to fund the sector and ensure a level playing field for all the investors in the sector.
- Ensuring that the industry can meet current and future electricity demand in an efficient and viable manner.

5.1.2 Electric Power Sector Reform Act

The Electric Power Sector Reform Act EPSR Act was enacted in 2005 to provide the legal framework for the achievement of the reform objectives of the NEPP. The EPSR Act provided a sequence for a phased transition from NEPA to an unbundled structure, through to privatisation of generation and distribution, thereby providing in essence a roadmap and time frame for the implementation of the reform and privatisation strategy contained in the National Electric Power Policy. The Senate passed the Electricity Bill 2022, which seeks to fend off the Electricity Power Sector Reform Act 2005 and enact the Electricity Act in July, 2022.

The EPSR Act focused on the following areas:

- The breaking up of NEPA into separate legal entities for generation, transmission and distribution, and a method for the transfer of assets, liabilities and personnel to these SCs which were subsequently privatized. Independent Power Producers (IPPs) also had access to the market during the transition period (pre-privatisation) as their entry were to help to bridge the power supply gap and initiate the process of implementing the reform programme by demonstrating the benefits of private investment and management.

- The establishment of the Nigerian Electricity Regulatory Commission (NERC) as an independent regulator of the sector and a definition of its functions and powers. NERC will operate independently of the Government, suppliers or consumers. Government's role is limited to policy formulation and execution.

- The establishment of a regulatory regime including the granting of licenses to private electricity generation and distribution companies, the determination of tariffs of regulated activities and the prevention of abuses of market power. In the wholesale market the focus of the regulation will be to prevent abuses of market power. In the retail market, the focus will be on balancing the interests of suppliers with the interests of customers.

- To promote competition. it is intended that the structure of the electricity supply industry will see a number of independent owner operators of generation and distribution companies with restrictions on cross-ownership between distribution and generation segments of the sector.

- The establishment of Rural Electrification Agency to provide rural communities with access to electricity; the establishment of Rural Electrification Fund to promote, support and provide rural electrification programmes through public and private sector participation; and the establishment of Power Consumer Assistance Fund to subsidise underprivileged power consumers.

5.2 Overview of Regulatory Regime under EPSR Act

5.2.1 Licensing

The EPSR Act requires NERC to license and regulate persons engaged in the generation, transmission, system operation, distribution, and trading of electricity. NERC issued an Order regulating the Application for Licenses in April 2010 and has also continued to issue other guidelines for applicants.

The EPSR ACT limits the duration of licenses to only ten years. However, NERC may extend the license, on a rolling basis for additional five-year periods beyond ten years. It should also be noted that the EPSR Act restricts a licensee from ceding his license or transferring his undertaking or any part thereof by way of sale, mortgage, lease, exchange or otherwise without the prior written consent of NERC.

A licensee should not, without the prior written consent of NERC, acquire by purchase or otherwise, or affiliate with, the license or undertaking of any other licensee or person that is in the business of electricity generation, transmission, system operation, distribution, or trading, other than as provided under the EPSR Act.

5.2.2 Technical Regulation

NERC is the technical regulator for the electricity sector and has the following functions: "establish or, as the case may be, approve appropriate operating codes and safety, security, reliability and quality standards." Technical regulations are applied through codes established by NERC. They are binding on the generation, distribution and transmission companies through the licenses issued by NERC. The three main codes covering technical regulation are:

- The Grid Code
- Grid Code for Public Consultation
- The Metering Code,
- Health and Safety Code

5.2.3 Ownership Restrictions / Market Control

Under the EPSR Act, NERC has the responsibility to continue to monitor the NESI to determine its potential for additional competition. NERC is required to send yearly report on this to the Minister, which will consider whether any of the regulated services ought to be exempted from tariff regulation.

The EPSR Act gives NERC the powers to determine the time, conditions, pre-conditions, and transitional arrangements, rules, codes, etc., for the exemption of a regulated service from tariff regulation, if it considers the exemption to be in public interest and after consultation with the Minister.

NERC also has the powers to determine whether to restrict the introduction of competition to certain geographical areas or to certain licensees or customers and the basis for such restriction.

In respect of services in competitive markets, the EPSR Act gives NERC a continuing responsibility to consider the prevention or mitigation of abuses of market power in its decisions and orders like license applications and the grant of licenses, license terms and conditions, the setting of prices and tariffs; and whether or not to approve a merger, acquisition or affiliation.

5.2.4 Consumer Protection Requirements

The EPSR Act gives NERC the responsibility for the development (in consultation with licensees) certain standards, procedures and codes for consumer protection. The EPSR Act gives NERC the power to set up Power Consumer Assistance Fund to be managed by NERC. Contributions to the Fund are to be made by consumers and eligible customers. The Fund is to be used for subsidy payments to distribution companies for electricity supplied to underprivileged power consumers as specified by the Minister.

5.2.5 Rural Electrification Framework

There is also provision under the EPSR Act for the establishment and purpose of the Rural Electrification Agency and Fund. The Rural Electrification Agency should be a body corporate capable of suing and being sued in

its corporate name and of performing all acts that bodies corporate may by law perform.

The Agency should set up and administer Rural Electrification Fund to promote, support and provide rural electrification programmes through public and private sector participation.

5.2.6 Consultative Regulatory Procedures

For effective regulation the EPSR Act prescribes a system of consultative regulation by NERC. The EPSR Act is interspersed with provisions requiring NERC to consult with the stakeholders before taking any decision that may affect them.

5.3 Relevant Labour and Pension Laws and Regulations

5.3.1 Labour Act

The primary labour-related law applicable to the electricity industry is the Labour Act, which provides for the protection of Nigerian workers generally. In addition, certain provisions of the Labour Act are relevant to potential investors in the electricity industry, including provisions for employment contracts, provisions relating to employee transfers, termination rights, etc.

5.3.2 Pension Reform Act 2014

The Act established a contributory pension scheme for all employees in the country. The minimum number of staff required to commence the scheme in a firm is 3 employees. The employee contributes 8% of his salary while the employer also contributes a minimum amount equal to 10% of the employee's salary. Every employer must maintain a group life policy in favour of each employee for a minimum of three times the annual total emolument of the employee. The fund is to be managed by a licensed Pension Fund Administrator of the employee's choice.

5.4 Other Legislation and Regulations

5.4.1 The Consumer Protection Council Act No. 66 of 1992

This Act was promulgated to protect the interest of consumers of public and private sector services especially in relation to product quality. It establishes the Council, which is made up of a Chairman (to be appointed by the President), a representative from all of the 36 States and a representative each from the following Federal Ministries – Commerce and Tourism, Industries and Technology, Health and Petroleum Resources.

5.4.2 Energy Commission of Nigeria Act

This Act establishes the ECN to co-ordinate and to maintain general surveillance over the systematic development of energy resources in Nigeria.

The functions of the ECN include the following information gathering on national policy in the field of energy development; resolution of technical problems in implementing energy policy; rendering advice to the Federal and State Governments on all aspects of energy; preparation of periodic master plans for balanced and coordinated development of energy; and promotion of training and manpower development.

5.4.3 Infrastructure Concession Regulatory Commission Act 2005

This Act provides for the participation of the private sector in financing the construction, development operation or maintenance of infrastructure or development of new projects of the federal governments through concession or contractual arrangements and establishes the Infrastructure Concession Regulatory Commission.

The Act defines infrastructure to include "…. dams, hydroelectric power projects"

The Act stipulates the need for the approval of the Federal Executive Council before the grant of any concessions in by any government agency, ministry corporation or body. All projects hereunder must be bid for openly and competitively under the act.

The Act also provides for procedures for recovery of investments (by the concessionaire), authentication of project costs, powers of the commission

to inspect and supervise such projects, as well as the grant of a right of way or easement for any land and property bordering the project site.

The commission is composed of a Chairman, the Attorney General of the Federation, the Minister of Finance, Secretary to the Federal Government, the Governor Central Bank of Nigeria, a representative from each of the six geographical zones of Nigeria and the director general of the commission.

5.4.4 Companies and Allied Matter Act

This Act is the primary legislation regulating the incorporation, management and operation of companies; registration of business names; and incorporation of Incorporated Trustees.

It provides the legal framework for the conversion of the monopolies into legal entities ready to be privatised (with the capacity for diverse share ownership). It sets out rules and procedures for corporate governance and other regulatory related matters.

5.4.5 Hydroelectric Power Producing Area Development Commission Act 2018 (Amended)

This Act is the primary legislation that established a Commission that has sole responsibilities for the formulation of policies for the development of communities that produce hydropower across the federation of Nigeria. The Act empowers that commission to deduct 10% of the net revenue of companies operating hydropower facilities within the country.

6. Multi-Year Tariff Order (MYTO)

6.1 Background

The purpose of the MYTO is to set cost-reflective tariffs which will allow the power sector to be properly funded and functional. It provides a 15-year tariff path for the NESI with limited minor reviews each year in the light of changes in a limited number of parameters (such as inflation, interest rates, exchange rates and generation capacity) and major reviews every 5 years, when all of the inputs are reviewed with stakeholders.

MYTO II elapsed by 31st May 2017, and minor adjustments were made in 2019. In September 2020, a new cost and service reflective MYTO was issued by NERC. The key highlight of the tariff order includes among others the change in tariff design and classification of customers into bands with respect to service hours as follows; a) Band A comprising customers receiving a minimum of twenty (20) hours of electricity supply per day; b) Band B comprising customers receiving a minimum of sixteen (16) hours of electricity supply per day; c) Band C comprising customers receiving a minimum of twelve (12) hours of electricity supply per day; d) Band D comprising customers receiving a minimum of eight (8) hours supply of electricity per day; and e) Band E comprising customers receiving a minimum of four (4) hours of electricity supply per day.

The Bands A-E are further divided into tariff classes as follows: (i) non-maximum demand customers; (ii) low voltage maximum demand customers; (iii) medium/high voltage maximum demand customers; and (iv) lifeline tariff.

Other major highlights of the new MYTO includes (a) Protection of Designated Classes of Customers, (b) Tariff Freeze for Certain Classes of Customers, © Service Band Adjustment, (d) Retention of the Existing CAPEX Allowance and Load Allocation Formula, (e) Minimum Remittance Threshold, (f) External Funding for Failure to meet the MRTs, and (g) Capacity Payments.

6.2 Statutory Authority for Tariff

The Electric Power Sector Reform (EPSR) Act of 2005 provides the statutory basis for regulating the Nigerian Electricity Supply Industry, while Section 76 sets out Commission's responsibility for electricity tariff regulation. The following activities are automatically subject to tariff regulation by NERC with respect to the issuance of required licenses under the EPSR Act:

- Generation
- Transmission
- Distribution of electricity in Nigeria

Section 76(7) of the Act provides that in preparing a tariff methodology, NERC should:

- consider any representations made by license applicants, other licensees, consumers, eligible customers, consumer associations, associations of eligible customers and such other persons as it considers necessary or desirable; and
- obtain evidence, information, or advice from any person who, in NERC's opinion, possesses expert knowledge which is relevant in the preparation of the methodology.

Subject to certain statutory limitations, NERC is entitled to adopt any tariff methodology it prefers. NERC can therefore adopt the traditional rate-of-return regulation, price-cap regulation or some combination of both. In developing this tariff path NERC adopted a methodology which it describes as a "building block approach" to combine the positive attributes of both traditional rate-of-return regulation and price-cap regulation.

In describing its methodology, NERC has adopted three basic principles in the determination of an appropriate methodology. These principles require that a regulatory methodology:

- produces outcomes that are fair;

- encourages outcomes that are efficient in that it involves the lowest possible costs to Nigeria and encourages investment in electricity generation; and
- is simple, transparent and avoids excessive regulatory costs.

The underlying pricing principles and objectives that guided the development of the MYTO model are:

- Cost recovery/financial viability - regulated entities should recover their (efficient) costs, including a reasonable rate of return on capital.
- Certainty and stability of the pricing framework which encourages an efficient level of investment.
- Incentives for improving performance – It provides incentives to reduce costs, improve quality of service and encourage efficient use of the network.
- Allocation of risk –It promotes the efficient allocation of risks.
- Simplicity and cost-effectiveness – It is easy to understand and implement, etc.

6.3 Nigeria Electricity Regulatory Commission

NERC is adopting a holistic and scientific approach to achieve correct pricing in the market, in order to ensure gradual sector development through the instrument of a cost reflective and fair tariff regime. Central to the resolution of these problems is the formation of a sustainable and competitive private industry.

The World Bank states that underpricing for power is the largest source of inefficiency. Under-pricing of electricity has resulted in major disinvestment in the power sector and created a mismatch between supply and demand in the Nigerian market. Currently demand remains largely unsatisfied within the Nigerian market. Residential and industrial end users have had to rely on expensive owner operated diesel generators to meet their demand and

these plants typically produce electricity at price levels that are significantly higher than the price of grid electricity.

In order to resolve the supply and demand mismatch prices must be brought back to an equilibrium that allows the market to be self-sustaining overtime. The desire to correct this imbalance in the market is one of the primary objectives of the Electric Power Sector Reform Act, 2005 ("the Act"), which also established the Nigerian Electricity Regulatory Commission (NERC).

At the centre of the tariff order is an excel-based multi-year tariff model, which calculates electricity prices based on revenue requirements of the whole industry. This approach is aimed at ensuring the necessary support for operating and capital expenditures of the various sub-sectors i.e., generation, transmission and distribution.

7. Government Supports and Incentives

7.1 FGN and Central Bank of Nigeria support

The Federal Government of Nigeria has continued to play direct role in the stabilisation of the Nigeria Electricity Supply Industry (NESI). Apart from direct investment in key generation and transmission assets, the government has provided financial support in form of bailout funds and other incentives to support the growth of the industry. Direct and indirect interventions include.

- Development of Mambilla and Zungeru hydro power projects among others
- Meter Asset Program
- The N300 Billion Power Intervention Fund in 2014
- The N701 Billion Liquidity Gap Funding for the NBET
- The payment of outstanding debts owed by the military and other government agencies.
- The 5 Years tax concession for the newly privatised companies since 2013.
- These incentives are in addition to NELMCO's assumption of outstanding liabilities, the pre-handover resolution of labour disputes.

7.1.1 Electricity Sector Incentives

Among the incentives put in place by Government to encourage investors in the sector are:

- A Tax holiday of 3 – 5 years is granted to energy sector companies along with a reduced corporate tax rate of 30%.
- Power generation companies using natural gas as an input are allowed further incentives including:
  1. Accelerated capital allowance of up to 90 percent after the tax-free period with 10 percent retention in the accounting books

2. 15 percent investment capital allowance which does not reduce the value of the asset
3. All dividends distributed during the tax holiday are not subject to tax
4. Interest on loans on gas projects are tax deductible, provided an approval was sought from the Ministry of Finance for such projects.

7.1.2 Corporate Income Tax Rate

The Companies Income Tax Act has been amended in order to encourage potential and existing investors and entrepreneurs. The current rate in all sectors, except for petroleum, is 30%.

7.1.3 Tax Relief for Research & Development

Industrial establishments are expected to engage in Research and Development (R&D) for the improvement of their processes and products. Up to 100% of expenses on (R&D) are tax deductible, provided that such R&D activities are carried out in Nigeria and are connected with the business from which income or profits is derived. Where the research is long-term, it will be regarded as a capital expenditure and will be written off against profit. The result of such research could be patented and protected in accordance with internationally accepted Industrial Property Rights.

7.1.4 In Plant Training

This is applicable to industrial establishments that have set up in plant training facilities. Such industries are allowed to claim such training expense before arriving at annual profit.

7.1.5 Rural Investment Allowance

Without prejudice to the provision of the pioneer status enabling law, a pioneer industry sited in an applicable rural area is entitled to a maximum 100% tax holiday for five years and an additional 5% capital depreciation allowance over and above the initial capital depreciation allowance.

7.1.6 Liberalization of Ownership Structure

The Nigerian Investment Promotion Commission Act of 1995 has liberalized the ownerships structure of business in Nigeria. The implication of this is that foreigners can now own 100% shares in any company as opposed to the earlier arrangement of 60% – 40% in favour of Nigerians.

7.1.7 Repatriation of Profit

Under the provisions of the Foreign Exchange (Monitoring & Miscellaneous Provision Act No. 17 of 1995), foreign investors are free to repatriate their profits and dividends net of taxes through an authorised dealer in freely convertible currency.

7.1.8 Guarantees against Expropriation

The Nigerian Investment Promotion Commission Act guarantees that no enterprise should be nationalized or expropriated by any government in Nigeria.

7.1.9 Double Taxation Agreements (DTA)

In the last few years, double taxation agreements have been entered into by Nigeria with a number of countries. These agreements are entered into with a view to affording relief from double taxation in relation to taxes imposed on profit taxable in Nigeria and any taxes of similar character imposed by the law of the country concerned.

The method of relief from double taxation under Nigeria's tax treaties is by way of a "tax credit". The mechanism of the tax credit is such that the tax payable in Nigeria on profits of a Nigeria Company being remitted into the country is reduced by the amount of "foreign tax" paid abroad. The converse is equally true where an overseas company receives profits from abroad. Negotiations are in progress at various stages with many other countries.

8. Transaction Structure

The transaction structure for the concession of the Oyan Dam 9 MW Hydro-electric Power Plant will take the form of a Rehabilitate, Build, Finance, Operate, Maintain and Transfer (RBFOMT) contract. It will require competent firms with technical, financial and managerial capabilities because of the expansion plans for the capacity of the plant which will introduce hybrid technological innovations in addition to the existing provision for a 9MW Hydro-electric Power Plant. The levels of investments requirements will be taken care of in the concession agreement.

The open and competitive procurement process for the purpose of engaging a competent concessionaire for the Oyan Dam 9 MW Hydro-electric Power Plant will select a Preferred Bidder using the one (1) stage bidding process as described in the Request for Proposal (RfP) for this transaction. In line with the ICRC's Swiss Challenge Methodology, the Preferred Bidder will then await the original Project Proponent's right of first refusal to submit and match or concede to the Preferred Bidder's proposal.

The requirements and guidelines for each of the process will be clearly communicated and opportunities for clarifications provided to ensure fairness to all interested bidders. Prequalified bidders will be provided the opportunities for a physical/virtual data room. The processes would be transparent to ensure that the best concessionaire available emerges through the process and the concession agreement executed.

8.1 Concession Agreement

The Concession Agreements relate to the Oyan Dam 9 MW Hydro-electric Power Plant in Ogun State. The draft Concession Agreement serves as a broad umbrella agreement conferring on the Concessionaire the key rights and obligations in the context of the operation, maintenance, and management of the project. It contains a leasing structure intended to enable the Concessionaire access to the project site, right of ways and the terms and conditions of the concession.

The Concessionaire is required to implement the agreement and manage the project in accordance with sound international practices and to meet certain minimum performance criteria and objectives of the project.

The Concessionaire will be required to rehabilitate, build, finance, operate and maintain the power plant in accordance with all Applicable Laws and operating manuals for each component of the plant. The concessionaire will be responsible for Operating procedures, Maintenance of the facility, including major overhauls (upon receipt of necessary approvals from the Grantor); maintenance of performance levels and criteria, procurement of spare parts amongst others.

The Concession Agreement will detail all relevant payments with respect to concession fees, revenue royalties to be made, frequency of payments etc.

9. Overview of Stakeholders

9.1 Bureau of Public Enterprises

The Bureau of Public Enterprises (BPE) is the body established by the Public Enterprises (Privatisation and Commercialisation) Act 1999 to implement the NCP's (National Council of Privatisation) policies on privatisation and commercialisation and prepare public enterprises approved by the NCP for privatisation or commercialisation. It also serves as the Secretariat of NCP. The BPE as the implementation agency of the NCP is responsible for the day-today management of privatisation process.

9.2 Infrastructure Concession and Regulatory Commission

The ICRC was established to regulate Public Private Partnership (PPP) endeavours of the Federal government aimed at addressing Nigeria's physical infrastructure deficit which hampers economic development. The concession of the Oyan Dam 9 MW Hydro-electric Power Plant is within the jurisdiction of the ICRC. They have provided oversight and approved the Outline Business case developed for this project in addition to monitoring the progress and processes of this concession since the process began.

The ICRC enabling Act mandates the Commission to manage the complex arrangements that the PPP process entails, as well as build capacity within MDAs to handle such arrangements themselves, subsequently. The ICRC is also expected to monitor the implementation of such arrangements according to best practice, ensuring that the desired service standards are attained and maintained, value for money is assured and that the private sector operators are in a position to recoup their investment in a fair and equitable manner. The Commission equally take custody of every concession agreement made under the enabling Act and monitor compliance with the terms and conditions of such agreement; to ensure the efficient execution of any concession agreement or contract entered into by the Federal Government.

9.3 Federal Ministry of Power

The Federal Ministry of Power (FMP) currently has policy-making responsibility for the power sector. The EPSR Act also assigns certain powers to the Minister relating to the opening of the power market to competition and during the transition stages to a fully competitive market. The Ministry expertise may be required particularly during the construction of the transmission lines for the project. Successful operation of this plant will align with ministry's policy of incremental power generation from various sources to achieve power supply stability in the country.

9.4 Federal Ministry of Water Resources

The Federal Ministry of Water Resources is the agency of government in charge of both the surface and ground water resources in the country. The project is not directly funded by the Ministry, but the water reservoir required for the production of the hydropower is under the purview of the Ministry.

9.4.1 Nigeria Integrated Water Resources Management Commission

The Nigeria Integrated Water Resources Management Commission is a parastatal under the Federal Ministry of Water Resources charged with the creation of a regulatory environment for the allocation, supply, and distribution of water resources for all uses, and to promote equitable, sustainable and efficient best practices and conduct. It has also the following responsibilities; facilitation of coordinated development of public and private water resources services and facilities by all persons wishing to supply such services and facilities; ensuring that licensees or authorized developers and water services providers and users as well as the infrastructure meet the technical, social and commercial obligations and such other obligations specified under its enabling Act in a manner which promotes well-being of all citizens and fairness; protection of licensees and the public from unfair conduct of other providers of water resources services, with regard to the quality of service and to the payment of tariffs; ensuring that licensees achieve the highest possible level of ensuring that public water services are supplied as efficiently and economically as possible and at such performance standards which reasonably meet the

social, industrial, and commercial needs of the community; and promotion of the development of other sectors of the Nigerian economy through the efficient and sustainable supply of water services within the framework of this Act.

The Water Rights and licenses required to operate the Oyan Dam 9 MW Hydro-electric Power Plant will be granted by this agency.

9.5 Transmission Company of Nigeria (TCN)

Transmission Company of Nigeria (TCN) was incorporated in November 2005. TCN emerged from the defunct National Electric Power Authority (NEPA) as a product of the merger of the Transmission and Operations sectors on April 1, 2004. Being one of the 18 unbundled Business Units under the Power Holding Company of Nigeria (PHCN), the company was issued a transmission License on 1st July 2006. TCN licensed activities include: electricity transmission, system operation and electricity trading which is ring fenced. Grid Connection Agreement and Ancillary Services Agreement are agreements to be entered into with TCN.

9.6 Nigeria Electricity Regulatory Commission (NERC)

NERC was established under the Nigerian Power Sector Reform Act 2005. The commission effectively took off on October 31st, 2005 following the inauguration of its full-time commissions. NERC has been set up as an independent and self-funding sector regulator with the following primary functions:

- Ensure orderly development of a competitive power market.
- Ensure efficient, safe and adequate production of electricity.
- Promote competition and private sector participation.
- Promote consumers and public interest.
- Evolve standards and codes that measure with international best practice.
- Evolve stable and equitable rates – cost reflective + reasonable profit.
- License and regulate persons engaged in electricity business.
- Settle disputes amongst industry participants.

- Ensure expansion of access to rural and urban dwellers.
- Establish and administer the power consumer assistance fund for subsidizing underprivileged consumers.

9.7 Nigeria Bulk Electricity Trading Company (NBET)

The Nigerian Electricity Bulk Trader was setup on September 23rd, 2010 to act as a bulk buyer and procure additional IPP capacity for the Nigerian electricity services market. The Nigerian Bulk Electricity Trading Company will also inherit existing Power Purchase Agreement with IPPs currently operating in Nigeria.

The Bulk Electricity Trading Company is designed as a mechanism to give private investors' confidence in investing in the Nigerian electricity services market. The Bulk Trader, however, is not setup to procure electric power from the Successor Generation companies. The Successor Generation companies will sell electric power to Successor Distribution companies and other eligible consumers through bilateral contracts (Vesting Contracts).

NBET mandate includes:

- To put in place an effective transaction environment this minimizes risk and allocates it fairly to the parties best able to manage it.
- To implement a procurement process that is transparent and will result in the economic procurement of needed power.
- To enter into contracts that are well structured and managed in a manner that precludes recourse to any credit guarantee instrument.
- To novate contracts and wind up as soon as the DISCO's are ready to take on their own procurement.

9.8 Federal Ministry of Environment

The concern to protect the environment gave rise to the creation of the Federal Ministry of Environment in 1999 to ensure effective coordination of all environmental matters, which were hitherto fragmented and resident in different line Ministries.

Since its establishment, the Ministry has impacted on raising the issue of environmental consciousness in the minds of Nigerians as well as the interface with the Global environmental best practices. It has focused on involving innovative strategies that emphasize the use of environmental re - engineering as a veritable tool for job creation, poverty eradication, ensuring food security, encouraging sustainable economic development and general improvement in the livelihood of Nigerian populace. At the international level, it has pursued the use of the environment in defining the country's foreign policy thrust as a means of ensuring good governance globally and regionally. Nigeria through the Ministry has continued to provide purposeful leadership at various international fora – as a representative of the West African Sub-region, the African Continent, Non-aligned Nations as well as developing nations.

10. Risks to Investors

The information provided in this section is subject to a final decision and negotiation by and among the involved parties. Additional risks to be borne by the concessionaire may arise as concessionary terms and commercial terms of the transaction are decided. Note that each risk will be allocated to the party best suited to manage them.

10.1 Risks Inherent in the transaction

10.1.1 Political Risk

Nigeria has enjoyed the longest political stability for the last 23 years since democratic rule was restored on May 29, 1999. 'The political environment is gradually showing a lot of maturity and resilience and inbuilt mechanisms from conflict and tension resolutions. The last presidential election on February 23, 2023 witnessed a robust campaign and election of the president. The government relies in open and competitive bidding in the procurement of concessionaire and sale of assets and respects contracts and agreements. The risk of political uncertainty is very low.

10.1.2 Expropriation Risk

Governments in Nigeria, including the previous administrations, have taken steps to create an environment that encourages foreign direct investment (FDI). Along with the Foreign Exchange (Monitoring and Miscellaneous Provisions) Act of 1995, which permits unhindered repatriation of foreign currency, the Nigerian Investment Promotion Commission (NIPC) Act of 1995 substantially eliminated discrimination against foreign investors. A provision permitting 100% foreign ownership in Nigerian entities allows existing investors build up controlling stakes.

The risk of expropriation to the project is perceived to be low. Expropriation, or the act of a government taking private property for public use, is not a common practice in Nigeria.

10.1.3 Regulatory Risk (Tariff Modifications)

The current tariff order is a both cost and service reflective based on assumptions that guarantees investment returns. This is with a view to assuring investors of safety and return on investment. Again NERC has ensured a minor adjust of the tariff every six months to reflect the current inflation and exchange rate regime.

10.1.4 Legal and Regulatory Risk (Unfavourable Changes)

Change of laws/regulations may adversely affect cash flows. Such laws need to be amended by a vote of 2/3 of the members of the two chambers of the National Assembly. Dispute resolution mechanisms need to be in place and may be enforced through expedited international arbitration. The fact that the government will retain ownership in the Hydropower plant is likely to limit the regulatory/legal risks.

10.1.5 Exchange Rate Risk

If the investors leverage their investment through debt denominated in foreign currency, exchange rate risk will be a concern for them. This risk arises due to fluctuations in the exchange rate between the currency of borrowing and the currency of the revenue denomination. While the project's operating profit may withstand some devaluation, the most impacted will be the distributions due the owner of the project. This foreign exchange risk is taken care of in the MYTO model and accommodated on an annual basis during the minor reviews.

The foreign exchange risk can be mitigated by implementing a long-term hedging strategy (currency swaps), achieving foreign currency indexing of part of the project costs. The CBN approved foreign-exchange futures trading as part of a strategy to smoothen out hard currency demand and help businesses to hedge their currency risk.

However, the maximum tenor of these futures is three months forward only. The purpose of this initiative is to lessen demand pressure in the foreign-exchange market driven by anticipation of a depreciation of the local currency.

10.1.6 Force Majeure Risk

Force majeure events should be specified in the contracts so that in case of a force majeure event, the contracting parties should be relieved from the consequences of failing to comply with their respective obligations to the extent they are prevented from so doing by reason of such events. The force majeure events apparent in key agreements need to be consistent so as to minimize the loss to the equity, and other key participants in the project.

10.1.7 Technical, Non-Technical and Other Losses

Considering the level of investment allowed Discos over the last four (4) years, The Nigerian Electricity Regulatory Commission has recommended a minimum level of losses for the Industry in the MYTO model. The operator of the line (transmission and/or distribution) will bears financial responsibility for losses above these limits. The latest Draft Regulations for Independent Electricity Distribution Networks states that losses outside the MYTO limit should not be passed through to the customer.

The Presidential Power Initiative with Siemens aims to resolve the challenges in the power sector and to expand the capacity for future power needs through in-depth power system studies and training, transmission and distribution system upgrades and training of Disco employees and TCN staff on power equipment, systems and solutions.

10.2 Risk to the Hydropower Plant

10.2.1 Non-payment by Discos

The Eligible Customer rule of 2017 means that GENCOS have the option of direct negotiation with customers with capacity and ability to pay for electricity supplied. This project takes into consideration a reasonable ratio for the sale of power through both NBET and the Eligible customer rule. GENCOS also have the option to sell power to neighbouring nations through the West African Power Pool (WAPP) which was created in 1999 to integrate the national power systems into a unified regional electricity market and aims to promote the trade of electricity among the ECOWAS

member States. All of the above will reduce the risk of over reliance with NBET with seemingly liquidity challenges.

10.2.2 Hydrological Risk

In low hydrology scenarios, price per kWh will be higher and in high hydrology scenarios price per kWh will be lower. Additionally, Power Purchaser's fixed capacity payments must cover operating and financial obligations. A capacity payment must be a part of the payment structure for hydro and other Gencos. It is of utmost important that water license is gotten from the NIWRMC which will guarantee adequate regulation and enforcement and thus ensure optimum supply of water to the Oyan Dam 9 MW Hydro-electric Power Plant.

10.2.3 Reduction of Power Offtake by the Purchaser for Economic Reasons

The Take-or-pay clause in the PPA sets a floor for Gencos' economic exposure to reduced power off take. The Power Offtaker's creditworthiness is key criteria in mitigating this risk. If the credit quality of the Offtaker is perceived to be low, additional government support and or financial guarantees will be required.

10.2.4 Operating/ Performance Risk (Failure in Operating the Facility Efficiently)

If the Concessionaire fails to run the power plant at proposed mandatory requirements, therefore failing to deliver the contracted power amount, the Concessionaire, assuming it is the plant Operator, pays a penalty. The operating risk will be minimized, if the Concessionaire has the technical expertise and experience in successfully operating similar plants. If the Operator is contracted by the Concessionaire, the performance risk can be mitigated by the structure of an O & M Agreement with inclusion of adequate incentives and penalties.

11. Environmental Considerations

National, state and international environmental regulations and administrative instruments are relevant to the Operation and Maintenance of the Oyan Dam 9 MW Hydro-electric Power Plant. The Concessionaire will be expected to follow national and international environmental considerations.

National and select international regulations are presented in this section.

11.1 National Environmental Legislations

Relevant National environmental legislations are presented below.

S/N	Applicable Regulations	Year
1	Federal Ministry of Environment (Environmental Protection Agency Act)	1988/91/92
2	Environmental Impact Assessment Act No. 86	1992
3	National Environmental Standards and Regulations Enforcement Agency (NESREA)	2007
4	Guidelines and Standards for Environmental pollution Control in Nigeria Effluent Limitation Regulations (S.I.8) Pollution Abatement in Industries and Facilities Producing Waste (S.I.9) Management of Solid Hazardous Wastes (S.I.15)	1991/2002
5	Harmful Waste Act	1988

Figure 14: List of Relevant National Environmental Legislations List

11.1.1 The Federal Ministry of Environment (FMEnv) – Regulations 1988, 1991 and 1992.

Act 58 of 1988 established the Federal Environmental Protection Agency (FEPA) as the

chief regulatory body for environmental protection in Nigeria with the responsibility of ensuring that all industries meet the limits prescribed in the national guidelines and standards and associated regulations for

environmental pollution management. From time to time, the FMEnv (formerly FEPA) may update the national guidelines and standards.

FMEnv has put in place statutory documents to aid the control and abatement of industrial wastes and indiscriminate pollution of the environment. Such statutory documents include:

- EIA Act No 86 of 1990.
- S.I.8 - National Environmental Protection (Effluent Limitations) Regulations of 1991;
- S.I.9 - National Environmental Protection (Pollution Abatement in Industries and Facilities Generating Wastes);
- S.I.15 - National Environmental Protection Management of Solid and Hazardous Wastes Regulations of 1991;
- The Harmful Wastes (Criminal Provisions) Act No. 42 of 1988; and
- The 1989 National Policy on the Environment.

These statutory documents clearly spell out the restrictions imposed on the release of waste (toxic) substances into the environment and the responsibilities of all industries whose operations are likely to pollute the environment. Such responsibilities include provision of anti-pollution equipment, adequate treatment of effluent before discharge into the environment, etc. (S.I.8 & 9). For example, paragraph 15(2) of S.I.9 states that no oil in any form should be discharged into public drains, rivers, lakes, seas, atmosphere or underground injection without a permit by FMEnv or any organisation designated by the ministry. Also, paragraph 17 states that an industry or a facility which is likely to release gaseous, particulate, liquid or solid untreated discharges should install into its system, appropriate abatement equipment in such a manner as may be determined by the FMEnv. Specifically, S.I.15 provides a comprehensive list of wastes that are classified as being dangerous to the environment. It also gives details on the contingency planning and emergency procedure to be followed in case of sudden release of any of these hazardous wastes into the environment.

Paragraph 10 of the National Environmental Protection (Pollution Abatement in Industries and Facilities generating Waste) regulation 1991, makes the storage, treatment and transportation of harmful toxic waste, subject to permit system. Paragraph 15 of the Act makes waste discharge contingent upon obtaining a permit as provided below:

- No effluent with constituents beyond permissible limits should be discharged into the public drain, rivers, lakes, streams, seas or underground without a permit issued by the agency or any organisation designated by the agency.
- Application for a permit and the permit should be in the form set out in the schedule or as specified by the agency.
- An industry or a facility with a new point source of pollution or new process l ine should apply to the agency for discharge permit not later than 180 days before commencing the discharge of any effluent arising from any operation.

11.1.2 EIA Act 86 of 1992

In order to give a legal backing to the activities of the FMEnv for Environmental Impact Assessments (EIA), the Nigerian Government in December 1992 promulgated the EIA Decree 86. The act clearly stipulates among other things the objectives of an EIA, list of project activities for which an EIA is mandatory; minimum content of an EIA, regulatory authorities of FMEnv; offences and penalties.

Specifically, Section 1 of the Act states that the objectives of any environmental impact assessment should be:

- To establish, before a decision is taken by any person, authority, corporate body or unincorporated body including the government of the federation, state or local Government intending to undertake or authorize the undertaking of any activity that may likely or to a significant extent affect the environment or have environmental effects, the extent of the effects of these activities on the environment.

- To promote the implementation of appropriate policy in all federal lands, states, and local government areas, consistent with all laws and decision-making processes through which key the goals and objectives may be realized.
- To encourage the development of procedures for information exchange, notification and consultation between organs and persons when proposed activities are likely to have significant environmental effects on boundary or on the environment of border towns or villages.

To achieve these objectives, the act stipulates that public or private sector enterprises should not undertake or embark on any project without first carrying out an Environment Impact Assessment study. However, Section 15(1) of the act highlights certain classes of projects for which an EIA study might be exempted. These classes of projects include:

- Projects considered likely to have minimal impact on the environment by the President, Commander-in-Chief of the Armed Forces or the council of the FMEnv.
- All projects to be carried out during national emergency for which the Government has put temporary measures in place.
- All projects that are to be carried out in response to circumstance that is beneficial to the populace.

Apart from projects that fall into the above-noted categories, all other projects require that an EIA should be carried out before the project commences. Section 13 of the act presents a comprehensive list of activities in each sector to which an EIA study is mandatory. The sectors include Agriculture, Aviation, Housing, Industry, Mining, Petroleum, Power Generation and Transmission etc. For example, in the Power Generation and transmission sector to which the present study falls, the activities that require a mandatory EIA study include:

- Construction of steam generated power stations burning fossil fuels and having a capacity of more than 10 MW.

- Dams and hydroelectric power schemes with either or both of the following.
  - Dams over 15 metres high and ancillary structures covering a total area in excess of 40 hectares.
  - Reservoirs with a surface area in excess of 400 hectares.
- Construction of combined cycle power stations.
- Construction of nuclear-fuelled power stations.

In addition, a good EIA study should be made up of at least the following:

- Description of the proposed project's activities.
- Description of the current status of the environment that may be affected by the project, with ample information provided to facilitate the identification and assessment of the potential environmental effects of the proposed project.
- An assessment of the potential environmental impacts of the proposed activity and the alternatives, including the direct or indirect, cumulative, short term and long-term effects.
- An identification and description of measures available to mitigate adverse environmental impacts of proposed activity and assessment of those measures.
- An indication of gaps in knowledge and uncertainty that may be encountered in computing the required information.
- An indication of whether the environment of any other state or local government area or areas outside Nigeria is likely to be affected by the proposed activity or its alternative etc.

The resulting EIA report is subjected to a comprehensive review by an FMEnv constituted panel and the general public. The main focus of the review panel often includes but is not limited to the following considerations:

- The environmental effects of the projects, including the environmental effects of malfunctions or accidents that may occur in connection with the project.

- Cumulative environmental effects that are likely to result from the project and other projects that are already existing or yet to be executed.
- Technically and economically feasible measures to mitigate any significant impacts of the project.
- Alternative means of carrying out the project that are technically and economically feasible and environmental effects of such options.
- Comments from the general public regarding the impacts of the project.

The review panel is expected to submit the reports of their findings to the Ministry.

Environmental Impact Assessment Procedure

In response to the promulgation of the EIA act discussed above, the Federal Ministry of Environment (FMEnv) developed a National EIA Procedure in 1995. The procedure provides steps to be followed from project conception to commissioning in order to ensure that the project is implemented with maximum consideration for the environment. The procedure for EIA essentially involves the project proposal stage where the project proponent notifies the FMEnv of the proposed project in writing. The project proposal is expected to contain all relevant information on the project including a land-use map. This stage is followed by the screening phase, when the Ministry will carry out an Initial Environmental Examination (IEE) and assign the project into categories based on the following criteria: magnitude, extent or scope, duration and frequency, risks, significance, mitigation measures available for associated and potential environmental impacts. The location of the project in Environmentally Sensitive Areas (ESAs) is also an important criterion in the project categorisation. The areas categorised as Environmentally Sensitive Areas (ESAs) include coral reefs, mangrove swamps, small islands, tropical rain forests, areas with erosion-prone soils, natural conservation areas; etc.

Another stage of FMEnv EIA procedure is the scoping stage, the main feature of which involves, the proponent submitting to FMEnv; a Terms of

Reference (ToR) for the proposed EIA study. In some cases, the Ministry may demand a Preliminary Assessment Report, and any additional information from the proponent to assist in vetting the scope and the ToR of the proposed EIA study. This stage is followed by actual implementation of the EIA study; preparation of Draft Final Reports, and Final EIA Reports, review process and approval/certification. The categories of projects under the national EIA procedure are as follows:

- Category I: this category of projects is subjected to full-scale EIA. Projects placed under this category include such projects as: petroleum projects like oil and gas fields' development, construction of offshore pipelines in excess of 50 kilometres in length, construction of oil and gas separation, processing, handling and storage facilities; and large-scale construction of depots for storage of petroleum products.
- Category II: this category of projects may not require a full-scale EIA except when the project is located in an Environmentally Sensitive Area (ESA), in which case the project will be assigned to Category I. The requirement for Category II projects is a partial EIA. Also, mitigation measures or changes in project design (depending on the nature and magnitude of the environmental impacts) as well as further actions may be required from the proponent. Category II projects include reforestation/afforestation projects, land and soil management, small-scale irrigation and drainage, mini hydro-power development, small-scale development of petroleum or related activities, etc.
- Category III: this category includes projects expected to essentially have beneficial impacts on the environment. For projects in this category, the Ministry will issue an Environmental Impact Statement (EIS). Projects in this category are such as; family planning programmes, institutional development, environmental awareness projects, etc.

Apart from the general EIA Guidelines, the Ministry has also prepared sectoral guidelines for EIA in different industrial sectors, including the petroleum and petro-chemicals sector and infrastructure.

11.1.3 National Environmental Standards and Regulations Enforcement Agency (NESREA)

NESREA Act 27 of 2007 established the National Environmental Standards and Regulations Enforcement Agency (NESREA). The Agency works under the Federal Ministry of Environment. NESREA is saddled with the responsibility of the protection and development of the environment, biodiversity conservation and sustainable development of Nigeria's natural resources in general and environmental technology, including coordination and liaison with relevant stakeholders within and outside Nigeria on matters of enforcement of environmental standards, regulations, rules, laws, policies and guidelines. The functions of the Agency include:

- Enforce compliance with laws, guidelines, policies and standards on environmental matters.
- Coordinate and liaise with, stakeholders, within and outside Nigeria on matters of environmental standards, regulations and enforcement.
- Enforce compliance with the provisions of international agreements, protocols, conventions and treaties on the environment including climate change, biodiversity conservation, desertification, forestry, oil and gas, chemicals, hazardous wastes, ozone depletion, marine and wildlife, pollution, sanitation and such other environmental agreements as may from time to time come into force.
- Enforce compliance with policies, standards, legislation and guidelines on water quality, Environmental Health and Sanitation, including pollution abatement.
- Enforce compliance with guidelines, and legislation on sustainable management of the ecosystem, biodiversity conservation and the development of Nigeria's natural resources.

- Enforce compliance with any legislation on sound chemical management, safe use of pesticides and disposal of spent packages thereof.
- Enforce compliance with regulations on the importation, exportation, production, distribution, storage, sale, use, handling and disposal of hazardous chemicals and waste, other than in the oil and gas sector.
- Enforce through compliance monitoring, the environmental regulations and standards on noise, air, land, seas, oceans and other water bodies other than in the oil and gas sector.
- Ensure that environmental projects funded by donor organizations and external support agencies adhere to regulations in environmental safety and protection.
- Enforce environmental control measures through registration, licensing and permitting Systems other than in the oil and gas sector.
- Conduct environmental audit and establish data bank on regulatory and enforcement mechanisms of environmental standards other than in the oil and gas sector.
- Create public awareness and provide environmental education on sustainable environmental management, promote private sector compliance with environmental regulations other than in the oil and gas sector and publish general scientific or other data resulting from the performance of its functions.
- Carry out such activities as are necessary or expedient for the performance of its functions.

11.1.4 Electric Power Sector Reform Act 2005

The Electric Power Sector Reform (EPSR) Act 2005 enacted on March 11th, 2005 provides a legislative framework for the reform of the Nigerian power sector in accordance with the policies set out in the National Electric Power Policy. The Act removes operational and regulatory responsibilities of the electricity industry from the Federal Government. It provides the legal backing for the unbundling of NEPA, formation of SCs to take over the various functions, assets, liabilities and staff of NEPA. This Act repealed the Electricity Act and the National Electric Power Authority Act. It is also the

background that will enable the development of a competitive electricity market, creation of a regulatory body that will license and regulate the generation, transmission and distribution and supply of electricity. In addition, the Act provides for the determination of tariffs and other related matters. The Act specifies the requirements for issuing licenses for power generating companies. Schedule 1A of the Act requires that EIA Approval Certificate or Proof of submission and acceptance for processing of the Report on EIA to the Ministry of Environment or details on how effluents and discharges will be managed (when proposed capacity is less than 10MW).

11.2 World Bank Environmental Guidelines

The World Bank Group may only finance commercial and industrial projects that comply with its policies and guidelines, which emphasize pollution prevention, including the use of cleaner production technologies. The intent of the guidelines is to minimize resource consumption, including energy use, and to eliminate or reduce pollutants at the source. Various guidelines exist for different sectors. However, this report focuses, among other things, on the bank's guidelines in relation to power sector projects.

11.2.1 Power Projects

The bank requires that an EA be carried out early in the project cycle in order to establish emissions requirements and other measures on a site-specific basis for a new thermal power plant or unit of 50 MW or larger. The initial tasks in carrying out the EA should include:

- Collection of baseline data on ambient concentrations of PM10 and sulphur oxides (for oil and coal-fired plants), nitrogen oxides, (and ground level ozone, if levels of ambient exposure to ozone are thought to be a problem) within a defined airshed encompassing the proposed project.
- Collection of similar baseline data for critical water quality indicators that might be affected by the plant.
- Use of appropriate air quality and dispersion models to estimate the impact of the project on the ambient concentrations of these pollutants.

When there is a reasonable likelihood that in the medium or long term the power plant will be expanded or other pollution sources will increase significantly, the analysis should take account of the impact of the proposed plant design both immediately and after any probable expansion in capacity or in other sources of pollution. The EA should also include impacts from construction work and other activities that normally occur, such as migration of workers when large facilities are built.

Plant design should allow for future installation of additional pollution control equipment, should this prove desirable or necessary. The EA should also address other project-specific environmental concerns, such as emissions of cadmium, mercury, and other heavy metals resulting from burning certain types of coal or heavy fuel oil. If emissions of this kind are concerned, the government (or the project sponsor) and the World Bank Group will agree on specific measures for mitigating the impact of such emissions and on the associated emissions guidelines.

The quality of the EA (including systematic cost estimates) is likely to have a major influence on the ease and speed of project preparation. A good EA prepared early in the project cycle should make a significant contribution to keeping the overall costs of the project down.

11.2.2 World Bank OP/BP 4.01; Environmental Assessment (EA)

This is one of the ten (10) environmental and social Safeguard Policies of the World Bank. It is used in the Bank to examine the potential environmental risks and benefits associated with Bank lending operations. Under OP/BP 4.01, Bank lending operations are broadly defined to include investment lending, sector lending, and rehabilitation lending through financial intermediaries, and investment components of hybrid lending. Prototype Carbon Fund (PCF) and Global Environmental Facility (GEF) co-financed projects are also subject to the provisions of OP/BP 4.01.

Under this guideline, The Bank requires environmental assessment (EA) of projects proposed for Bank financing to help ensure that they are environmentally sound and sustainable, and thus to improve decision making. EA evaluates a project's potential environmental risks and impacts

in its area of influence; examines project alternatives; identifies ways of improving project selection, siting, planning, design, and implementation by preventing, minimizing, mitigating, or compensating for adverse environmental impacts and enhancing positive impacts; and includes the process of mitigating and managing adverse environmental impacts throughout project implementation. The Bank favours preventive measures over mitigatory or compensatory measures, whenever feasible.

EA takes into account the natural environment (air, water, and land); human health and safety; social aspects (involuntary resettlement, indigenous peoples, and physical cultural resources); and trans-boundary and global environmental aspects. EA considers natural and social aspects in an integrated way. It also takes into account the variations in project and country conditions; the findings of country environmental studies; national environmental action plans; the country's overall policy framework, national legislation, and institutional capabilities related to the environment and social aspects; and obligations of the country, pertaining to project activities, under relevant international environmental treaties and agreements.

The Bank does not finance project activities that would contravene such country obligations, as identified during the EA. EA is initiated as early as possible in project processing and is integrated closely with the economic, financial, institutional, social, and technical analyses of a proposed project. The Bank undertakes environmental screening of each proposed project to determine the appropriate extent and type of EA. The Bank classifies the proposed project into one of four categories, depending on the type, location, sensitivity, and scale of the project and the nature and magnitude of its potential environmental impacts.

- **Category A**: A proposed project is classified as Category A if it is likely to have significant adverse environmental impacts that are sensitive, diverse, or unprecedented. These impacts may affect an area broader than the sites or facilities subject to physical works. EA for a Category A project examines the project's potential negative and positive environmental impacts, compares them with those of

feasible alternatives (including the "without project" situation), and recommends any measures needed to prevent, minimize, mitigate, or compensate for adverse impacts and improve environmental performance. For a Category A project, the borrower is responsible for preparing a report, normally an EIA (or a suitably comprehensive regional or sectoral EA) that includes, as necessary, elements of the other instruments referred to in paragraph. 7.

- **Category B**: A proposed project is classified as Category B if its potential adverse environmental impacts on human populations or environmentally important areas-including wetlands, forests, grasslands, and other natural habitats-are less adverse than those of Category A projects. These impacts are site-specific; few if any of them are irreversible; and in most cases mitigatory measures can be designed more readily than for Category A projects. The scope of EA for a Category B project may vary from project to project, but it is narrower than that of Category A. Like Category A, it examines the project's potential negative and positive environmental impacts and recommends any measures needed to prevent, minimize, mitigate, or compensate for adverse impacts and improve environmental performance. The findings and results of Category B EA are described in the project documentation (Project Appraisal Document and Project Information Document).

- **Category C**: A proposed project is classified as Category C if it is likely to have minimal or no adverse environmental impacts. Beyond screening, no further EA action is required for a Category C project.

- **Category FI**: A proposed project is classified as Category FI if it involves investment of Bank funds through a financial intermediary, in subprojects that may result in adverse environmental impacts.

The borrower is responsible for carrying out the EA. For Category A projects, the borrower retains independent EA experts not affiliated with the project to carry out the EA. For Category A projects that are highly risky or contentious or that involve serious and multidimensional environmental

concerns, the borrower should normally also engage an advisory panel of independent, internationally recognized environmental specialists to advise on all aspects of the project relevant to the EA. The role of the advisory panel depends on the degree to which project preparation has progressed, and on the extent and quality of any EA work completed, at the time the Bank begins to consider the project. Depending on the project, a range of instruments can be used to satisfy the Bank's EA requirement: environmental impact assessment (EIA), regional or sectoral EA, environmental audit, hazard or risk assessment, and environmental management plan (EMP). EA applies one or more of these instruments, or elements of them, as appropriate. When the project is likely to have sectoral or regional impacts, sectoral or regional EA is required.

The Bank advises the borrower on the Bank's EA requirements and reviews the findings and recommendations of the EA to determine whether they provide an adequate basis for processing the project for Bank financing. When the borrower has completed or partially completed EA work prior to the Bank's involvement in a project, the Bank reviews the EA to ensure its consistency with this policy. The Bank may, if appropriate, require additional EA work, including public consultation and disclosure.

Other Banks guidelines and procedures that were considered in this study include the following:

- OP/BP 4.02 - Environmental Action Plans;
- OP/BP 4.04 - Natural Habitats;
- OP 4.07 - Water Resources Management;
- OP 4.11 - Physical Cultural Resources;
- OP/BP 4.12 - Involuntary Resettlement; and
- OP/BP 4.36 – Forests.

11.2.3 World Bank PRG Environmental Requirement

The World Bank guarantee requires specific steps to obtain approval of the World Bank's Board of Directors. Projects supported by Bank guarantees have to comply with applicable Bank policies, including those pertaining to environment and social impact.

The borrower (public or private) is responsible for meeting Bank guidelines with respect to environmental impacts and social soundness. The Bank's regional environmental staff work with the borrower´s environmental experts to undertake the environmental assessment (EA) and ensure that the project meets the Bank's environment standards. The Bank makes available to the borrower the Bank's environmental guidelines pertinent for the project to ensure adequate coverage in the EA study. The Bank coordinates the review of the EA study with the borrower and ensures that the borrower is in compliance with the Bank´s guidelines. The appraisal of the guarantee is not finalized, and therefore Board approval is not sought, until the EA study has been completed, reviewed, and formally accepted by the Bank. The FNG will perform EA on all the SCs complying with the Bank's environmental guidelines.

11.3 Other International Conventions

In her responsiveness and responsibility in regional and global efforts towards sustainable development particularly in the safeguard of the environment and natural resources, Nigeria has entered into a number of international treaties and conventions. Being signatory to the conventions, Nigeria pledges to uphold their principles. Some of the conventions considered in this project include:

African Convention on the Conservation of Nature and Natural Resources, Algiers, 1968

This convention came into force in Nigeria May 7th, 1974. The objectives of the convention is to encourage individual and joint action for the conservation, utilization and development of soil, water flora and fauna for the present and future welfare of mankind, from an economic, nutritional, scientific, educational, cultural and aesthetic point of view. Convention on Wetland of International Importance, Especially as Water Flow Habitat, Ramsar, Iran 1971.

This provision came into force in Nigeria on February 2nd, 2001 with the objective to stem the progressive encroachment on and loss of wetlands

now and in the future, recognizing the fundamental ecological functions of wetlands and their economic, cultural, scientific, and recreational value.

Montreal Protocol on Substances that Deplete the Ozone Layer, Montreal, 1987 (As Amended)

This came into force in Nigeria on January 7th, 1993 with the objective to protect the ozone layer by taking precautionary measure to control global emissions of substances that deplete it.

Convention on Biological Diversity, Rio de Janeiro, 1992

This convention came into force in Nigeria on November 27th, 1994. The objectives are to conserve biological diversity, promote the sustainable use of its components and encourage equitable sharing of the benefit arising out of the utilization of genetic resources. Such equitable sharing includes appropriate access to genetic resources as well as appropriate transfer of technology, taking into account existing rights over such resources.

The Paris Climate Accord

The Paris Climate Accord or The Paris Agreement is a legally binding international treaty on climate change. It was adopted by 196 Parties at COP 21 in Paris, on 12 December 2015 and entered into force on 4 November 2016 with the goal of limiting global warming to well below 2, preferably to 1.5 degrees Celsius, compared to pre-industrial levels. To achieve this long-term temperature goal, countries aim to reach global peaking of greenhouse gas emissions as soon as possible to achieve a climate neutral world by mid-century.