



DUALE, OVIA &
ALEX-ADEDIPE

Natural Gas as a Transitional Fuel on the Path to Net Zero by 2060

#ETTbyDOA

Energy and Natural Resources

doa-law.com

Introduction

The global urgency of climate change has heightened efforts to achieve net-zero greenhouse gas (GHG) emissions by mid-century, as emphasized by the Paris Agreement and the Intergovernmental Panel on Climate Change (“IPCC”) reports, to limit global warming to 1.5°C. For Nigeria, Africa’s largest oil producer yet one of its most energy-deprived nations, this challenge is particularly complex. Over 80 million citizens lack access to electricity while the country remains a leading emitter due to flaring, venting, and inefficient energy use. In response to these issues, Nigeria pledged at COP26 to reach net zero by 2060, adopting natural gas as a transitional fuel to expand energy access, drive industrialisation, and reduce reliance on more polluting fuels as renewable capacity develops. However, this pathway is contested, as dependence on natural gas risks entrenching long-term fossil fuel reliance, underscoring the need for a critical evaluation of both its opportunities and risks in shaping Nigeria’s transition to net zero.



Nigeria's Net-Zero Commitment and Policy Frameworks

Nigeria's net-zero ambition is anchored in several legal and strategic frameworks. Notably, the Climate Change Act ("CCA 2021"), which provides a legal foundation for climate governance, mandating carbon budgets and establishing the National Council on Climate Change. Also, the Long-Term Low-Emission Development Strategy ("LT-LEDS"), which outlines sector-specific decarbonisation pathways across power, transport, agriculture, and industry. Most importantly, the Energy Transition Plan ("ETP"), which identifies 2021–2030 as Nigeria's "Decade of Gas", positioning natural gas as a key enabler of industrialisation and energy access while renewables expand. Together, these instruments provide a structured roadmap for balancing economic development with climate objectives



The Case for Natural Gas as a Transitional Fuel

Natural gas has several attributes that support its role as a transitional fuel in Nigeria's energy mix. These include:

1. Displacement of More Polluting Fuels

Nigeria's power sector and industries rely heavily on diesel and fuel, both of which are highly carbon intensive. Substituting the foregoing with natural gas reduces emissions per unit of energy, contributing to Nigeria's climate objectives. Similarly, replacing biomass with Liquefied Petroleum Gas ("LPG") for household cooking can cut deforestation and indoor air pollution.

2. Grid Stability and Flexibility

Renewables such as solar and wind are intermittent by nature. Natural gas plants, which can be ramped up or down quickly, provide the flexible and dispatchable capacity needed to stabilise the grid and support renewable integration.

3. Industrial Development

Natural gas provides feedstock for fertilisers, petrochemicals, and other industries, making it central to Nigeria's broader economic transformation. This usefulness of natural gas promotes industrialisation which in turn leads to the creation of jobs and reduces poverty.

4. Energy Access and Poverty Reduction

With over 40% of Nigerians lacking electricity, natural gas can expand power generation capacity more rapidly than large-scale renewables in the short term. This ensures that energy poverty is not exacerbated by climate policies.



Challenges and Risks of Relying on Natural Gas

Despite its potential, reliance on natural gas is not without challenges, some of these challenges are:

1. Risk of Carbon Lock-In

Large-scale investments in gas infrastructure could lock Nigeria into long-term fossil fuel dependency, making it harder to phase out emissions in line with the 2060 target. Pipelines, plants, and LNG facilities often have lifespans of several decades.

2. Methane Emissions

Despite natural gas being cleaner than coal or oil, natural gas is still primarily methane, a GHG with more than 80 times the warming potential of carbon dioxide over a 20-year horizon. Without strict regulations, leaks from production and transmission could undermine climate gains.

3. Financial Hurdles

The ETP estimates that over \$400 billion will be required by 2060 to finance Nigeria's transition. Attracting climate-aligned finance for natural gas projects may prove challenging as global investors shift away from fossil fuels.

4. Technology and Infrastructure Gaps

Many natural gas projects require advanced technologies such as carbon capture and storage ("CCS") and hydrogen blending to remain compatible with long-term decarbonisation. Nigeria's current capacity in these areas is limited.



Safeguards for Responsible Gas Use

To ensure natural gas serves as a bridge rather than a barrier, Nigeria must adopt safeguards. Natural gas deployment should be time-bound, peaking and declining in line with carbon budgets. Also, Methane control measures, including leak detection and elimination of routine flaring, should be initiated. In addition, Infrastructure must be future-ready, capable of integrating carbon capture and hydrogen technologies to avoid stranded assets. Finally, transparent governance and public disclosure of emissions data are essential to build accountability and attract investment.

Conclusion

Nigeria's 2060 net-zero pledge is both a climate imperative and a development pathway. Through the CCA 2021, the ETP, and its "Decade of Gas" strategy, the country has laid important foundations for a low-carbon future. Natural gas can support energy access and industrial growth in the short term, but its role must remain transitional. Nigeria's success will depend on steadily reducing fossil reliance while accelerating renewable deployment, efficiency gains, and nature-based solutions to deliver a just and sustainable energy transition.

