

DRIVING TOWARDS A CLEANER FUTURE: THE ROLE OF COMPRESSED NATURAL GAS IN NIGERIA'S ENERGY REFORM written by Matthew Mevoyo

ABSTRACT

Nigeria occupies a complex position in the global energy landscape, despite possessing Africa's largest proven natural gas reserves and top ten in the world, estimated by the Nigerian Upstream Petroleum Regulatory Commission (NUPRC) at 215.19 trillion cubic feet as of 1 January 2026, the country continues to face challenges in translating these abundant resources into reliable domestic energy supply and industrial development, while significant volumes of natural gas are still flared annually.

This article examines the legal, policy, and economic dimensions of Compressed Natural Gas (CNG) as an alternative fuel for Nigeria's transport and industrial sectors. It considers the regulatory framework established by the Petroleum Industry Act 2021, the Presidential CNG Initiative, the Midstream and Downstream Gas Infrastructure Fund, and Nigeria's international environmental commitments. The article assesses the potential of CNG to support energy diversification, reduce dependence on conventional petroleum fuels, improve energy access, and contribute to Nigeria's broader sustainable development objectives. It critically assesses the infrastructure deficits, regulatory inconsistencies, and behavioral barriers that impede transition, and proposes a coherent framework of legal enforcement, fiscal incentivization, and institutional coordination to drive a credible energy shift.

1.0 INTRODUCTION

Nigeria's energy sector stands at a critical crossroads. Despite holding the largest natural gas reserves on the African continent, the country remains heavily reliant on petrol and diesel, both of which are environmentally detrimental and impose growing economic costs.¹

The removal of the petrol subsidy in May 2023 by President Bola Tinubu's administration sent fuel prices soaring, triggering a cost-of-living crisis that hit low-income Nigerians the hardest, particularly those reliant on commercial transportation.²

Against this backdrop, Compressed Natural Gas (CNG) has emerged as one of the most immediately actionable responses, it is domestically available, significantly cheaper than petrol, and produces substantially fewer harmful emissions. The Federal Government's launch of the Presidential Compressed Natural Gas Initiative (Pi-CNG) in October 2023 signaled a policy commitment to accelerate adoption. However, turning this commitment into real, on-the-ground results requires deeper engagement with the legal framework, infrastructural challenges, and institutional mechanisms in the sector.

At its core, the transition to Compressed Natural Gas (CNG) in Nigeria is grounded in the legal and policy framework governing the development and utilization of the country's natural gas resources. While the Petroleum Industry Act 2021 provides an important statutory foundation for the development of the gas sector, the effectiveness of CNG adoption depends on the extent to which existing laws and policies are translated into practical measures through adequate infrastructure, effective regulation, and coordinated institutional action. This article therefore argues that the successful development of CNG as an alternative fuel in Nigeria requires more than policy commitment, it requires the effective implementation of the existing legal framework, sustained investment in supporting infrastructure, and coordinated institutional

¹ Oluwajomiloju Tooki, AfyinfoLuwa Akinmade and Oluwatosin Lawrence, 'The Rise of Compressed Natural Gas as an Alternative Fuel in Nigeria' (Global Voices, 28 December 2024) <<https://globalvoices.org/2024/12/28/the-rise-of-compressed-natural-gas-as-an-alternative-fuel-in-nigeria/>> accessed 1 April 2026.

² The Cable, 'FG secures discounted CNG prices from NMPDRA' <<https://www.thecable.ng/fg-secures-discounted-cng-prices-from-nmpdra/>> accessed 1 April 2026.

efforts capable of converting Nigeria's gas resources into a reliable and accessible energy source for the transport and industrial sectors.

2.0 HISTORICAL BACKGROUND

Nigeria has a lot of natural gas, but over the years, this natural gas has not been used effectively for domestic energy needs. As at 1st January 2026, Nigeria's proven natural gas reserves stood at 215.19 trillion cubic feet (Tcf), comprising 100.21 Tcf of associated gas and 114.98 Tcf of non-associated gas.³ Despite these reserves, natural gas development historically received less attention than crude oil, and significant quantities of associated gas produced alongside crude oil were flared rather than captured for productive use.

This underutilization of natural gas has remained evident in Nigeria's gas-flaring record. In 2024, NUPRC recorded total gas production of approximately 2.511 Tcf, of which 191.835 billion standard cubic feet (Bscf), representing 7.64 per cent, was flared⁴. The World Bank also ranked Nigeria among the nine countries with the highest volumes of gas flaring globally in 2024⁵. The continued flaring of gas represents both an economic loss and an environmental concern, particularly in the Niger Delta where much of Nigeria's oil and gas production takes place.

The economic cost of gas underutilization has also been substantial. For instance, in 2025, a study estimated that gas flaring in Nigeria between 2002 and 2024 resulted in approximately US\$56.75 billion in direct revenue losses, while broader economic losses, including opportunity costs, were estimated at about US\$120.15 billion⁶. The study further estimated that the period generated approximately 714.62 million tons of CO₂-equivalent emissions⁷.

These developments highlight a long-standing weakness in Nigeria's energy system, where significant quantities of the country's abundant natural gas resources continue to be flared while the transport sector remains largely dependent on conventional petroleum products. CNG offers one avenue for increasing the domestic use of natural gas, diversifying the transport fuel mix and reducing dependence on conventional petroleum products. The development of CNG therefore forms part of Nigeria's broader effort to reduce dependence on crude oil and conventional petroleum fuels while making more productive use of its domestic natural gas resources.

³ Nigerian Upstream Petroleum Regulatory Commission (NUPRC), 'Media Release on the National Annual Petroleum Reserves Position as at 1 January 2026' (1 April 2026) <<https://www.nuprc.gov.ng/media/news/5fa3f1a3c8223aa7c4dc4a39>> accessed 23 August 2026.

⁴ Nigerian Upstream Petroleum Regulatory Commission (NUPRC), '2024 Annual Report' (2025) <<https://www.nuprc.gov.ng/wp-content/uploads/2025/04/UPDATED-NUPRC-2024-ANNUAL-REPORT-1.pdf>> accessed 23 August 2026.

⁵ World Bank, '2025 Global Gas Flaring Tracker Report' (2025) <<https://www.worldbank.org/en/programs/gasflaringreduction/publication/2025-global-gas-flaring-tracker-report>> accessed 23 August 2026

⁶ Osise O Okwilagwe and Olusanya E Olubusoye, 'Environmental Economic Impacts and Policy Pathways of Gas Flaring in Nigeria from 2002 to 2024' (2025) *Discover Environment* 3, 183 <<https://link.springer.com/article/10.1007/s44274-025-00332-5>> accessed 23 August 2026.

⁷ *ibid*

3.0 REGULATORY AND POLICY FRAMEWORK SUPPORTING NIGERIA'S ENERGY TRANSITION

3.01 The Petroleum Industry Act 2021 and Its Regulatory Framework

Energy development in Nigeria is primarily anchored in the Petroleum Industry Act 2021 (PIA)⁸, which represents the most comprehensive reform of the oil and gas sector in decades.

The PIA consolidates Nigeria's petroleum legislation including the Associated Gas Re-injection Act 1979, the Nigerian National Petroleum Corporation Act 1977, and the Petroleum Products Pricing Regulatory Agency (Establishment) Act 2003, into a unified framework governing upstream, midstream, and downstream operations. Critically for the purposes of gas utilization, Section 108 of the PIA requires licensees and lessees to submit a Natural Gas Flare Elimination and Monetization Plan (FEMP) to the Nigerian Upstream Petroleum Regulatory Commission (NUPRC), setting out a methodology and timeline for eliminating routine flaring⁹. This obligation is reinforced by the Gas Flaring, Venting and Methane Emissions (Prevention of Waste and Pollution) Regulations 2023, issued pursuant to the PIA to strengthen the 2018 Flare Gas Regulations and align domestic standards with Nigeria's Nationally Determined Contribution targets of zero routine flaring by 2030 and a 60% reduction in methane emissions by 2031¹⁰.

The PIA also establishes the principal regulatory institutions responsible for gas governance. The Nigerian Upstream Petroleum Regulatory Commission (NUPRC) exercises authority over upstream gas operations, including flaring regulation, while the Nigerian Midstream and Downstream Petroleum Regulatory Authority (NMDPRA) regulates midstream and downstream activities, including CNG distribution and retail.

Section 52 of the PIA establishes the Midstream and Downstream Gas Infrastructure Fund (MDGIF), a dedicated financing mechanism for gas infrastructure development. In 2024, the MDGIF deployed an initial ₦122 billion (approximately 74 million USD) in equity investments across six indigenous gas infrastructure firms, a landmark that signals growing institutional momentum¹¹.

By August 2025, the MDGIF had expanded its portfolio to 16 companies, encompassing CNG stations, LPG terminals, and mini-LNG plants¹². In September 2025, it signed a memorandum of understanding with the African Export Import Bank (Afreximbank) targeting up to 500 million USD in blended financing over four years.

3.02 Other Applicable Legislation

Beyond the PIA, the National Environmental Standards and Regulations Enforcement Agency (Establishment) Act 2007 establishes the National Environmental Standards and Regulations Enforcement Agency (NESREA)¹³, which enforces environmental standards across all sectors, including the energy

⁸ Petroleum Industry Act 2021

⁹ *ibid*, s 108; Nigerian Upstream Petroleum Regulatory Commission, Gas Flaring, Venting and Methane Emissions (Prevention of Waste and Pollution) Regulations 2023.

¹⁰ World Bank, 'Nigeria: Gas Flaring, Venting and Methane Emissions Regulations 2023' (Flaring and Venting Regulations Database) <<https://flaringventingregulations.worldbank.org/nigeria>> accessed 1 April 2026.

¹¹ Guardian Nigeria, 'MDGIF's Role in Powering Economy' (1 October 2025) <<https://guardian.ng/energy/mdgifs-role-in-powering-economy/>> accessed 1 April 2026; Nairametrics, 'FG Signs ₦122 Billion Equity Participation Agreement with Six Gas Companies' (1 October 2024) <<https://nairametrics.com/2024/10/01/fg-signs-n122-billion-equity-participation-agreement-with-six-gas-companies/>> accessed 1 April 2026.

¹² Guardian Nigeria (n 10).

¹³ National Environmental Standards and Regulations Enforcement Agency (Establishment) Act 2007; Petroleum Industry Act 2021, ss 6 and 7.

industry. The adoption of Compressed Natural Gas (CNG) as an alternative to conventional petroleum fuels aligns with the objective of promoting cleaner energy use and reducing the environmental impact associated with fossil fuel consumption.

Similarly, the 1999 Constitution of the Federal Republic of Nigeria (as amended)¹⁴ also supports the legal framework on the need to maintain environmental standards. Section 20 of the Constitution places on the State a duty to protect and improve the environment and to safeguard the water, air, and land resources of the country¹⁵. Although this provision falls within Chapter II of the Constitution, the Fundamental Objectives and Directive Principles of State Policy, and is therefore not enforceable in court by virtue of Section 6(6)(c)¹⁶, however, it provides an important foundation for environmental legislation and governmental action, this constitutional objective supports the development of cleaner energy alternatives such as CNG, that can contribute to reducing environmental pollution and improving air quality.

3.03 Fiscal Framework

The fiscal framework governing CNG development and utilization in Nigeria has undergone significant reforms in recent years. The Value Added Tax (Modification) Order 2024 exempted 63 energy related items from VAT, including CNG, CNG conversion kits, refueling infrastructure, and CNG compatible transport equipment¹⁷.

The Nigeria Tax Act 2025 further exempts CNG and related items from the 5% fuel surcharge, alongside LPG and household kerosene, as part of a broader clean energy incentive package¹⁸. These fiscal measures significantly reduce cost barriers for both investors and consumers and represent an important step toward making CNG commercially viable at scale.

In addition, the Oil and Gas Companies (Tax Incentives, Exemption, Remission, etc.) Order 2024 provides fiscal incentives for gas projects that are not associated with crude oil production, including tax credits for qualifying projects, reduced contracting costs, and streamlined local content compliance requirements.

3.04 Policy Framework

Beyond the statutory and fiscal framework, the Nigerian Gas Master Plan, originally formulated in 2008 and subsequently updated, serves as the overarching policy framework for gas sector development. Although not a statute, the Master Plan plays a formative role in shaping government investment priorities and regulatory direction. It articulates a vision of an industrial economy anchored in natural gas, linking domestic gas supply to power generation, fertilizer production, and industrial development¹⁹.

Complementing the Master Plan is the National Gas Expansion Program (NGEP), which aims to diversify Nigeria's energy mix by promoting the use of natural gas across the transport, industrial, and commercial sectors²⁰. The NGEP provides a platform for coordinating CNG rollout alongside LPG penetration and initiatives linking gas supply to power generation.

¹⁴ Constitution of the Federal Republic of Nigeria 1999 (as amended).

¹⁵ *ibid*, s 20.

¹⁶ *ibid*, s 6(6)(c).

¹⁷ Anaje Olumide Oke Akinkugbe, 'From Policy to Practice: A Commentary on Nigeria's Presidential Compressed Natural Gas Initiative' (AO2Law, 24 September 2025) <<https://ao2law.com/from-policy-to-practice-a-commentary-on-nigerias-presidential-compressed-natural-gas-initiative/>> accessed 1 April 2026; Value Added Tax (Modification) Order 2024 (Federal Republic of Nigeria)

¹⁸ Nigeria Tax Act 2025, 11th Schedule.

¹⁹ Africa Policy Research Institute (APRI), 'Nigeria's Natural Gas and Africa's Sustainable Industrialization' (26 November 2025) <<https://afripoli.org/nigerias-natural-gas-and-africas-sustainable-industrialization>> accessed 1 April 2026.

²⁰ National Gas Expansion Programme (Federal Government of Nigeria, 2020).

3.05 International Law Dimension

At the international level, Nigeria ratified the Paris Agreement on Climate Change in 2017, committing to reduce greenhouse gas emissions and pursue a development pathway that is low in carbon²¹. Nigeria has further committed to achieving net zero greenhouse gas emissions by 2060, a target enshrined in its updated Nationally Determined Contribution.

Promoting CNG is consistent with both commitments. CNG produces significantly fewer emissions than petrol or diesel, and its domestic production reduces import dependence in a manner that supports foreign exchange stability, itself a dimension of macroeconomic security with equity implications.

4.0 THE BENEFITS OF TRANSITIONING TO CNG

4.01 Environmental and Public Health Benefits

CNG offers clear environmental and public health benefits when compared with petrol or diesel. It is widely recognized as a fuel that burns more cleanly, producing lower concentrations of nitrogen oxides (NOx), carbon monoxide (CO), and particulate matter, and emitting 20 to 25% less carbon dioxide (CO₂) per unit of energy than petrol on a well to wheel basis²². This is a meaningful reduction rather than a complete elimination of emissions. CNG remains a fossil fuel and still produces carbon emissions, so it is best understood as a significantly cleaner transitional fuel rather than an entirely clean or harmless one. In a country like Nigeria, urban air pollution is driven largely by vehicular emissions from an ageing, poorly maintained fleet that contributes significantly to respiratory disease, cardiovascular illness, and premature death, the public health benefits of a shift to CNG are substantial in reducing the health hazards.

4.02 Economic Benefits

CNG also offers a significant economic advantage over petrol, particularly for commercial transport operators. Commercial vehicles such as buses, trucks, and tricycles represent the largest source of urban vehicular emissions, owing to their reliance on diesel and inefficient older engines. CNG powered equivalents does not only produce fewer emissions but are also considerably cheaper to operate, at current prices, CNG costs approximately ₦450 per standard cubic meter for heavy duty trucks while it cost approximately ₦380 for commercial vehicles compared to approximately ₦1,270 per liter for petrol.

This cost advantage is reinforced by government support such as the Pi-CNG Commercial Vehicle Conversion Incentive Program (CV-CIP) which offers free conversion, inclusive of labor, for vehicles registered with transport unions in activated cities, together with a 50% discount for vehicles used in ride sharing services. As of December 2024, more than 10,000 vehicles had been converted under the program, with the government targeting one million conversions by 2027²³.

²¹ Paris Agreement on Climate Change 2015 (ratified by Nigeria in 2017).

²² Atlas Copco, 'How Atlas Copco's CNG Offering is Powering a Sustainable Future' <<https://www.atlascopco.com/en-ng/compressors/news-and-stories/cng-powering-a-sustainable-future>> accessed 24 March 2026; Sunny Oluku and Ewiekpamare Fidelis Olori, 'Compressed Natural Gas: A Dual Solution to Nigeria's Environmental and Economic Issues' (2025) International Journal of Research and Innovation in Applied Science <<https://rsisinternational.org/journals/ijrias/DigitalLibrary/volume-10-issue-5/1-15.pdf>> accessed 24 March 2026.

²³ Serrari Group, 'Nigeria Invests USD 450 Million in CNG Value Chain' (16 December 2024) <<https://serrarigroup.com/nigeria-invests-over-450-million-in-compressed-natural-gas-cng-value-chain/>> accessed 1 April 2026; Mondaq, 'The Future of Transportation in Nigeria: How the CNG Initiative Will Transform the Sector' (13 September 2024) <<https://www.mondaq.com/nigeria/oil-gas-electricity/1517312>> accessed 1 April 2026.

4.03 Safety Advantages

Public perception of CNG safety is an important dimension of adoption, and a number of incidents, most notably a vehicle explosion at a CNG refueling station in Benin City, Edo State, have generated public anxiety²⁴. However, on the evidence available, CNG is inherently safer than petrol in several respects. Natural gas is lighter than air and disperses rapidly in the event of a leak, whereas petrol vapour is heavier than air and accumulates dangerously. CNG tanks are designed to withstand extreme pressure and pass rigorous impact testing, and the risk of explosion from a properly installed and maintained CNG system is substantially lower than from a petrol vehicle. The incidents that have occurred are typically attributable to improper installation by unregulated conversion centers, underlining the importance of mandatory certification and technical oversight²⁵.

5.0 CHALLENGES TO CNG ADOPTION IN NIGERIA

5.01 Infrastructure Deficit

The most acute barrier to CNG adoption is infrastructural. As of late 2024, Nigeria had approximately 131–138 CNG conversion centers and a limited number of operational refueling stations, concentrated in Lagos, Abuja, Port Harcourt, Kaduna, and Ogun State²⁶.

The geographic distribution is deeply uneven. The northern states which account for a substantial share of Nigeria's population and road transport activity have minimal CNG infrastructure. The absence of mother stations (large-scale compression facilities from which smaller daughter stations and mobile refuellers are supplied) outside the southern regions creates a structural constraint that cannot be resolved by conversion alone.

The Pi-CNG Initiative has announced plans to establish 175 new stations nationwide, and the MDGIF has approved investments in CNG and LNG infrastructure, including 15 CNG stations and a mini-LNG plant in Delta State²⁷.

5.02 Conversion Costs and Access to Finance

Vehicle conversion from petrol to CNG typically costs approximately ₦1.5 million, a figure that is prohibitive for many Nigerian households and small transport operators²⁸. While the Pi-CNG CV-CIP offers free conversions for eligible vehicles, coverage remains limited relative to the scale of the national fleet. The Credit Access for Light and Mobility Fund (CALM Fund), launched in October 2024 by the Ministry of Finance Incorporated, CREDICORP, and the Pi-CNG Initiative, is designed to address this financing gap by providing structured credit to enable vehicle conversion and CNG equipment acquisition.

²⁴ LightRay Media, 'Compressed Natural Gas Adoption in Nigeria: Benefits and Barriers' (25 October 2024) <<https://lightraymedia.org/2024/10/25/compressed-natural-gas-adoption-in-nigeria-benefits-and-barriers>> accessed 1 April 2026.

²⁵ Presidential CNG Initiative (Pi-CNG), 'Safety Protocols' <<https://pci.gov.ng/>> accessed 1 April 2026; LightRay Media (n 24).

²⁶ LightRay Media (n 24); Global Voices (n 1).

²⁷ Abuja City Journal, 'Pi-CNG Fast-Tracks CNG Expansion with 175 New Stations Nationwide' (3 June 2025) <<https://abujacityjournal.com/livenews/2025/06/03/pengi-fast-tracks-cng-expansion-with-175-new-stations-nationwide/>> accessed 1 April 2026; Guardian Nigeria (n 10).

²⁸ Mondaq (n 22); Akinkugbe (n 16).

5.03 Regulatory Inconsistency and Enforcement Gaps

The legal framework governing CNG involves several regulatory bodies, including NUPRC, NMDPRA, NESREA, the Standards Organization of Nigeria (SON), and state-level authorities. Their overlapping areas of responsibility may create uncertainty in regulatory authority, inconsistent requirements, and gaps in enforcement. Unregulated conversion centers present an immediate regulatory challenge. Without mandatory certification and regular inspection, poorly installed CNG systems may expose vehicle occupants and other road users to serious safety risks. The absence of a clear and uniform national framework for the certification and inspection of conversion centers therefore requires urgent regulatory attention.

5.04 Low Public Awareness

Public awareness of CNG and its benefits, safety profile, and availability remain limited, particularly outside major urban centers. A significant proportion of potential adopters' harbor unfounded concerns about explosion risk, while remaining unaware of the cost savings available. Targeted public education campaigns, delivered through trusted intermediaries such as transport unions, community leaders, and the media, are essential to shifting behavioral norms.

6.0 COMPARATIVE ANALYSIS OF CNG ADOPTION IN OTHER JURISDICTIONS

Nigeria's transition to Compressed Natural Gas (CNG) is part of a broader global shift towards greater utilization of natural gas. The experiences of other countries that have successfully developed CNG markets therefore provide useful lessons for Nigeria, particularly in relation to infrastructure development, regulatory support, investment, and the promotion of wider public adoption.

India presents the most compelling comparator. Between 2016 and 2025, India expanded its CNG refueling network from 1,081 to over 7,400 stations²⁹, driven by a combination of policy mandates (requiring CNG for public and commercial transport in designated cities), original equipment manufacturer (OEM) collaboration, and direct government facilitation of financing.

India today has approximately 1.8 million CNG vehicles on its roads, with annual CNG vehicle sales approaching 1.1 million³⁰.

Pakistan has also achieved widespread CNG adoption through subsidized conversion programs and a nationally coordinated refueling network, though supply reliability challenges have periodically undermined consumer confidence.

Brazil's experience with natural gas vehicles (NGVs) illustrates the importance of sustained fiscal incentivization and a well-developed infrastructure ecosystem³¹. Brazil converted a significant portion of its commercial fleet through government-backed incentive schemes, developing a robust domestic supply chain in the process.

The common thread across successful CNG programs is the coordination of supply-side infrastructure investment, demand-side fiscal incentives, and regulatory certainty. Nigeria's Pi-CNG Initiative reflects an awareness of these lessons, but its implementation pace must be accelerated to achieve the targets set.

²⁹ Akinkugbe (n 16) (citing India's expansion from 1,081 to over 7,400 CNG stations between 2016 and 2025).

³⁰ Zee News India, 'CNG Vehicle Sales to Hit 1.1 million in FY25' (cited in Akinkugbe (n 16)).

³¹ Global Voices (n 1) (noting Brazil's successful NGV conversion programs and infrastructure development).

7.0 THE WAY FORWARD TOWARDS A COHERENT FRAMEWORK FOR CNG ADOPTION

7.01 Strengthen Legal Enforcement and Regulatory Clarity

The legal framework for CNG exists but requires more rigorous enforcement. Gas flare elimination plans must be audited against real performance data, and penalties for non-compliance must be applied consistently. The NUPRC's commitment to satellite-based flare monitoring as recommended in recent research should be operationalized as a matter of priority³².

A unified national regulatory framework for CNG conversion centers should be enacted by the NMDPRA in collaboration with the Standards Organization of Nigeria, prescribing mandatory certification requirements, safety standards, inspection regimes, and technician qualifications. This would directly address the safety concerns that generate public resistance to adoption.

7.02 Accelerate Infrastructure Development

The MDGIF should be fully operationalized, with its funding and disbursement capacity progressively expanded to support the development of CNG infrastructure. The MDGIF–Afreximbank partnership, targeting USD 500 million over four years, should be complemented by engagement with domestic institutional investors including pension funds and insurance companies to develop CNG infrastructure as a recognized domestic asset class.

Priority should be given to establishing mother station infrastructure in underserved geopolitical zones, particularly the North-West, North-East, and North-Central regions, where road transport dependence is high but CNG access is negligible. A geographic equity framework for infrastructure deployment should be embedded in the Pi-CNG mandate.

7.03 Deepen Fiscal Incentivization

The VAT and fuel surcharge exemptions introduced in 2024 and 2025 are useful measures, but they are insufficient on their own to support the wider adoption of CNG. The government should consider time-bound import duty waivers on CNG-compatible vehicles and Original Equipment Manufacturer (OEM) components, accelerated depreciation allowances for CNG fleet operators, and concessional lending through the CALM Fund at below-market interest rates for small transport operators.

7.04 Mandate CNG for Public Transport

Drawing on the Indian experience, the government should set a legislative mandate requiring all new government-procured buses, inter-city coaches, and urban mass transit vehicles to be CNG-powered from a specified commencement date. This creates a guaranteed demand signal that incentivizes private investment in refueling infrastructure and OEM localization.

7.05 Public Awareness and Behavioral Change

A coordinated national public awareness campaign should be delivered through broadcast media, social media, transport union networks, and local government channels to address misconceptions about CNG safety and communicate clearly the economic benefits of conversion. The National Orientation Agency (NOA) and the Pi-CNG Secretariat should co-lead this effort.

³² Nwachukwu et al (n 8) (recommending satellite-based flare monitoring and stricter penalty regimes).

7.06 Institutional Coordination

A high-level inter-agency coordination mechanism chaired by the Office of the Vice President or the Ministry of Petroleum Resources should be established to align the activities of the NUPRC, NMDPRA, NESREA, SON, the Pi-CNG Secretariat, and the MDGIF. Fragmented implementation is among the most persistent risks to Nigeria's energy transition programs.

8.0 CONCLUSION

Nigeria's transition to compressed natural gas represents not only an environmental necessity but also a profound economic opportunity. The country's vast gas reserves currently being squandered through flaring at an estimated cost of hundreds of millions of dollars each year position it uniquely to lead in clean energy adoption within Africa.

The legal and policy architecture for this transition is largely in place. The Petroleum Industry Act 2021, the Pi-CNG Initiative, the MDGIF, and the suite of fiscal measures introduced in 2024 and 2025 collectively provide a credible foundation. What has historically been lacking and what the current administration must now deliver is disciplined, coordinated, and accountable implementation of these frameworks at the speed and scale required by the energy crisis.

The experience of India is instructive. Within less than a decade, India transformed from a nascent CNG market into one of the world's largest, through the combination of clear regulation, demand-side incentives, and sustained infrastructure investment. Nigeria possess the reserves, regulatory framework, and the institutional capacity to replicate that trajectory but only with not urgency, political will, and the sustained collaboration between the public and private sectors, civil society, and international partners.

By embracing CNG as a transition fuel on the pathway to a cleaner energy future, Nigeria can reduce dependence on petroleum products, improve environmental and public health outcomes, create employment across the CNG value chain, and demonstrate that natural resource wealth can be harnessed for sustainable development.