PROJECT BRIEF

Pipeline of Power: Evaluating the Nigeria–Morocco Gas Project and Its Role in Redefining Energy Dependency in Africa

1. Project Overview

This project explores how the Nigeria–Morocco Gas Pipeline, spanning 13 countries and stretching over 5,660 kilometers, could reshape the energy landscape of West and North Africa. With a projected supply of 30 billion cubic meters (bcm) of natural gas annually, the pipeline has the potential to expand access to cleaner energy, foster regional cooperation, and boost trade.

The study evaluates energy dependency profiles across the pipeline route and assesses whether the project advances Pan-African energy integration or reinforces extractive, export-first models. It draws on multi-country data related to gas demand, infrastructure readiness, and governance capacity, and introduces a custom Energy Integration Index to support policy recommendations.

2. Objectives

- Analyze the **gas supply-demand gap** in each of the 13 pipeline countries.
- Evaluate the **impact potential** of the pipeline on energy poverty, industrialization, and economic development.
- Assess the **risk of replicating extractivist models**, where local access is deprioritized in favor of exports.
- Recommend **policies and regional frameworks** that promote equitable energy sharing and sustainable development.

3. Research Questions

1. What is the current state of energy access and gas consumption in each country along the pipeline?
2. How reliant is each country on external energy imports, and what alternatives exist?

3. How does GDP per capita correlate with energy infrastructure and consumption patterns?
4. Does the pipeline present a **regional opportunity for energy equity**, or is it primarily a strategic export route?
5. What governance and policy frameworks are required to ensure inclusive energy distribution?

4. Statistical Data Sources

- **World Bank Open Data**: Energy access rates, GDP per capita, population statistics, Electricity production from natural gas,
- **U.S. Energy Information Administration (EIA):** Natural Gas consumption, Natural gas production
- **Global Energy Monitor:** Gas Pipeline length in operation, Gas pipeline length in construction
- **Transparency International:** Corruption Index Score

5. Methodology

This study uses a comparative, indicator-based approach to assess the energy readiness of 13 countries along the Nigeria–Morocco Gas Pipeline route. Data were sourced from the World Bank, IEA, Transparency International, and Global Energy Monitor. Key indicators include electricity access, gas consumption and production, GDP per capita, pipeline infrastructure, and governance (CPI and regulatory presence). These were normalized and used to construct a composite **Energy Integration Index (EII)**, with countries grouped using basic cluster analysis to identify readiness typologies.

6. Data Presentation and Analysis

Final results were visualized using **Power BI**, including:

- A **choropleth map** displaying EII scores across the region

- A **bar chart** comparing gas dependency and infrastructure development
- **Scatter plots** assessing governance indicators (CPI and regulatory status) versus pipeline readiness

These visualizations were interpreted in alignment with continental policy frameworks such as **Agenda 2063** and the **AfCFTA**, highlighting gaps and opportunities in Africa's broader pursuit of integrated, inclusive energy development.