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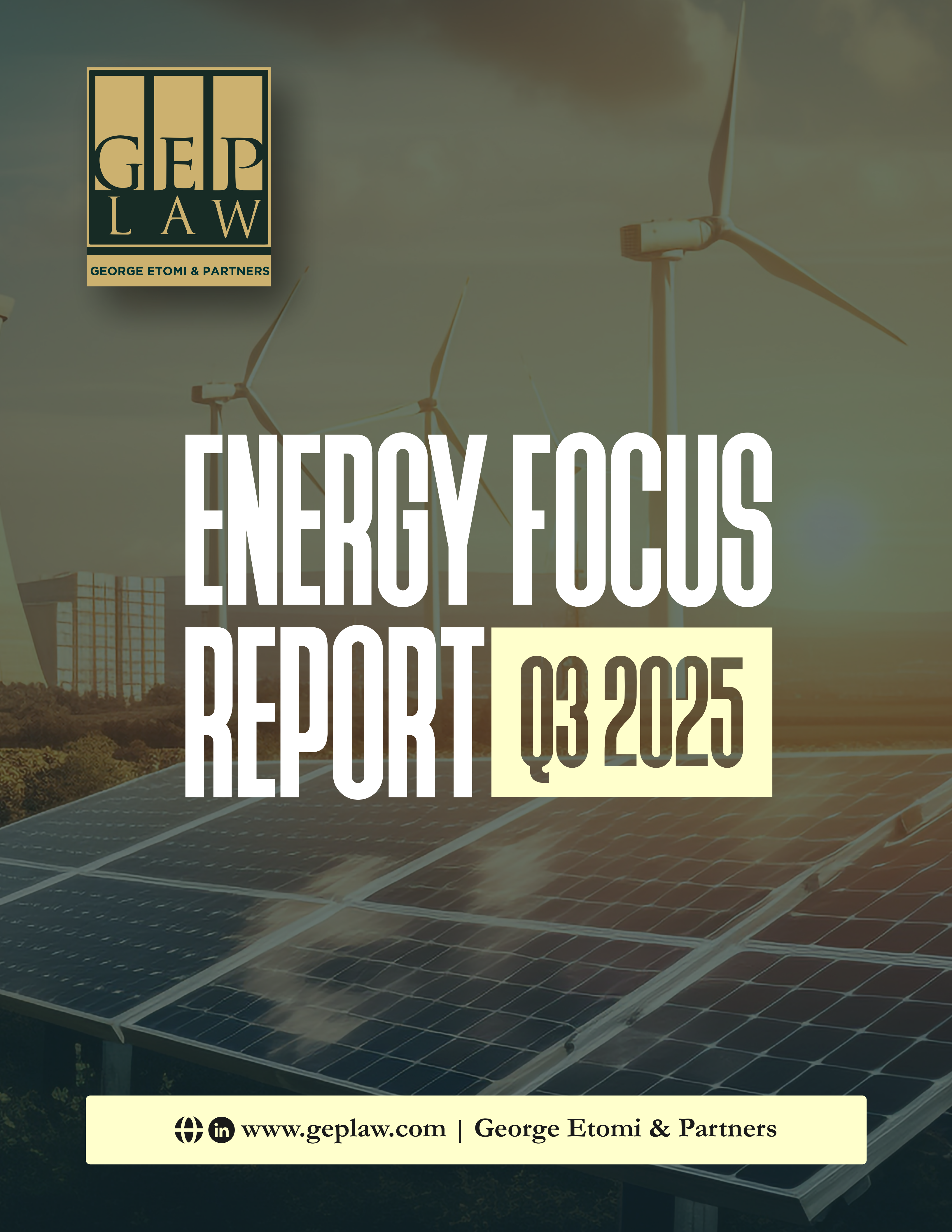

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POWER SECTOR

A Review of the NERC Order on the Performance Improvement Plan for the Transmission Company of Nigeria (TCN) and the Nigerian Independent System Operator (NISO)

Introduction

Nigeria's electricity sector continues to be plagued by grid reliability and severe bottlenecks between power generation and distribution. The nation's transmission network is the most critical constraint; even when power plants can generate electricity, the system struggles to transmit it reliably. This instability is caused by weaknesses such as aging infrastructure, significant transmission line losses, a lack of modern control systems, and poor coordination among sector participants, resulting in inadequate and unpredictable supply for consumers.

To address these systemic issues, the Nigerian government initiated a major restructuring of the sector. In 2024, the Nigerian Independent System Operator (NISO) was established to unbundle the former Transmission Company of Nigeria (TCN). This crucial separation transferred the responsibility for system operation and control to the NISO, while the TCN was retained as the Transmission Service Provider (TSP), responsible for managing the physical transmission infrastructure. Following this division, the Nigerian Electricity Regulatory Commission (NERC) published a two-year Performance Improvement Plan (PIP) in July 2025 (Order No. NERC/2025/043), which sets a strategic roadmap of targeted capital investments, improved maintenance, and operational reforms for both the TCN and NISO.

Why the Reset was Necessary

The issuance of this Order by NERC is a response to the review and assessment of the 2024 PIP, which uncovered the following implementation deficiencies:

a. Implementation Shortfalls and Funding Gaps

Many 2024-approved projects either lagged or stalled because less than half of the expected funding was disbursed. A primary reason for the shortfall was financial penalties imposed due to deviations from the targeted Transmission Loss Factor, an increasing frequency of system collapses, and violations of DisCo-TCN Service Level Agreements. Between January 2024 and January 2025, only N1.7 billion was released for a mere eight projects, highlighting a critical bottleneck in financial deployment.

b. Over-extension vs. Focus

In 2024, TCN was unable to execute many of the approved projects because it did not have sufficient financial, technical, and institutional capacity. Consequently, NERC has curtailed the number of approved high-priority projects (e.g. DisCo-prioritized projects from 41 down to 26) as part of its reset to compel TCN and NISO to focus their resources on the most impactful initiatives, maximizing the return on investment and accelerating a more reliable grid.

c. Bureaucracy&Evolving Sector Structure

The bureaucratic landscape also played a significant role in the plan's failure, with the protracted process of obtaining 'No Objection' certificates from the Bureau of Public Procurement (BPP). The reorganization of Nigeria's transmission and system operator roles (with NISO's ascendance) and evolving donor commitments necessitated a fresh alignment of priorities. The 2025–2027 PIP reflects these structural shifts and seeks to more closely tie execution to sector reforms and demand dynamics.

Key Provisions of the Order

I. Prioritised Project Schedules & Regional Impact

The Capital Expenditure (CAPEX) programme in TCN's PIP is classified into 3 major execution categories: DisCo-Prioritised Projects, TSP Priority Projects, NISO Priority Projects.Schedules1 – 3 of the Order highlight the priority projects for 2025-2027, including operational backbone upgrades: control centers (Osogbo, Gwagwalada), OPGW fiber installations for communications, deployment of IoT devices, battery backup for telecoms, and EMS/SCADA integration. Additionally, TCN is to benefit from some of these donor projects: Central Bank of Nigeria (SLA Projects), World Bank, African Development Bank (AfDB/NTEP), and Siemens/Presidential Power Initiative (FGN PowerCo.). These cover urgent transformer replacements, line re-conductoring, and major substation reinforcements across States.

II. Funding Framework

NERC employed an innovative, three-tiered funding model to guarantee the successful implementation of the PIP: Tariff Revenue, Donor Funds, and the newly created

Transmission Infrastructure Fund (TIF).TCN and NISO are required to remit 46.7% and 55.04%of their monthly revenue respectively into dedicated PIP accounts. Donor Funds are also available for draw down, subject to statutory and regulatory approvals.

III. Novel Financing Structure

NERC has also established a "Transmission Infrastructure Fund"through the MYTO 2025,asan innovative solution to address the historical problem of inadequate project financing.N2.17/kWh of energy delivered to grid off-takers (DisCos, Eligible Customers, Export Customers, Independent Electricity Distribution Networks, Traders and GenCos) is to be contributed towards the build-up of the TIF.Like the Meter Acquisition Fund, it is expected that the TIF will be properly managed and targeted at key priority projects to strengthen the transmission network. The plan to utilize the Fund as a securitization model for vendor financing and other Public Private Partnership (PPP) arrangements is noteworthy. The establishment of this dedicated fund is a significant departure from previous approaches and is expected to be a key driver of the plan's success

IV. SCADA:

To address the long-standing issue of the Supervisory Control and Data Acquisition (SCADA) system, TCN is mandated to immediately ring-fence N25 billion from its PIP Dedicated Account to complete ongoing SCADA projects. The completion of the SCADA system is fundamental to achieving complete grid visibility, which the NERC has identified as a key target.

Challenges and Recommendations

a) Institutional and procurement delays may derail schedules. However, the Order mandates the pre-qualification of five Original Equipment Manufacturers (OEMs) for lines and substation projects to streamline the procurement process.

b) Security, vandalism, and line theft remain persistent threats. With the new financing structures, it is expected that infrastructure security and consumer education will be prioritized.

c) Tariff shortfalls or political pushback over TIF could undermine funding flows such as the petition filed by TCN, which challenged some key provisions of the Order. Although there is no current public update on the petition, this is a prime example of possible impediments to implementation.

d) Regulatory overlap or uncertainty between federal and state frameworks could also generate conflicts in implementation. Building stakeholder coordination between NERC, DisCos, and State regulators is key to ensuring success in the evolving regulatory landscape.

Conclusion

The 2025–2027 PIP Order is a decisive step towards reviving Nigeria's faltering transmission network. By introducing a streamlined list of projects, establishing a dedicated funding mechanism via the TIF, and imposing strict enforcement clauses like the "CAPEX Clawback", NERC seeks to ensure that critical infrastructure is delivered. Also, NERC is not merely an approving authority as its role extends into active supervision, vetting of contracts, fiscal claw backs, and continued project reviews. This marks a shift towards enforcement over mere oversight. It is expected that the Order's emphasis on accountability, transparency, and strategic funding will result in a more reliable and resilient grid.

A Review of the NERC Order on the Mandatory Implementation of Free Governor Control

Introduction

Due to the technical nature of this topic, let us approach the analysis with a simplistic view. Imagine the national power grid (the network of wires and power plants) is like a giant, interconnected machine that needs to spin at a very precise, steady speed. In Nigeria, that "speed" is called the frequency, and it should ideally be 50 Hertz (Hz).

Traditionally, TCN operators would manually contact power plants to adjust output, but this process is inefficient, often poorly coordinated and is too slow to prevent system failures. In many cases, power generation companies (GenCos) hesitate to comply due to concerns about fuel costs, technical limitations, or financial non-recognition of ancillary services, leading to instability and even nationwide blackouts when uncorrected.

In response, the Nigerian Electricity Regulatory Commission (NERC) now requires all GenCos to use Free Governor Control (FGC), an automatic feature that adjusts power output instantly as the grid frequency changes. FGC acts like cruise control for power plants, if frequency drops, output increases automatically; if it rises, output decreases. This automation aims to keep the grid stable and significantly reduce the chances of blackouts.

Analysis of the Order

The Order specifies key objectives for Free Governor Control (FGC), aiming to stabilise grid frequency, reduce grid collapses, by enforcing automatic regulation and addressing frequent failures linked to poor frequency response in Nigeria, promote discipline among generation companies by standardising governor settings and ensuring consistent compliance and lastly aligning with international standards, as reliable frequency regulation is essential for Nigeria's integration with the West African Power Pool and global electricity markets. The Order further outlines several critical provisions that define the scope, obligations, and enforcement of Free Governor Control:

a) **Scope of Compliance:** The Order applies to all grid-connected generating units above a specified capacity threshold (typically 10 MW and above). This ensures most Nigeria's generation fleet contributes to frequency stabilization.

b) **Technical Requirements:** GenCos must configure their governor systems to operate in “droop mode,” with appropriate setting of 3-5% and a dead-band not exceeding ±0.05 Hz, closing loopholes that allowed units to avoid frequency support.

c) **Implementation Timeline:** Full compliance is required within 30days of issuance. Though some older units may require retrofitting or technical upgrades, in which case they may have transitional allowances.

d) **Monitoring and Reporting:** The Nigerian Independent System Operator (NISO) will regularly monitor compliance using telemetry data and SCADA systems, submitting monthly compliance reports to NERC and conduct verification tests.

e) **Enforcement Mechanisms:** Non-compliance attracts penalties, including fines of N10,000 per MW per day and possible suspension from market participation obligations.

f) **Ancillary Services Market Considerations**: The Order hints that the future framework may compensate GenCos for frequency support, though no direct payments are made currently.

Benefits of Implementation and Implications for the Nigerian Electricity Supply Industry (NESI)

The Order outlines several anticipated benefits from mandatory FGC implementation: improved grid stability, lower emergency costs, longer equipment life, greater investor confidence, and international standards alignment. The FGC Order carries certain potential implications for the sector, which include:

a) **Market Efficiency:** Fewer system collapses improve reliability and lower risks for private investors.

b) **Competitive Discipline:** GenCos that fail to comply may face penalties or reputational risks, leading to a more disciplined and competitive generation segment.

c) **System Operator's Role:** The Order strengthens the role of the NISO, which must now play a more proactive role in monitoring and enforcing performance.

d) **Investment Considerations:** Compliance may necessitate significant capital expenditure for upgrades, impacting investment and regulatory needs.

e) **Regional Integration:** Meeting FGC standards boosts Nigeria's standing in West African Power Pool and as a regional electricity hub.

Challenges and Recommendations

The Order is expected to face several implementation challenges starting with technical readiness, as many older generating plants don't have the necessary modern governor equipment for accurate frequency response. These GenCos also face significant financial demands, as they would incur higher fuel costs to provide this support without a proper market mechanism to compensate them through ancillary services, a cost they are already reluctant to bear, given the market structure limitations of the NESI and its existing high debts. Furthermore, effective monitoring of compliance is undermined by enforcement complexity, because the grid's overall metering is unreliable, hindering adequate SCADA systems necessary for real-time data, and compounding all of this is limited technical capacity marked by a shortage of skilled personnel required to properly tune, maintain, and monitor the governor systems themselves.

A robust strategy for achieving grid stability requires several coordinated actions, beginning with the establishment of a formal mechanism that compensates GenCos for providing frequency support, thereby aligning their financial incentives with the necessity of compliance. Simultaneously, transitional support must be provided to assist older power plants, by offering targeted funding or phased compliance timelines to cover the costs and time needed for necessary governor retrofitting. To ensure fair and transparent enforcement, strengthening monitoring infrastructure is critical, requiring significant investment in telemetry, SCADA, and automated monitoring systems across the grid. These technical and market steps must be supported by capacity building, involving structured training programs for engineers, operators, and regulatory staff to ensure the skilled personnel are available for effective implementation and maintenance. Finally, continuous and meaningful stakeholder engagement through dialogue with GenCos, DisCos, and all other parties is vital for building consensus and moving away from adversarial relationships toward cooperative grid management.

Conclusion

The NERC Order on mandatory Free Governor Control is a landmark regulatory intervention in the pursuit of grid stability in Nigeria. By mandating automatic frequency control, the Order sets the stage for improved system reliability, reduced grid collapses, and enhanced investor confidence in NESI. However, implementation will not be without hurdles. Technical readiness, financial sustainability, and regulatory enforcement remain significant challenges. Without a clear framework for compensating GenCos or providing financial incentives for implementation, compliance may remain limited.

RENEWABLE ENERGY SECTOR

The National Public Sector Solarisation Initiative(NPSSI): Accelerating Clean Energy in Nigerian Public Institutions

Introduction

Nigeria's public institutions, including hospitals, schools, and government offices, have long struggled with unreliable electricity supply. This has led to dependency on alternative means of power supply, such as diesel generators which are environmentally harmful, more costly, and sometimes unreliable. In response to these challenges, the Federal Government recently launched the National Public Sector Solarisation Initiative (NPSSI) in August 2025. This initiative aims to provide clean, reliable, and cost-effective energy across public infrastructure, offering a sustainable alternative to the nation's energy crisis.

Key Features of the NPSSI

i. **Collaborative Institutional Framework:** The NPSSI is a public-private partnership created to rapidly deploy solar energy solutions across key institutions nationwide. Formalized by a Memorandum of Understanding, the initiative is a collaborative effort between the Rural Electrification Agency (REA), the Budget Office of the Federation, the Ministry of Finance Incorporated (MoFI), and the Infrastructure Corporation of Nigeria (InfraCorp). It aims to raise significant capital, by combining an initial N100 billion investment from the Federal Government with additional private sector funding, specifically structured to avoid reliance on government guarantees. The solutions deployed include installing rooftop solar photovoltaic (PV) systems, battery storage units, and solar mini-grids in targeted public facilities such as schools, hospitals, security posts, and government offices.

ii. **Support of Local Solar Panel Manufacturing:** The initiative strongly emphasizes promoting local manufacturing to support the solar energy rollout. A major development is the establishment of Solarge Nigeria Limited, a joint venture partnership between the REA (25%), InfraCorp (26%), and Solarge BV (49%). This new company will build a 1GW solar panel factory in Nigeria. To guarantee market stability, the REA is committed to purchasing a significant portion of the factory's output. Ultimately, through the deployment of these locally sourced solar hybrid mini-grids, rooftop solar systems, and battery storage technologies, the initiative aims to provide reliable, clean, and stable electricity to public institutions.

iii. **Adoption of a Two-Tiered Financing Structure:** The NPSSI adopts a two-tiered financing approach. The take-off phase, fully funded by the Federal Government with a N100 billion allocation in the 2025 budget, represents a bold commitment to kick-start the programme. Subsequent phases are expected to rely on innovative financing models that blend public funds with private sector investments, donor contributions, and climate finance. While this structure is said to ensure sustainability and reduce Nigeria's dependence on sovereign guarantees for energy projects, the exact model for attracting and sustaining private investments is yet to be structured. Considering the underlying ideology of Nigerian public institutions about electricity as a social good, the sustainability of reliable power supply through private investments as a long-term financing plan is to be properly framed through a bankable business plan.

Challenges in Implementation

Despite its ambitious objectives and strong institutional backing, the NPSSI may face several challenges that may hinder effective implementation and sustainability. Some of these challenges may include:

a. **High Capital Requirements:** A primary concern is the significant capital required for solar projects. Although the Federal Government has allocated N100 billion for the initial phase, Nigeria's expansive public sector energy needs will necessitate substantially higher funding in later stages. Whilst securing private investment, donor support, and climate finance is essential, investor apprehensions regarding policy stability, project viability, and governance risks are concerns to be addressed.

b. **Operational and Maintenance Challenges:** While solar systems generally incur lower operational expenses than fossil fuel-based alternatives, they still demand consistent maintenance, especially for batteries and inverters, which typically have shorter lifespans. The absence of a strong maintenance culture within public institutions increases the risk of system neglect or premature failure following installation. Therefore, encouraging institutional ownership of infrastructure and ensuring adequate budgetary provisions for ongoing maintenance are therefore crucial requirements.

c. **Supply Chain and Local Content Gaps:** The initiative may also encounter supply chain and local content limitations. Although prioritizing local manufacturing and components is a core aspect of the programme, Nigeria's renewable energy sector is still maturing, and domestic suppliers might find it difficult to satisfy high standards for quality, volume, and delivery schedules. This situation heightens dependency on imported equipment, exposing projects to risks related to currency fluctuations, import tariffs, and global supply chain disruptions.

d. **Institutional and Governance Risks:** Large-scale public interventions in Nigeria frequently contend with bureaucratic inefficiencies, weak inter-agency and intra-agency coordination, and vulnerabilities to mismanagement or corruption. Where procurement procedures lack transparency and accountability mechanisms remain underdeveloped, the NPSSI could suffer from institutional and governance risks.

e. **Security and Vandalism Threats:** Security and vandalism risks must be carefully considered, particularly those public infrastructure projects situated in remote or less secure regions are susceptible to theft of critical components such as solar panels and batteries. Without comprehensive community engagement and protective strategies, these threats could jeopardize the durability and sustainability of the installed solar systems.

A Proposed Implementation Framework

The anticipated impact of the NPSSI is far reaching, both in transforming the operational capacity of public institutions and in advancing Nigeria's broader clean energy agenda. It is expected that the initiative will reduce operational costs of public institutions, improve service quality, accelerate renewable energy transition, and advance Nigeria's climate commitments under the Paris Agreement

In practical terms, some key considerations include:

i. Prior energy audits of the facilities should be conducted prior to installations.
ii. Smart metering should be deployed, providing real-time data on performance and costs.
iii. Sustainability can be ensured through integrated operations and maintenance contracts, clear infrastructure management guidelines for beneficiaries, and capacity-building programs for local personnel.
iv. Installation by indigenous personnel should be prioritized to strengthen local content in the renewable energy sector.
v. Transparency can be maintained via competitive procurement, independent audits, and regular performance reviews. Progress will then be tracked using measurable indicators such as reduced diesel consumption, cost savings, and improved service delivery.

Conclusion

The NPSSI aims to provide reliable green energy for Nigeria's public institutions, reducing diesel costs and improving efficiency in public services. Its phased approach and focus on local partnerships mark progress towards clean energy, economic growth, and climate responsibility. The initiative's success depends on effective management of financing, maintenance, governance, and supply chain issues. With strong oversight and a solid case for private investment, the NPSSI could set a standard for clean energy in Africa, positioning itself as an investment in Nigeria's sustainable future.

OIL AND GAS SECTOR

An Analysis of the Upward Trend in Nigeria's Oil and Gas Sector

Introduction

Nigeria's oil and gas sector is showing signs of a possible rebound of investor confidence and outputs. This positive development is the result of strategic financial collaboration, significant security gains against crude oil theft, and a surge in upstream drilling activity. For years, Nigeria's oil and gas sector was defined by immense natural wealth coexisting with operational and economic decline. Historically, the industry has been plagued by a series of deep-seated challenges, including persistent oil theft, pipeline vandalism, and a pervasive environment of policy uncertainty and regulatory bottlenecks.

This instability created an atmosphere of unpredictability that affected investor confidence, led to significant divestment, and deterred the long-term capital commitments required for major projects. As a result, Nigeria often struggled to meet its OPEC production quotas, undermining its economic stability and fiscal projections. However, a tangible and measurable shift is now underway, signaling a potential reversal of this negative trajectory.

The Financial Catalyst

A significant sign of renewed confidence is the collaboration between the Nigerian Midstream and Downstream Gas Infrastructure Fund (MDGIF) and the African Export-Import Bank (Afreximbank). In September 2025, the two institutions signed a Memorandum of Understanding with the intention of mobilizing up to $500 million over a four-year period to support critical gas infrastructure projects in Nigeria.

This financing arrangement is a strategically designed initiative to address funding gaps that have historically hindered Nigeria's gas sector development. The purpose of the collaboration is to accelerate the modernization and expansion of Nigeria's gas infrastructure and to establish a robust framework for long-term private sector investment. The agreement is designed to support bankable projects such as pipelines, processing facilities, liquefied natural gas (LNG) plants, and other crucial infrastructure.

This aligns directly with the country's economic agenda, which is to leverage Nigeria's vast natural gas reserves as a catalyst for industrialization and sustainable economic growth. It is expected that this institutional support will act as a powerful beacon of confidence, mitigating the financial uncertainties that have traditionally plagued large-scale energy projects. The collaborative framework also includes project preparatory support, such as funding for feasibility studies and legal structuring, which ensures that projects are well-vetted and commercially viable, before they are presented to a wider pool of financiers.

Beyond its financial implications, the initiative reinforces Nigeria's commitment to its climate agenda. By expanding midstream and downstream processing facilities, the country can capture and commercialize gas that would otherwise be flared, helping to meet its commitment to ending routine gas flaring by 2030. This pivot towards gas as a transition fuel is a strategic move that positions Nigeria to address both its domestic energy needs and its global climate commitments.

The Impact of Reduced Crude Oil Loss

A key factor driving the gradual rebound is the increased success in mitigating crude oil theft. This issue has long been a devastating drain on the national economy and a major deterrent to investment. The NUPRC's data indicates that daily crude oil losses are at a historic low of 9,600 bpd as of July 2025.

However, while the NUPRC data validates the security and systematic measures implemented to safeguard infrastructure, acknowledging the complex trade-offs is necessary. A portion of the reduction in reported losses is attributable to long-overdue metering audits and improved regulatory oversight, rather than solely the elimination of physical theft. Furthermore, the gains have been secured through controversial, high-value security contracts with private entities, raising questions about the long-term sustainability of this security model and the State's reliance on non-state actors to safeguard state interests.

Crucially, the fundamental socio-economic and environmental issues driving community involvement in illegal bunkering remain largely unaddressed, suggesting the current success is a costly, short-term solution.

The Upstream Efforts

The number of operational oil rigs serves as a signal of market responsiveness in Nigeria's upstream sector. Data from the NUPRC confirms the nation's oil rig count has climbed to 46 as of July 2025, compared to 33 in 2024. While this increase is in part driven by the government's security clampdown, much of the new activity is concentrated in deep offshore and brown field assets, areas that are inherently less susceptible to the crude theft. The confidence specifically targets development wells aimed at sustaining current output, rather than solely high-risk, large-scale exploratory wells typically used for aggressive expansion.

Nevertheless, the announced plans, such as Seplat Energy's commitment to invest up to $3 billion over the 2026–2030 period, offer tangible evidence of long-term capital deployment based on improving security and regulatory clarity.

Conclusion

In summary, the sector is experiencing measured stabilization, driven by several factors: effective security enforcement, the delayed but crucial regulatory framework of the PIA, and a favourable international oil price environment. While this momentum is indeed a clear shift from the stagnation of past years, it represents a cautious and uneven revival. The challenge now is to translate this offshore-led recovery into sustainable community engagement and comprehensive onshore development; to truly unlock the sector's full, long-term potential

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