

Enlight

Series

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Nigeria's Energy Transition Plan and the Oil & Gas Sector

Introduction

To chart Nigeria's path towards net zero energy by 2060, the Nigeria Energy Transition Plan was launched in August 2022. This plan targeted several prominent areas for emission reductions, including oil and gas, power, cooking, transport, and industry. Approximately 65% of the nation's 275 metric tons (mt) of carbon dioxide equivalent (total greenhouse gas emissions) originate from these five areas, with the oil and gas sector having the lowest percentage. The country has recognised the need to transition to cleaner and more sustainable energy sources due to global efforts to combat climate change and the volatility of oil prices. The international oil market witnessed an upward surge in the last three months, pushing the Brent crude market beyond the significant threshold of \$94 per barrel. The energy transition plan is commendable with its strategy to move away from fossil fuels. The evolving paradigm of how energy is generated and transmitted will require industries, stakeholders, and policymakers at all levels of government to make complex decisions about adapting, which will consequently impact the economy. Investments are already dramatically shifting to emerging areas of energy production, and energy labour markets are transitioning. The energy transition would also impact the manufacturing, construction, agriculture and other industries. How these industries, especially the oil and gas sector, adapt and respond to the energy transition evolution would be an exciting shift that could have a toll on the economy.

Highlights on Nigeria's Oil & Gas Sector

The Nigerian oil and gas sector is one of the most significant in Africa and plays a pivotal role in the country's economy. Nigeria is renowned for its vast hydrocarbon resources, including substantial oil and natural gas reserves. The sector has been a cornerstone of the Nigerian economy for decades, contributing significantly to government revenue, foreign exchange earnings, and industrial growth. Nigeria is the world's 12th largest producer of oil and the largest in Africa, and it also holds the largest natural gas reserves on the continent. The oil and gas sector plays a significant economic role, contributing about 65% of government revenue and over 85% of total exports. Nigeria remains one of Africa's key oil producers, producing high-value, low-sulfur crude oil. Although the country is currently struggling to cope with stagnant revenues, liquidity and convertibility issues, supply chain disruption, and impacts of COVID-19, it is adopting measures to overcome the economic downturn and exploring various alternative revenue sources, primarily through natural gas commercialisation and infrastructure development. After more than a decade of delay, the Nigerian National Assembly in July 2021 finally passed the Petroleum Industry Act (PIA), which seeks to overhaul the regulations and fiscal structures governing Nigeria's oil and gas sector. Industry observers hope that the passage of the PIA will resolve specific issues associated with production-sharing agreements (PSCs), enabling several projects. As called for in the PIA, the Nigeria National Petroleum Corporation (NNPC) has transitioned to a commercial entity operating as NNPC Limited. Under the regulatory reforms, institutional changes transformed the previous upstream and downstream regulators into the Upstream Petroleum Regulatory Commission (NUPRC) and the Nigerian Midstream Downstream Petroleum Regulatory Authority (NMDPRA). The PIA repealed several laws, including the Associated Gas Reinjection Act, the Hydrocarbon Oil Refineries Act, the Motor Spirit (Returns) Act, the Nigerian National Petroleum Corporation (NNPC) (Projects) Act, the NNPC Act (where NNPC ceases to exist under section 54(3) of the Act), the Petroleum Products Pricing Regulatory (Establishment) Act, the Petroleum Equalization Fund Act, the Petroleum Profit Tax Act (PPTA) and the Deep Offshore and Inland Basin Production Sharing Contract Act. The Nigerian government prioritises gas and gas-based infrastructure development, moving ahead on the Nigerian Gas Flare Commercialization

Program (NGFCP). The Nigerian government has identified that partnerships with the U.S. government and other stakeholders create opportunities to convert flared gas to ammonia for fertiliser or export use. The project would also significantly reduce carbon emissions. This offers investor opportunities for gas infrastructure and development equipment and services.



A Spyglass of the Nigerian Energy Transition Plan and Nigeria's Oil & Gas Sector

The Nigerian Energy Transition Plan and the oil and gas sector are intertwined, as the energy transition plan outlines the strategies and actions for shifting the country's energy system towards cleaner and more sustainable sources, and the oil and gas sector plays a crucial role in implementing these changes. The oil & gas sector represents about 11% of in-scope emissions, and these emissions are attributable to the use of un-combusted fuel gas and diesel, emissions from tanks without vapour recovery units, offshore loading, vents, fugitive emissions (leaks and spills), gas flaring, and well testing. Transitioning to cleaner fuels and renewable sources would help reduce the sector's carbon footprint, improve energy security, and enhance environmental sustainability. The success of the Nigerian Energy Transition Plan is highly dependent on the activities and progress being achieved in the oil and gas sector. The oil and gas sector is facing increasing demands to clarify the implications of energy transitions for their operations and business models and explain the contributions they can make to reducing greenhouse gas (GHG) emissions whilst achieving the Paris Agreement's goals. Societies are simultaneously demanding energy services and reductions in emissions. The oil and gas companies have been proficient at delivering the fuels that form the bedrock of today's energy system. The Energy Transition Office and the government have laid down decarbonisation strategies to aid in abating the emissions from this sector. Some of these strategies include using Instrument air systems, vapour recovery units on storage tanks, replacement of compressor rod packaging and quarterly leak detection and repair to address fugitives. Improving flaring efficiency and exporting or repurposing gas should address venting and flaring. To lessen energy emissions from the upstream subsector, there has to be an increase in the run time of crucial equipment, equipment optimisation through artificial intelligence (AI) has to be implemented, upgrading single-cycle gas turbine (SCGT) plants to combined cycle gas turbine (CCGT) plants, steam boiler, process electrification. Indeed, the costs of developing low-carbon technologies represent an investment in companies' ability to prosper over the long term. No oil and gas company will be unaffected by clean energy transitions, so every part of the sector needs to consider how to respond.

The industry landscape is diverse, and no single strategic response will be cast in stone or make sense for all. So far, investment by oil and gas companies outside their core business areas has been significantly infinitesimal compared to their total capital expenditure. For the moment, there are few signs of a significant change in company investment spending. For those companies looking to diversify their

energy operations, redeploying capital towards low-carbon businesses requires attractive investment opportunities in the new energy markets as well as new capabilities within the companies. Leading individual companies spend less than 10% on average on projects outside the core oil and gas supply, with the largest solar PV and wind outlays. Some oil and gas companies have also moved into new areas by acquiring existing non-core businesses, such as electricity distribution, electric vehicle charging and batteries, while stepping up research and development activity. We have seen some of these transitions in companies like Total, Oando and Shell. This shift is commendable. However, a much more significant change in overall capital allocation would be required to accelerate energy transitions.

Conclusion

The Nigerian oil and gas sector is critical to the country's economy, offering vast potential for revenue generation and industrial growth. However, it faces numerous challenges that necessitate ongoing reforms and investments to ensure sustainable development, environmental responsibility, and socio-economic benefits for all Nigerians. As the global energy landscape evolves, Nigeria's ability to adapt and leverage its hydrocarbon resources will be instrumental in shaping its energy future. There is a lot that the sector could do today to reduce the environmental footprint of its operations. Uncertainty about the future is a crucial challenge facing the industry. However, this is no reason companies must be lukewarm and drag their feet as they consider their strategic choices. Minimising emissions from core oil and gas operations should be a first-order priority for all, whatever the transition pathway. There are ample, cost-effective opportunities to bring down the emissions intensity of delivered oil and gas by minimising flaring of associated gas and venting of carbon dioxide, tackling methane emissions, and integrating renewables and low-carbon electricity into new upstream and liquefied natural gas (LNG) developments. It is important to note that the success of Nigeria's energy transition plan depends on effective implementation, policy coherence, regulatory frameworks, and alignment with broader development goals. Additionally, the oil and gas sector will play a significant role in Nigeria's economy for some time, even as the country seeks to diversify its energy sources and reduce its carbon footprint.

Author: Emmanuel Onyeuche (Ph.D.), Energy Policy Analyst
Column Editor: Alexander Akolo, Energy Consultant