



Roadmap

on Industrialisation, Energy
Security and Climate Change in
Nigeria



Senior Executive Course 45, 2023
National Institute, Kurum

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Abbreviations

AAK	Ajaokuta, Kaduna and Kano
DisCos	Distribution Companies
ETP	Energy Transition Plan
EV	Electric Vehicle
FGN	Federal Government of Nigeria
GDP	Gross Domestic Product
GenCos	Generating companies
GHG	Greenhouse Gas
IC	Industrial Cities/Zones
KWh	Kilowatt Hour
MW	Megawatts
NASENI	National Agency for Science & Engineering Infrastructure
NASPA-CCN	National Adaptation Strategy and Plan of Action on Climate Change
NCMDB	Nigerian Content Development and Monitoring Board
NCCP	National Climate Change Policy
NBS	National Bureau of Statistics

NERC	Nigeria Electricity Regulatory Commission
NOTAP	National Office for Technology Acquisition & Promotion
NSI	Nigeria's National Interest
SEC	Senior Executive Course
SMEDAN	Small and Medium Enterprises Development
TCN	Transmission Company of Nigeria
TVET	Technical and Vocational Education and Training

Background Summary

Industrialisation, energy security, and climate change are intricately linked in Nigeria, presenting both challenges and opportunities. Nigeria's ambition for sustainable national development through industrialisation is hindered by several factors. Key among these is the stark energy deficit, with a demand of 17,520 MW far outstripping the peak generation capacity of 5,800 MW. This energy gap is a major bottleneck for industrial activities and development.

Balancing industrial development with environmental sustainability is crucial. Such a shift could support industrial growth while mitigating climate change impacts. Nigeria thus faces a tripartite challenge where its aspirations for industrialisation are entwined with the imperatives of energy security and the realities of climate change. Addressing this nexus requires a strategic, integrated approach that prioritises the use of available energy resources for energy security. It also requires a gradual diversification with sustainable energy sources, that reduces environmental impact, and leverages global partnerships and policies for sustained industrialisation and energy independent future.



Our Approach

The roadmap being developed by SEC 45 for the Presidency is informed by a strategic alignment with the President's vision for economic expansion, specifically targeting a Gross Domestic Product (GDP) milestone of \$1 trillion, as highlighted in the recent report from the Policy Advisory Council on the national economy.

Additionally, the President's campaign manifesto, the Renewed Hope Agenda, along with the administration's prioritised areas, have been pivotal in shaping the direction of the roadmap.

To ensure relevance and accuracy, the methodology incorporated a thorough analysis of data from nations such as Brazil, Indonesia, and Mexico, chosen for their GDPs that range between \$1 trillion and \$2 trillion and for their socio-political and cultural affinities with Nigeria.



Nigeria's Strategic National Interest

Achieving industrialisation
in a sustainable way that
guarantees a secure
energy future



Policy Options

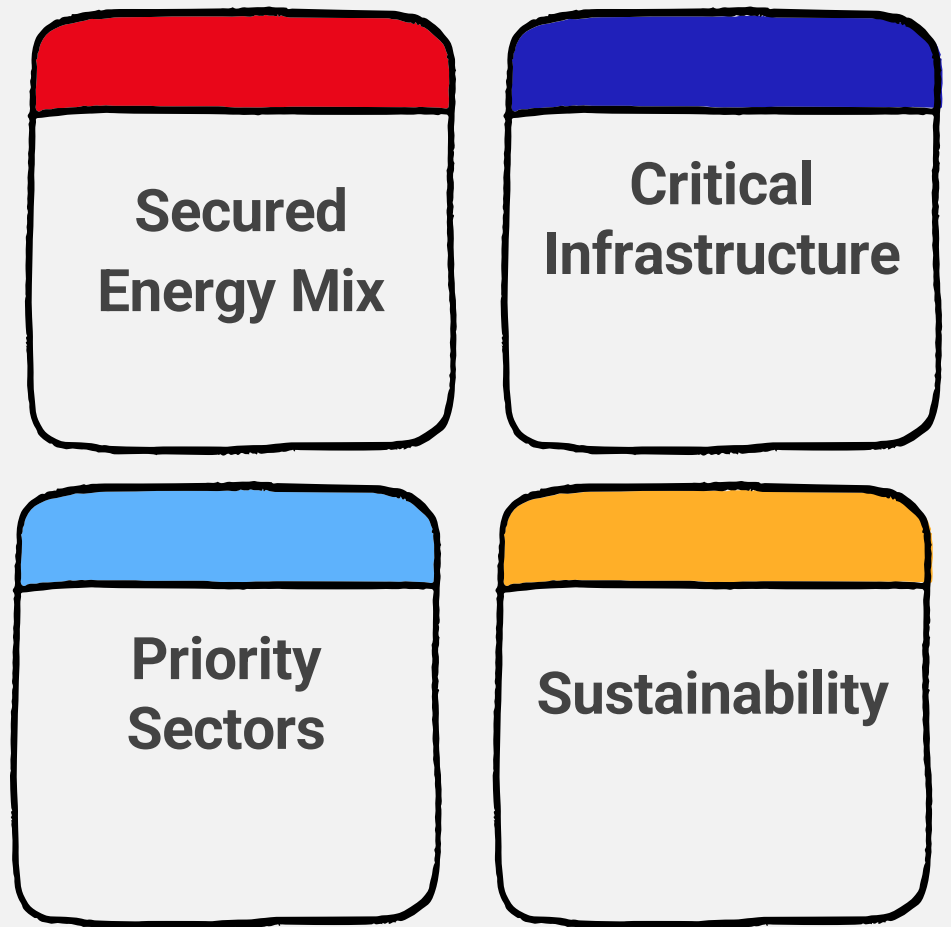
Exclusive
Utilisation of
Nigeria's
Abundant
Fossil Fuels

Exclusive
Transition to
Renewable
Energy
Sources

Optimisation
and
Diversification
of Nigeria's
Energy
Resources

Way Forward...

The study recommends policy option three that ensures the utilisation of Nigeria's existing fuel resources including oil, gas, coal while allowing for a phased transition to renewable energy sources in a manner that prevents sudden disruptions and huge cost overlay to adopt existing infrastructure by government and industries



Achieving industrialisation in a sustainable way that guarantees a secure energy future

Secured Energy Mix

Power

Accessibility

Affordability

Availability

Reliability

Gas

Critical Infrastructure

Exports/Ports

Local Patronage

Skilled Manpower

Priority Sectors

Agribusiness

Minerals & Metals

Steel

Industrial Zones

Transport / Logistics

Sustainability

Emission Reduction

Adaptation

Mitigation

Energy Security

Achieving Industrialisation with secured and diversified energy mix



Priority Action Sector: Power



Source: Google Images, 2023

State of Play



142

Electric Power Consumption
(KWh per capita)

VS

2,611 for Brazil, 1,084
for Indonesia 2,186
for Mexico.

The power supply in Nigeria is insufficient and unreliable (6.8 hours/day – NBS)) leading to a reliance on expensive and environmentally unfriendly alternatives like petrol and diesel generators. Nigeria's power consumption is 142 KWh per capita compared with 2,611 for Brazil, 1,084 for Indonesia and 2,186 for Mexico

To address these gaps, Nigeria needs to improve its power generation, transmission and distribution capacities by diversifying its energy sources

Source: IEA Statistics (2023) ([iea.org/data-and-statistics](https://www.iea.org/data-and-statistics))



How we got here

- Maintenance of the existing infrastructure was neglected, leading to deterioration.
- Investment in power infrastructure has not been able to keep pace with this growing demand.
- The privatization of the power sector, intended to improve efficiency and investment, has faced challenges, including regulatory uncertainties, tariff issues, and the financial instability of distribution companies (DisCos)



Measures & Actions

- The FGN and sub-national governments should harness Nigeria's estimated 427,000MW¹ concentrated solar thermal power potential to generate electricity for energy security.
- Invite private investments into regional grids and offer sovereign credit guarantees.
- Offer fiscal incentives to domestic meter manufacturing and distribution.
- Prioritize power supply to industries with preferential tariff

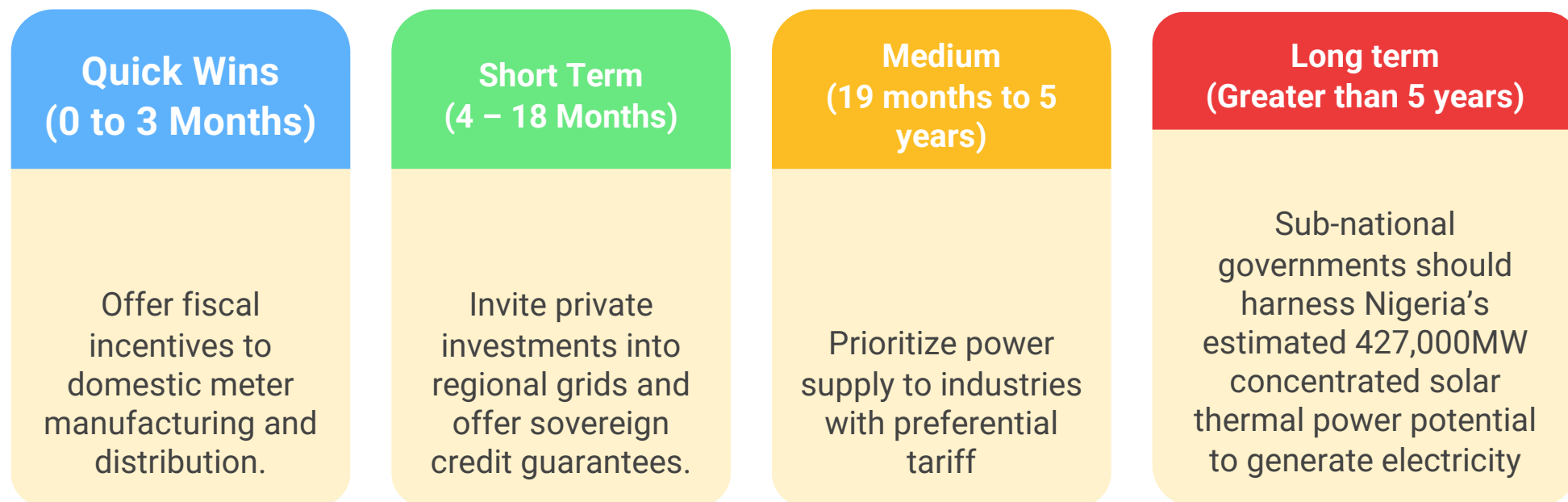


Expected Outcomes/Ambition

- Reliable, affordable, accessible and available energy for businesses and households in Nigeria

(1) International Institute for Environment and Development (2012)

Timeline – Power Sector - Measures & Actions



Energy Security - Accessibility



Source: Google Images, 2023

State of Play

Proportion of
Nigeria's population
with access to
electricity

59.5% compared to...



100%

for **Brazil**, **Indonesia** and
Mexico respectively.

Proportion of Nigeria's population with primary reliance on clean fuels and technology – 17%
compared to Brazil 97%; Indonesia 87%, Mexico 85%, China 83% and Algeria 100%

How we got here

The power sector has suffered from chronic underinvestment (especially the Grid and Metering) over the years, both from the government and private investors.

Electricity tariffs have often been set below cost-recovery levels, impacting the financial viability of the sector. Subsidy regimes have also been inconsistent.

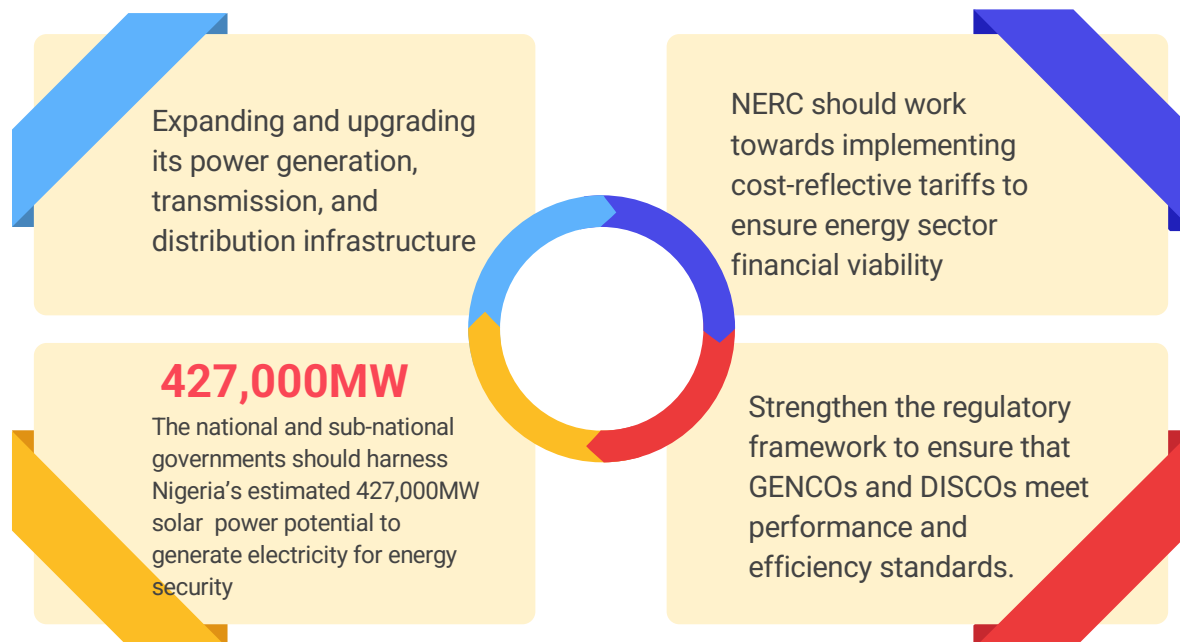
Source: IEA Statistics (2023) ([iea.org/data-and-statistics](https://www.iea.org/data-and-statistics))

Energy Security - Accessibility



Source: Google Images, 2023

Measures & Actions



Expected Outcomes/Ambition



By 2030, ensure universal access to affordable, reliable and modern energy services

Timeline – Energy Security - Accessibility - Measures & Actions

Quick Wins (0 to 3 Months)

NERC to implement cost-reflective tariffs that ensure that the energy sector can become financially viable

Short Term (4 – 18 Months)

Expanding and upgrading its power generation, transmission, and distribution infrastructure

Medium (19 months to 5 years)

Strengthen the regulatory framework to ensure that GENCOs and DISCOs meet performance and efficiency standards.

Long term (Greater than 5 years)

The FGN and sub-national governments should harness Nigeria's estimated 427,000MW concentrated solar power potential to generate electricity for energy security

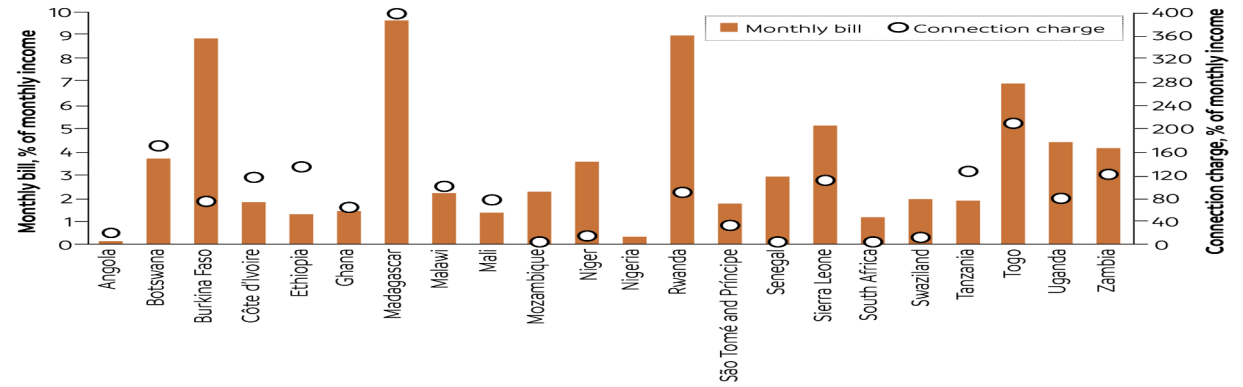
Energy Security - Affordability



Source: Google Images, 2023

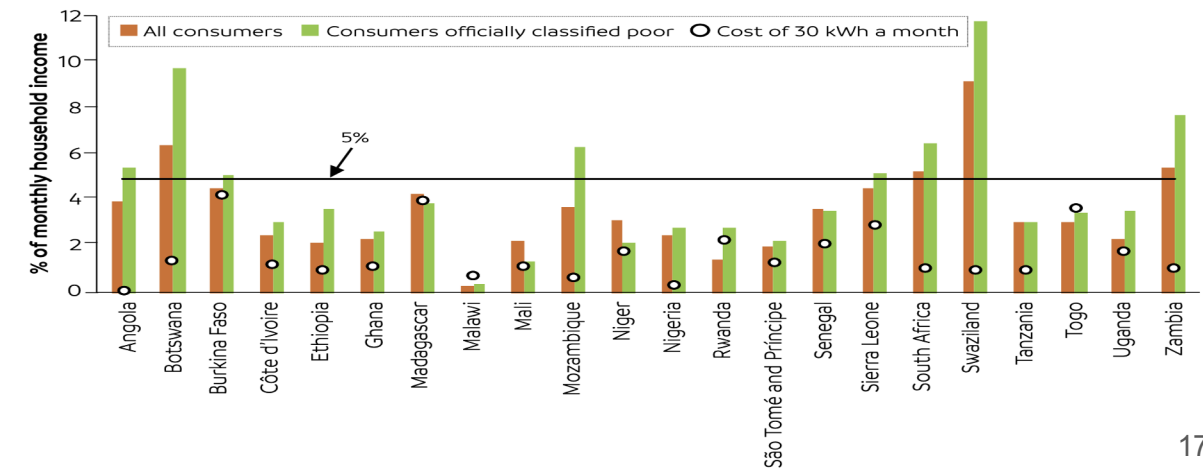
State of Play

Figure 7 Monthly bill for 30 kWh and connection charge as percentage of monthly household income



Source: Kojima et al. 2016.

Figure 8 Spending on electricity as percentage of monthly household income



Source: Kojima et al. 2016.

Energy Security - Affordability



Source: Google Images, 2023

State of Play

Percentage of average
income spent on electricity

0.3 per cent

Percentage of population that
cannot afford electricity

60 per cent

0.3% of household income spent on electricity reflects that half the consumers in Nigeria with connection to the grid are not metered in addition to only 56% connection rate.

How we got here

Poor financial state
of many utilities
makes it difficult to
cross-subsidise the
poor further.

Monthly electricity
bills are
unaffordable for
some in the current
setup.

The cost of importing
energy-related
equipment and fuel is
affected by foreign
exchange rates,
influencing the final
price of electricity.


Kojima, M., et al, (2016).

Energy Security - Affordability

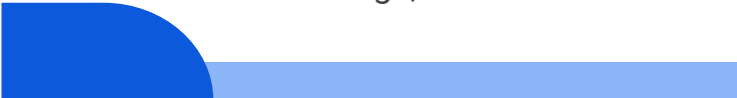


Source: Google Images, 2023

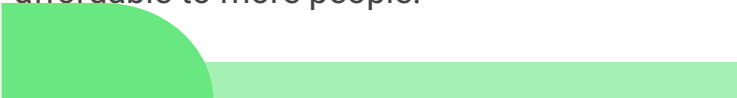
Measures & Actions



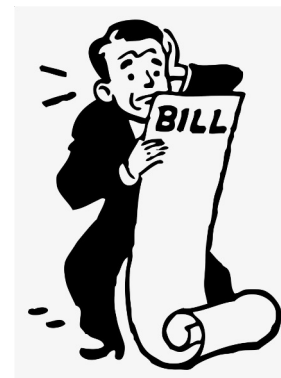
Install prepaid meters to improve revenue collection. Consider small, frequent tariff increases instead of large, rare ones.



A financially viable, well-operating electricity sector is essential for making electricity affordable to more people.



Review minimum wage in line with existing economic realities across sectors.



Expected Outcomes/Ambition

Substantially reduce the proportion of income spent on electricity by providing a more stable electricity supplies and efficient energy sector

Timeline – Energy Security - Affordability - Measures & Actions

Quick Wins (0 to 3 Months)

- Consider small, frequent tariff increases instead of large, rare ones.
- Implement progressive tariffs to increase affordability, and concurrently develop more targeted social protection measures.

Short Term (4– 18 Months)

- Install prepaid meters as a way of improving revenue collection.
- A financially viable, well-operating electricity sector is essential for making electricity affordable to more people.

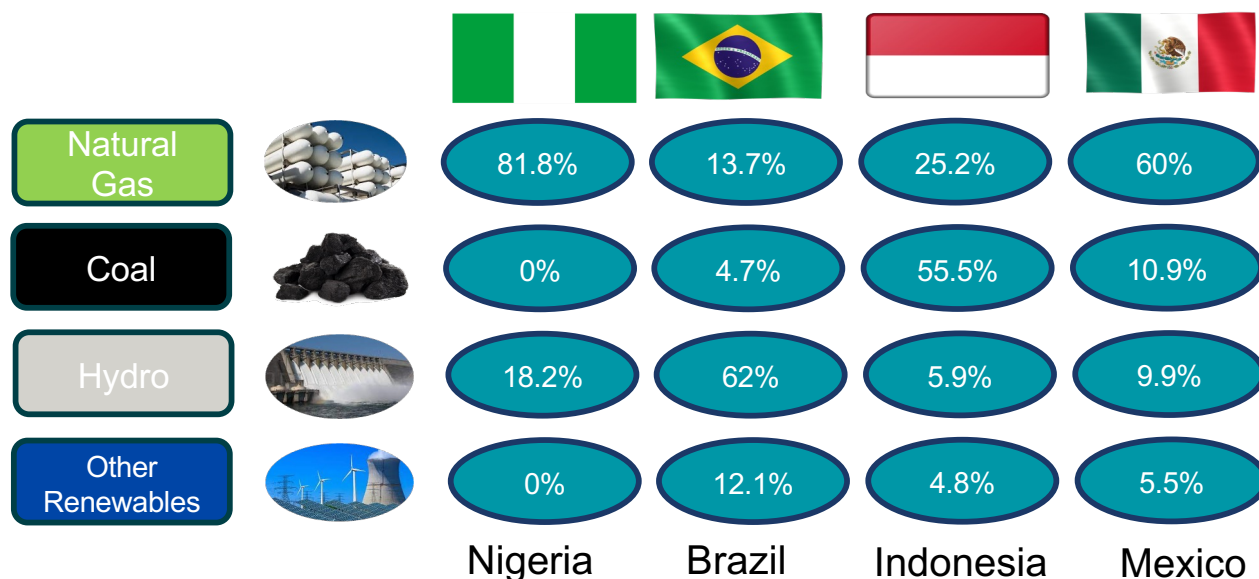
Energy Security - Availability



Source: Google Images, 2023

State of Play

installed generation capacity, broken down by energy source.



How we got here

Despite having large energy reserves (natural gas, oil, coal, hydropower, solar, biomass etc.), Nigeria has continued to face challenges in harnessing these resources for power generation.

The energy sector has been hindered by obsolete equipment across the entire streams (up, mid and downstream) and low capital investment.

Source: IEA Statistics (2023) ([iea.org/data-and-statistics](https://www.iea.org/data-and-statistics))

Energy Security - Availability



Source: Google Images, 2023

Measures & Actions

Vigorously harnessing energy from all available sources in the country including Gas, Coal, Solar, Biomass, Wind and other Renewables.



Expected Outcomes/Ambition

Use the imperative of energy optimisation and diversification to enhance energy security in an environmentally friendly fashion.

Timeline – Energy Security - Availability - Measures & Actions

Short Term (4 – 18 Months)

Adoption of an energy policy that emphasizes the use of ALL available energy sources in the country including Gas, Coal, and Renewables where expedient to do so for energy security.

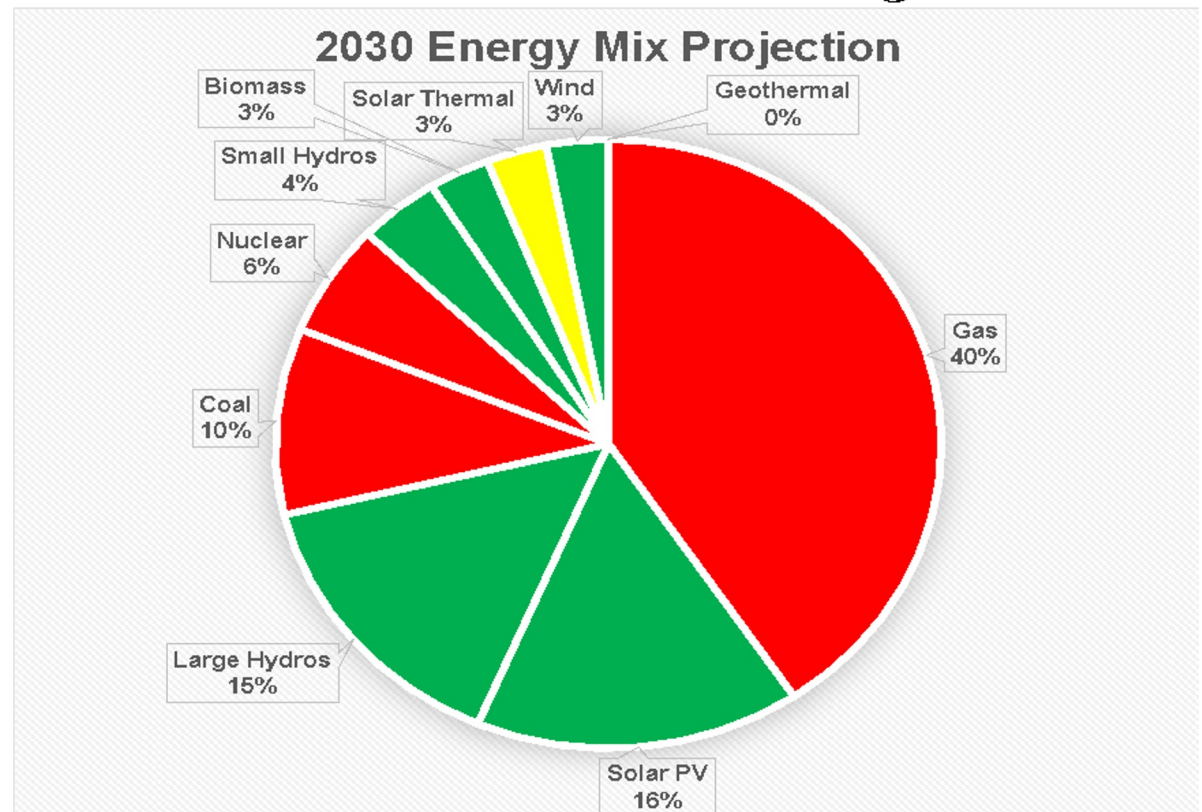
Long term (Greater than 5 years)

- Modernise the electrical grid to handle the variability and distributed nature of renewable energy sources.
- Invest in energy infrastructure including the development of gas pipelines, solar farms, hydroelectric plants, and other necessary facilities.

Projected Energy Mix

NIGERIA'S PROJECTED ENERGY MIX BY 2030

SOURCE	PROJECTION -MW
Gas	13,000
Solar PV	5,000
Large Hydros	4,700
Coal	3,200
Nuclear	2,000
Small Hydros	1,200
Biomass	1,100
Solar Thermal	1,000
Wind	800
Geothermal	0
TOTAL	32,000



Source: Nigerian Sustainable Energy For All (SE4ALL) Action Agenda

Energy Security - Reliability



Source: Google Images, 2023

State of Play

- Nigeria's energy mix lacks adequate diversity, heavily relying on natural gas (81.8%) and hydro-based renewables (18.2%).
- With a power requirement of 17, 520MW, power generation fluctuates between 4,000MW to 5,800MW while daily average power supply stands at 6.8 hours.
- Brazil, Mexico and Egypt achieve 100 per cent daily power supply.

11,720MW

Gap between Demand
and Supply

28%

Daily Supply



100%

Daily Supply



100%

Daily Supply



93%

Daily Supply

Source: IEA Statistics (2023) ([iea.org/data-and-statistics](https://www.iea.org/data-and-statistics))

Energy Security - Reliability



Source: Google Images, 2023

How we got here

Nigeria is endowed with one of the largest natural gas reserves in the world. However, this does not translate into optimal utilisation due to poor economic viability of the Gencos and pricing issues.

Low wheeling capacity due to dilapidated transmission infrastructure, distribution, upgrade, maintenance issues and cost reflective tariffs.

Energy Security - Reliability



Source: Google Images, 2023

Measures & Actions

Implementing policies that encourage investment and development of a broader range of energy infrastructure

Developing the necessary infrastructure to support diverse forms of energy generation.

Expected Outcomes/Ambition

Maximum utilisation of Nigeria's diverse energy sources to achieve energy security.

Timeline – Energy Security - Reliability - Measures & Actions

Short Term (4 – 18 Months)

Implementing policies that encourage investment in and development of a broader range of energy sources, especially renewables.

Long term (Greater than 5 years)

Developing the necessary infrastructure to support diverse forms of energy generation, including renewables.

Energy Security: Natural Gas



3,149

Average Natural Gas
Consumption per capita
(cubic feet per capita per
annum)

VS

5,817 for Brazil, **5,651**
for Indonesia **23,457**
for Mexico, 35,434 for
Algeria

State of Play

Nigeria has declared 2021 to 2030 as the "Decade of Gas," demonstrating a strong focus on increasing gas production and utilization.

Nigeria is investing in critical gas infrastructure projects like the Abuja-Kaduna-Kano (AKK) gas pipeline and the OB3 gas interconnector.

There are ongoing efforts to optimise the use of gas for power generation, industrial use, cooking, and export.

Source: Energy Institute Statistical Review of World Energy (2023)

Energy Security: Natural Gas

How we got here

Nigeria currently has approximately 2,000 kilometers of gas infrastructure pipelines versus 10,000 estimated requirement to meet the demands of energy in the country for industrialization and household needs.

Regulatory shifts, such as tax alterations on both domestic and imported gas, impacts the efficiency and expansion of the industry.

Measures & Actions

Resolve the inefficiency already identified in the operation of the Gas Network Code (imbalances, metering, invoicing, power and securitization of payments) that can constitute a major threat to the sanctity of contracts.

Accelerate the development of Gas Infrastructure that will widen and deepen the availability, distribution and utilization of Gas to industrial parks, industries, commercial organisations, and homes in various forms

Expected Outcomes/Ambition

Maximum utilisation of Nigeria's diverse energy sources to achieve energy security.

Source: Google Images, 2023

Timeline – Energy Security – Natural Gas - Measures & Actions

Quick Wins (0 to 3 Months)

Government to transparently proceed with the execution of the Gas Infrastructure Fund as stipulated in the PIA, to facilitate the release of new assets.

Short Term (4 – 18 Months)

Government to expeditiously finalise decisions regarding pricing and tariffs within the gas sector.

Medium (19 months to 5 years)

Government to accelerate the finalisation of existing gas projects and mitigate risks for new ventures to enhance their appeal to prospective investors.

Long term (Greater than 5 years)

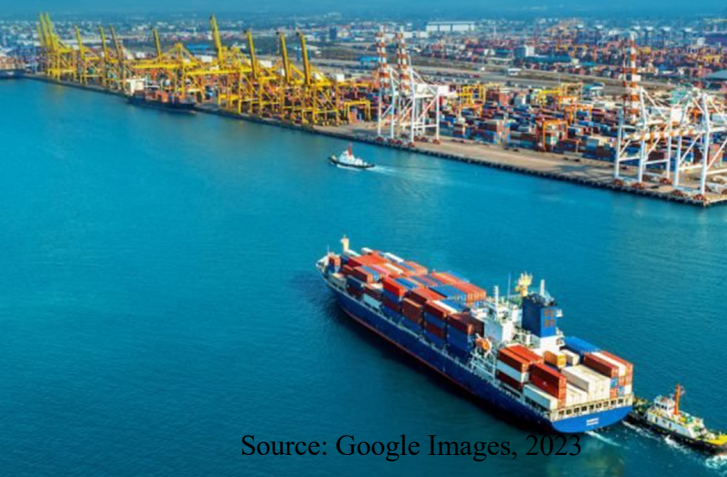
Government to leverage the oil and gas industry to forge an economy that is robust and can withstand the growing frequency and severity of global and regional disruptions.

Critical Infrastructure

Achieving Industrialisation by focusing interventions on CRITICAL infrastructure enablers



Critical Infrastructure: Ports/Exports



Source: Google Images, 2023

State of Play



\$47Bn

Nigeria's export of goods and services

VS



**\$384BN –
Brazil**

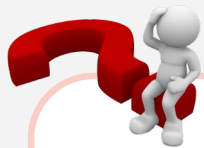


**\$323BN -
Indonesia**



**\$613BN –
Mexico**

Source: IEA Statistics (2023) ([iea.org/data-and-statistics](https://www.iea.org/data-and-statistics))



How we got here

- The lower export values of Nigeria reflect our less diversified economic structures and more reliance on a single commodity or sector.
- Nigeria's exports are predominantly in raw or semi-processed forms, which fetch lower earnings compared to higher value-added goods.
- Inadequate infrastructure, particularly in transportation and power, undermines the competitiveness of Nigerian goods on the global market.

Expected Outcomes/Ambition

- Engenders positive impact on industrialization. Improved trade facilitation and positive balance of trade resulting in economic growth and development of the county.

Measures & Actions

- FGN should strengthen fiscal and monetary measures to significantly boost local manufacturing and increase export of manufactured products.
- Strengthen local content requirements in key sectors to boost domestic manufacturing.
- Implement policies to stabilize the Naira, reducing volatility and uncertainty for manufacturers and exporters.
- Adopt monetary policies that keep inflation in check, ensuring a stable economic environment for manufacturers.
- Provision of modern cargo inspection/clearance gadgets (acquisition of cargo scanning materials) and enhancing procedures and processes.

Timeline – Ports and Exports - Measures & Actions

Quick Wins (0 to 3 Months)

- Adopt monetary policies that keep inflation in check, ensuring a stable economic environment for manufacturers.
- Implement policies to stabilize the Naira, reducing volatility and uncertainty for manufacturers and exporters.
- Strengthen local content requirements in key sectors to boost domestic manufacturing.

Short Term (4 – 18 Months)

- FGN should strengthen fiscal and monetary measures to significantly boost local manufacturing and increase export of manufactured products.
- Implement policies to stabilize the Naira, reducing volatility and uncertainty for manufacturers and exporters.

Medium (19 months to 5 years)

- Provision of modern cargo inspection/clearance gadgets (acquisition of cargo scanning materials) and enhancing procedures and processes.

Critical Input: Local Patronage

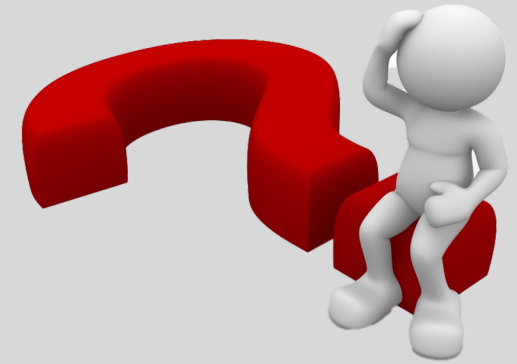
Source: Google Images, 2023



State of Play



Ineffective implementation of
existing local content laws



How we got here

- Weak enforcement of the Public Procurement Act 2007
- Weak enforcement of the Nigerian Content Development Act 2010
- Weak enforcement of Nigeria Coastal and Inland Shipping Act 2003
- Ineffective monitoring and reporting mechanisms of local patronage content
- Penchant for foreign goods and services

Local Patronage - Measures & Actions



Implement higher tariffs on finished products that can be manufactured locally, to protect domestic industries.



Strengthen local content requirements in key sectors to boost domestic manufacturing.



Ensure strict enforcement of existing local patronage laws and establish mechanisms for monitoring compliance.



Expected Outcomes/Ambition

Enhanced enforcement of local patronage policies that will lead to a rise in demand for locally produced goods, which in turn, stimulate domestic production, encouraging local industries to create jobs, reduce reliance on imports, improve the balance of trade, and conserve foreign exchange reserves.



Critical Input: Skilled Manpower

Source: Google Images, 2023



State of Play

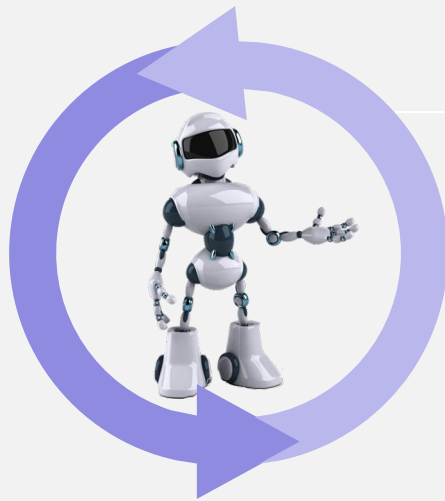


There are challenges with respect to skills available for the industrial sector.

How we got here

- Technical and Vocational Education and Training (TVET) institutions in Nigeria have historically suffered from inadequate funding, negatively impacting their ability to provide quality education and maintain infrastructure.
- The skills taught often do not align with the demands of modern industries.
- Vocational and technical education is often perceived as a less-prestigious option compared to university education, leading to lower enrollment.
- Inappropriate placement and incommensurate remuneration of technical skilled manpower.
- Stagnation and discrimination in career progression.

Skilled Manpower - Measures & Actions



Emphasis to be placed on strengthening institutions with oversight over vocational skills such as craftsmen, artisans, (e.g. NASENI, NOTAP, NCMDB, SMEDAN)



Curriculum review in partnership with the Industry, Government, and Academics.



The Federal and sub-national governments should strengthen skills development in the industrial sector and Technical and Vocational Education and Training (TVET) Policy.

Expected Outcomes/Ambition

FGN in conjunction with Sub-nationals and other relevant stakeholders should formalise and regulate the activities of artisans and come up with an attractive scale of fees for their labour.

Timeline – Skilled Manpower - Measures & Actions

Quick Wins (0 to 3 Months)

- Curriculum review in partnership with the Industry, Government, and Academics.

Short Term (4 – 18 Months)

- Strengthen institutions with oversight over vocational skills such as craftsmen, artisans, (e.g. NASENI, NOTAP, NCMDB, SMEDAN)

Medium (19 months to 5 years)

- The Federal and sub-national governments should strengthen skills development in the industrial sector and Technical and Vocational Education and Training (TVET) Policy.

Priority Sectors

Drive Industrialisation by focusing interventions on KEY Priority Sectors



Priority Action Sectors: Agribusiness

Source: Google Images, 2023



State of Play



923 million km²

Available land mass

90%

Arable land mass

40%

Cultivated land mass

How we got here

- The lucrative nature of oil exports resulted in reduced focus and investment in agricultural development.
- The majority of farming in Nigeria is done using traditional methods, with limited access to modern technology, high-yield seeds, and efficient irrigation systems.
- Inadequate rural infrastructure, such as roads and storage facilities, leads to challenges in transporting produce and high post-harvest losses.
- Conflicts and insecurity have disrupted farming activities and displaced communities.

Source: World Population Review, 2023

Agribusiness - Measures & Actions

Encourage private sector investment in value added processing in dedicated zones close to farming clusters where crops can be processed, thus reducing transport costs and spoilage.

Offer incentives to private sector to build modern storage facilities to maintain the quality of primary commodities after harvest.

Support the local manufacturing of simple, robust, and easy-to-repair agricultural machinery.

Encourage diversification into high-value cash crops that are climate resistant and suitable for the different agro-ecological zones of Nigeria.

Foster partnerships between the government, private sector, and academic institutions for R&D and innovation in agriculture.

Source: Google Images, 2023



Expected Outcomes / Ambition

Maximise the benefits from the country's agricultural resources, to meet local demand, and reduce the country's reliance on imports of food products.

Timeline - Agribusiness - Measures & Actions

Quick Wins (0 to 3 Months)

- Offer incentives to private sector to build modern storage facilities to maintain the quality of primary commodities after harvest.
- Foster partnerships between the government, private sector, and academic institutions for R&D and innovation in agriculture.

Short Term (4 – 18 Months)

- Encourage private sector investment in value added processing in dedicated zones close to farming clusters where crops can be processed, thus reducing transport costs and spoilage.

Medium (19 months to 5 years)

- Support the local manufacturing of simple, robust, and easy-to-repair agricultural machinery.
- Encourage diversification into high-value cash crops that are suitable for the different agro-ecological zones of Nigeria.

Priority Action Sector: Minerals & Metals

Source: Google Images, 2023

State of Play

0.6%

The minerals and metals sector contributes a relatively small portion to the country's GDP (0.6%), especially when compared to the oil and gas sector.



There have been increased legal and illegal mining activities in gold, especially in the southwestern and northwestern parts of the country.



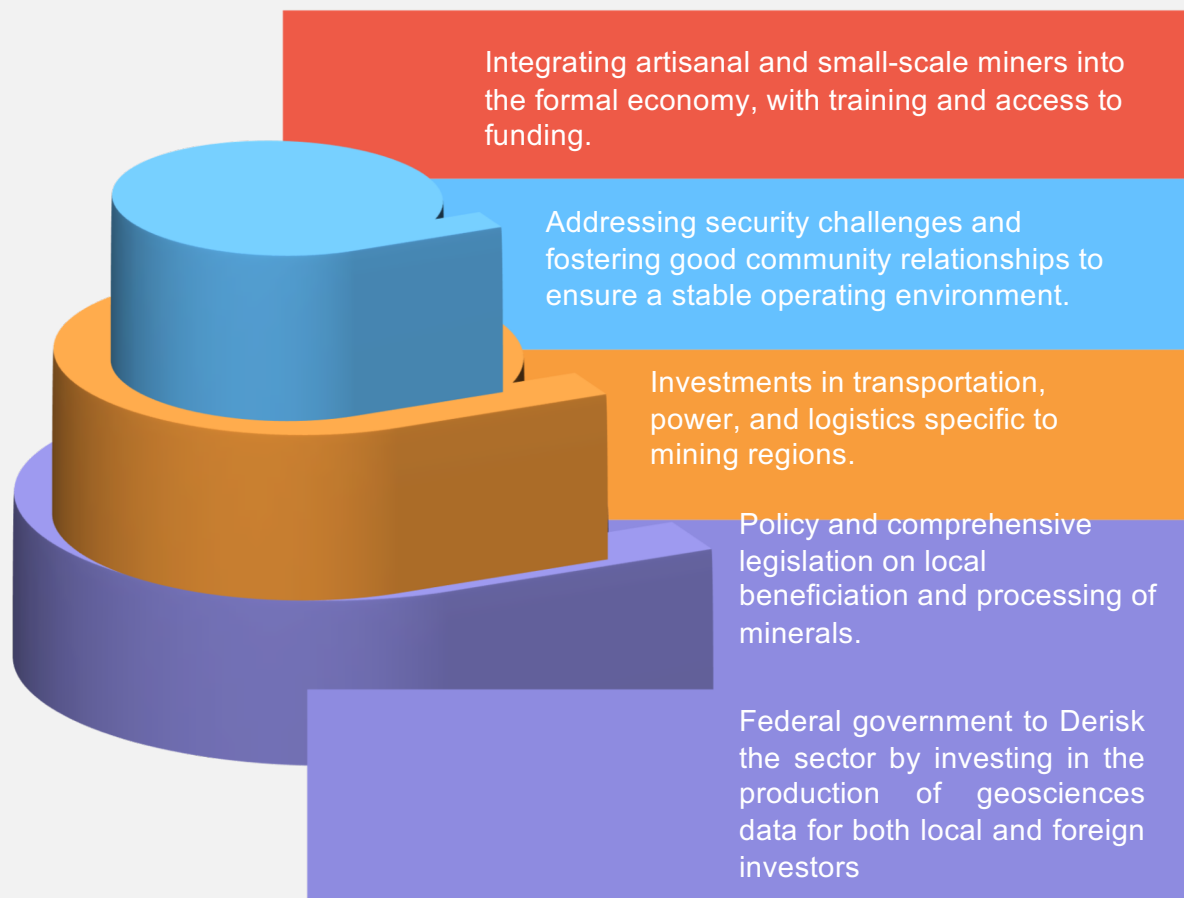
A significant portion of mining activity in Nigeria is artisanal and small-scale, often unregulated and informal.

How we got here

In certain regions, security issues, such as insurgency, terrorism, banditry, communal conflicts and illegal mining activities, pose risks to mining operations.

Source: Nigeria Bureau of Statistics, 2023

Minerals & Metals – Measures & Actions



Expected Outcomes / Ambition

Become a major mining and mineral processing hub



Timeline – Minerals and Metals - Measures & Actions

Quick Wins (0 to 3 Months)

- Addressing security challenges and fostering good community relationships to ensure a stable operating environment.

Short Term (4 – 18 Months)

- Integrating artisanal and small-scale miners into the formal economy, with training and access to funding.

Medium (19 months to 5 years)

- Investments in transportation, power, and logistics specific to mining regions.
- Policy and comprehensive legislation on local beneficiation and processing of minerals.

Priority Action Sector: Steel

Source: Google Images, 2023

State of Play

10KG

Average Consumption
Per Capita - **Nigeria**

VS

150KG

Average Consumption Per
Capita – **World Average**

\$3BN

Approximate market for
manufactured steel
products

Source: Ministry of Mines and Steel Development, 2023

How we got here

- The upstream value chain to process iron ore into ingots has largely been underdeveloped in Nigeria.
- Metals manufacturing requires the movement of large volumes of materials, which need a well-developed bulk freight network to reduce transportation costs which we lack.
- Scrap Metal is unduly exported rather than used as feedstock to local plants.
- Nigeria's power sector has been unable to supply the required energy to make the Steel sector competitive.
- Overdependence on imported Iron and steel products.

Source: Google Images, 2023



Basic Steel - Measures & Actions

Medium to longer term plan to situate new steel players coming into market around specific Clusters and Zones (Industrial Cities) in each of Nigeria's geo-political zones.

Develop a gradual transition plan that supports companies willing to relocate to the clusters without causing economic disruption.

Review government enforcement of the existing restrictions on export scrap Steel

Encourage the use of locally produced steel in government projects and private sector initiatives.

Work with the Ministry of Solid Minerals to prove-up key mineral deposits to international measurement standards. (e.g JORC standards)

Expected Outcomes/Ambition

Substantially increase Nigeria's steel consumption per capita to at least 50% of the world average within the next decade.



Source: Google Images, 2023

Timeline – Basic Metals and Steel - Measures & Actions

Quick Wins (0 to 3 Months)

- Review government enforcement of the existing restrictions on export scrap Steel

Short Term (4– 18 Months)

- Encourage the use of locally produced steel in government projects and private sector initiatives.

Medium (19 months to 5 years)

- Work with the Ministry of Solid Minerals to prove-up key mineral deposits to international measurement standards. (e.g JORC standards)

Long term (Greater than 5 years)

- Medium to longer term plan to situate new steel players coming into market around specific Clusters and Zones (Industrial Cities) in each of Nigeria's geo-political zones.

Priority Action Sector: Industrial Zones

Source: Google Images, 2023



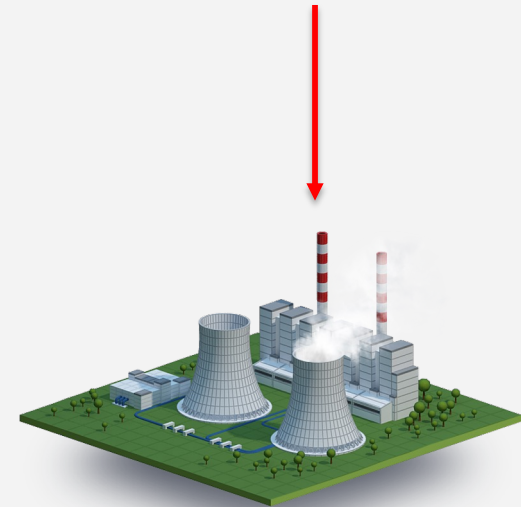
State of Play



13%

Nigeria has relatively low percentage of employment in industry (13%) compared to countries like **Brazil (21%)**, **Indonesia (22%)**, and **Mexico (26%)**

VS



Infrastructure deficits, especially in power supply, along with policy inconsistencies, have hindered the growth of more robust and diverse industrial zones.

Source: Nigeria Bureau of Statistics, 2023; Statistita, 2023

How we got here

- Nigeria's industrial development has been hampered by policy inconsistencies, failure and infrastructural challenges.
- Nigeria has a significant focus on resource-based industries with less advanced and diversified industrial sectors leading to low productivity.

Measures & Actions

- The FGN should review the Nigeria Industrial Revolution Plan 2014 and develop a legally backed National Industrial Policy that incorporates capital goods production, circular and blue economy.
- The FGN should facilitate access to long-term single-digit finance for the Industrial sector.
- The Federal and sub-national governments should promote Technical and Vocational Education and Training (TVET) and strengthen industrial skills development.
- FGN should prioritise the utilisation of gas as transition fuel for sustainable industrialisation and domestic use.
- FGN should optimise the utilisation of local raw materials such as minerals and agro-allied produce.
- The Federal and sub-national governments should facilitate the development of critical infrastructure around industrial clusters and economic corridors across the country.

Expected Outcomes



Export-oriented industrialisation, benefiting from strategic location and competitive labor costs.

Move towards higher-value manufacturing and integrated more deeply into global supply chains.

Timeline – Industrial Zones - Measures & Actions

Quick Wins (0 to 3 Months)	Short Term (4 – 18 Months)	Medium (19 months to 5 years)	Long term (Greater than 5 years)
<ul style="list-style-type: none">• FGN should prioritise the utilisation of gas as transition fuel for sustainable industrialisation and domestic use.	<ul style="list-style-type: none">• The FGN should review the Nigeria Industrial Revolution Plan 2014 and develop a legally backed National Industrial Policy that incorporates capital goods production, circular and blue economy.• FGN should optimise the utilisation of local raw materials such as minerals and agro-allied produce.	<ul style="list-style-type: none">• The Federal and sub-national governments should promote Technical and Vocational Education and Training (TVET) and strengthen industrial skills development	<ul style="list-style-type: none">• The Federal and sub-national governments should facilitate the development of critical infrastructure around industrial clusters and economic corridors across the country.

Priority Action Sector: Transport & Logistics

Source: Google Images, 2023

State of Play

1.48%

The total contribution of the sector in real terms in 2022 stood at 1.48%
Thus, a good transport network is essential to support economic growth and development



Poor road maintenance, congestion, and inadequate infrastructure are significant challenges

Gap between the needed investment for a robust transport network and the actual funds allocated or available

A mismatch exists between the capacity of the transport sector and the demands of a growing population and economy resulting in congestion and reduced productivity

How we got here

- The foundation of Nigeria's transport infrastructure was laid during the colonial era, with a focus on facilitating the export of raw materials. This resulted in a coastal-centric development of ports and a rail network designed primarily for cargo movement from the hinterland to the coast.
- Rapid urbanization exerted pressure on existing transport infrastructure. Urban transport systems, especially in cities like Lagos, have struggled to keep pace with the growing population, leading to congestion and inefficiency.
- Government budgets are not sufficient to fund transport infrastructure due to competing priorities or limited financial resources.
- Insufficient private sector investment in infrastructure due to inconsistent implementation of regulation and challenging economic environments

Measures & Actions

- Government to implement a long-term, sustainable transport policy that aligns with economic growth goals.
- Leverage pension funds and insurance capital for long-term infrastructure investment.
- Build capacity in government to structure, negotiate, and manage Public Private Partnership agreements effectively.
- Strengthen institutions responsible for planning, executing, and overseeing transport projects.

Timeline – Transport and Logistics - Measures & Actions

Short Term (4 – 18 Months)

- Government to implement a long-term, sustainable transport policy that aligns with economic growth goals.
- Leverage pension funds and insurance capital for long-term infrastructure investment.

Medium (1 months to 5 years)

- Build capacity in government to structure, negotiate, and manage Public Private Partnership agreements effectively
- Strengthen institutions responsible for planning, executing, and overseeing transport projects.

Expected Outcomes



**Improved transport infrastructure
that reduces the cost of doing
business and minimizes delays**

Sustainable Industrialisation

...Focusing on Reasonable Emission Reduction, Adaptation and Mitigation



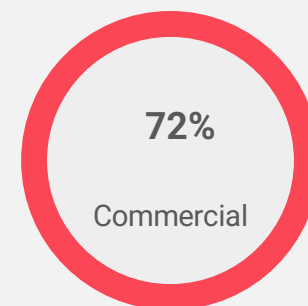
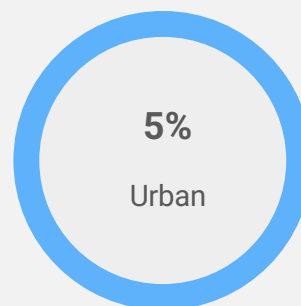
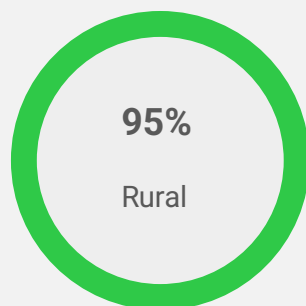
Climate Change - Emission Reduction



Source: Google Images, 2023

State of Play

The proportion of Nigeria's population utilising unclean fuel sources for cooking or heating is distributed as follows: 95 per cent and 5 per cent for rural and urban dwellers respectively. About 72 per cent utilise unclean fuel for commercial purposes.



The economy's heavy reliance on oil revenues makes transitioning away from fossil fuels challenging.



Source: Nigeria Energy Transition Plan, 2023



Source: Google Images, 2023

Climate Change - Emission Reduction

How we got here

- The economy's heavy reliance on fossil fuels to meet Nigeria's energy needs.
- Effective implementation of policies and regulatory measures for emission reduction has been challenging.



Measures & Actions

The economy's heavy reliance on fossil fuels to meet Nigeria's energy needs.

Effective implementation of policies and regulatory measures for emission reduction has been challenging.

The Federal Government of Nigeria should develop a national communication and awareness strategy on climate change.

Federal Government of Nigeria should facilitate Foreign Direct Investment in renewable energy development.

Timeline – Climate Change - Emission Reduction - Measures & Actions

Short Term (4– 18 Months)

- The Federal Government of Nigeria should develop a national communication and awareness strategy on climate change.
- The Federal and State Governments should strengthen the National Statistical System to deliver timely, credible and disaggregated data on SDGs, including the tracking of Green House Gas emissions in Nigeria

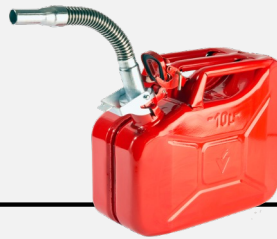
Medium (19 months to 5 years)

- Federal Government of Nigeria should facilitate Foreign Direct Investment in renewable energy development.

Climate Change - Emission Reduction

Expected Outcomes/Ambition

Transition away from
Diesel and Petrol
power generation



Expansion of gas
generation capacity
for baseload factor



Accelerate
renewables for
buildings, industry,
and transport



Mode-shift from
passenger vehicles
to public transport
and low emission
transport tech Clean
cooking



Source: Google Images, 2023

Source: Google Images, 2023

Climate Change – Adaptation



Source: Google Images, 2023

State of Play

Changing rainfall patterns and extreme weather events continue to add pressure to farming, food security and damage to infrastructure

Nigeria is part of international climate agreements, notably the Paris Agreement, and has outlined its commitments to reducing greenhouse gas emissions

Climate change poses significant risks to Nigeria particularly in areas such as agriculture, water resources, health as well coastal and desert-prone areas.

How we got here

- Global warming resulting from unsustainable industrialisation.
- Lack of awareness on the effects of climate change.
- Ineffective government policies

Increased flooding, desertification, and changing rainfall patterns, have heightened awareness in Nigeria which has pushed climate change up the policy agenda.

Nigeria has developed policies such as the National Adaptation Strategy and Plan of Action on Climate Change (NASPA-CCN) and the National Climate Change Policy (NCCP), to guide adaptation efforts.

Climate Change – Adaptation

Measures & Actions



Facilitate development of critical minerals for domestic manufacturing of lithium and sodium-iron batteries for GHG emission reduction



Establishment of early warning system.
Introduction of climate-smart agriculture.



Provision of climate-resilient infrastructure.



Awareness and sensitisation campaigns.



Expected Outcomes/Ambition

Strengthened resilience and adaptive capacity to climate-related hazards and natural disaster.

Timeline – Climate Change Adaptation - Measures & Actions

Short Term (3 – 18 Months)

- The Federal and State Governments should strengthen the National Statistical System to deliver timely, credible, and disaggregated data on SDGs, including the tracking of Green House Gas emissions in Nigeria

Medium (18 months to 5 years)

- The FGN should develop a five-year National Climate Change Action Plan in line with the provisions of the Climate Change Act, 2021
- Nigeria should establish at least two direct access entities within the country to facilitate the access of climate financing.

Climate Change – Mitigation



Source: Google Images, 2023

State of Play

Limited financial resources for large-scale investment in green technologies and infrastructure.

Ineffective implementation and enforcement of environmental and climate-related policies.

How we got here

Nigeria's as a developing country has different challenges and capabilities.



Climate Change – Mitigation

Measures & Actions

Implementation of communication and awareness strategy on climate change mitigation.

Enforcement of afforestation and tree planting initiatives

Strengthen international partnership and expand access to financing mechanisms

Expected Outcomes/Ambition

Implementation of communication and awareness strategy on climate change mitigation.



Timeline – Climate Change Mitigation - Measures & Actions

Short Term (3 – 18 Months)

- The Federal Government of Nigeria should develop a national communication and awareness strategy on climate change.
- Federal and sub-national governments should enforce afforestation and tree planting initiatives in Nigeria

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Thank You