

Can Africa Replace Russia as Europe's Main Energy Supplier? The Paradox of Resource Wealth and Instability

By Omar Khattaly · 22 July 2022

Until recently, Russia supplied Europe with an average of over 150 billion cubic meters (BCM) of natural gas annually—a volume that cannot be easily replaced through alternative means. However, Russia's invasion of Ukraine forced global leaders to seek alternative energy sources, resulting in a scramble to secure supplies in both the short and long term.

On February 22, 2022, German Chancellor Olaf Scholz announced his government's decision to halt the certification of the $11 billion, Russian-owned Nord Stream 2 pipeline. The project was designed to serve as Russia's primary gas pipeline to Europe, most notably supplying Germany, which consumes 102 BCM of natural gas per year and stands as the largest buyer of natural gas in Europe.

Demonstrating a unified stance, the President of the European Commission, Ursula von der Leyen, stated on March 8, 2022:

"We must become independent from Russian oil, coal, and gas. We simply cannot rely on a supplier who explicitly threatens us."

Following the outbreak of the conflict, global leaders—led by the United States—intensively combed the global energy supply chain in search of alternative suppliers for Europe. Unfortunately, these efforts initially yielded limited success due to rigid production capacities, high shipping costs, and alternative suppliers' existing long-term contractual commitments. According to Rystad Energy, at the start of the Russia-Ukraine war, the U.S. had over 102 BCM of Liquefied Natural Gas (LNG) under flexible contracts that Europe could theoretically utilize; however, logistical bottlenecks and pricing issues initially prevented this from fully materializing.

The Potential of Africa

Could Africa meet the energy supply needs of Europe? Africa is home to approximately 7% of the world's proven natural gas reserves. However, tapping into these reserves comes with a wealth of structural hurdles to overcome.

Currently, seven African nations can be identified as potential interim and long-term natural gas suppliers to Europe: Algeria, Nigeria, Libya, Egypt, Senegal, Angola, and Mozambique.

For decades, Africa's volatile politics and instability have prevented the continent from taking its place as a prominent global energy supplier—a situation that continues with no immediate solution in sight. Weak security, a lack of infrastructure, and Libya's ongoing internal conflict present significant hurdles when Europe considers Africa as a secure, long-term energy partner.

In 2020, Italy imported approximately 62 billion cubic meters (BCM) of gas, ranking as the second-largest importer of natural gas in Europe after Germany. According to the market data group Statista, Italy's gas import figures by supplier in 2020 were as follows:

- **Russia:** 28.5 BCM
- **Algeria:** 15.1 BCM
- **Qatar:** 6.9 BCM
- **Norway:** 6.9 BCM
- **Libya:** 4.5 BCM

Eni, a leading energy company in Italy, spent months following the outbreak of the 2022 conflict trying to secure contracts to replace its 28.5 BCM reliance on Russia. In April 2022, Italy signed an agreement with Algeria for an additional 9 BCM, followed closely by a contract with the Republic of the Congo for 4.5 BCM per year.

The Dilemma of North African Supply

For Eni, Africa holds immense strategic importance, most specifically Libya, Algeria, and Egypt. However, Libya’s chronic instability, ongoing tribal conflicts, and political divisions—combined with an outdated oil and gas infrastructure requiring billions of dollars in repairs—have forced Eni to look for more reliable partners in its quest to position Italy as Europe’s primary gas distribution hub.

Eni and the Italian government have worked in tandem to secure the gas Europe desperately needs. Currently, Algeria has emerged as the premier alternative. Algeria utilizes the Trans-Mediterranean (TransMed) pipeline, which runs directly through Tunisia to Italy, helping it export 55.2 BCM globally and making it the largest gas exporter in Africa. The TransMed pipeline itself has a maximum delivery capacity of 32 BCM annually. The extra 9 BCM secured in the April 2022 contract effectively brings Algeria's pipeline exports to full capacity, creating a unique opportunity for other regional suppliers, such as Egypt, to make up the remaining European shortfall.

According to Statista, three major African pipelines currently supply natural gas directly to Europe, historically accounting for approximately 21% of the continent's total gas imports:

- **The TransMed Pipeline:** Connects Algeria to Italy via Tunisia.
- **The Medgaz Pipeline:** Connects Algeria directly to Spain via an undersea route.
- **The Greenstream Pipeline:** Connects Libya directly to Sicily.

Sub-Saharan Potential: The Trans-Saharan Pipeline

Niger and Nigeria could also make a substantial impact on Europe’s energy supply, but not without overcoming a plethora of obstacles. Nigeria holds the largest reserves of natural gas in Africa, estimated at 206 trillion cubic feet.

The Trans-Saharan Gas Pipeline (NIGAL) project was originally envisioned to transport this gas directly to European markets. Running a massive 4,100 kilometers from Nigeria through Niger and into Algeria, the pipeline carries a projected cost of $21 billion and a design capacity to deliver 30 BCM of gas per year.

However, the ambitious project has repeatedly run into roadblocks due to diplomatic and political friction between Algeria and Niger, which stalled progress for years. While a political agreement was reached to resume border operations, severe regional security issues along the pipeline's intended route remain unresolved.

Security Threats and Supply Volatility: The Niger Delta and Libya

Until recently, the Nigerian militant group, the Movement for the Emancipation of the Niger Delta (MEND), warned that the future of the Trans-Saharan Gas Pipeline (NIGAL) will remain questionable until demands regarding the economic welfare of the local population are addressed. This underscores the persistent security threats facing Sub-Saharan energy infrastructure.

Meanwhile, Libya ranks 21st globally and 7th in Africa regarding its total natural gas reserves. The country holds 53 trillion cubic feet (TCF) of proven gas reserves, accounting for just under 1% of the world's total. According to Libya’s official data from 2015, the country produced 591 million cubic feet of gas annually while consuming 158 million cubic feet.

Consequently, Libya maintained a surplus of 433 million cubic feet, yet only 250 million cubic feet were exported. This left over 180 million cubic feet of gas available for export that remained trapped due to the unfavorable political climate.

Between 2017 and 2020, Libya’s production and export capabilities fluctuated dramatically. Exports recovered to reach 7.11 billion cubic meters (BCM) in 2019, but fell short again in 2020, dropping to 4.84 BCM. For context, Libya’s natural gas exports originally peaked in 2010 at nearly 10 BCM.

The African Capabilities

When it comes to liquefaction—the process of cooling and converting natural gas into Liquefied Natural Gas (LNG) for transport—Algeria led the continent by commissioning Africa's very first terminal. Algeria’s Arzew GL1Z LNG liquefaction terminal started operations in 1964 and is currently owned and managed by the state energy company, Sonatrach. The Arzew facility operates at a capacity of 8 million tons per annum (MTPA). However, its entire output is committed through long-term contracts, and there are no plans for expansion or upgrades in the near future.

Libya’s Marsa El Brega plant opened in 1970, becoming the second liquefaction facility commissioned in Africa. Unfortunately, the Marsa El Brega plant has not exported any gas since 2005 due to a critical need for renovations. All subsequent efforts to bring Shell back to complete the maintenance necessary for production to resume have failed due to the ongoing civil war.

Egypt's Strategic Advantage

Most recently, however, Egypt has emerged as the nation with the newest, most

advanced, and largest gas liquefaction capabilities in Africa.

In comparison to its North African neighbors, Egypt is a relative latecomer to the natural gas industry. Yet, this delayed entrance gave Egypt a distinct strategic advantage, allowing it to develop infrastructure and export plans aligned with the region's future demands.

Egypt operates two primary liquefaction terminals:

- **The Idku Plant:** Opened in 2001 following a $2 billion investment in partnership with Shell, Petronas, Edison, and Engie, and managed alongside the Egyptian government. The plant has the capacity to export up to 10 BCM of gas to global markets annually.
- **The Damietta Plant:** Began operations in 2004 via a $1.3 billion investment in partnership with Italy's Eni and Spain's Naturgy (formerly Unión Fenosa), with the primary goal of supplying European markets. The plant has an annual export capacity of 7.56 BCM.

Collectively, these two facilities give Egypt the structural ability to export nearly 20 BCM of LNG to Europe and other global markets annually. According to the U.S. Energy Information Administration (EIA), Egypt's vast natural gas discoveries in the Nile Delta, the Mediterranean Sea (such as the massive Zohr field), and the Western Desert provide it with 2.19 trillion cubic meters of proven natural gas reserves. This ranks Egypt as the third-largest holder of natural gas reserves in Africa, following only Nigeria and Algeria.

Egypt's relative political stability makes it a frontrunner for becoming a unified regional gas hub. This positioning allows neighboring producers, such as Israel and Cyprus, to utilize Egypt's advanced Liquefied Natural Gas (LNG) facilities to export their own gas to European markets. This pooling strategy has been under serious discussion since 2018. It could provide Europe with the critical market diversification it desperately needs, while granting Egypt, Israel, and Cyprus the collaborative ability to combine their facilities, infrastructure, and expertise to significantly advance their collective export capabilities.

Challenges in Africa

More broadly, Africa's internal security challenges and political instability continue to severely impact its economic growth and structural progress in the 21st century. For the past 50 years, despite an abundance of oil and gas reserves, the continent has struggled to reach a level of sustained stability that would enable it to compete

seamlessly in the global energy supply market.

In 2021, data confirmed that Africa held over 125.3 billion barrels of crude oil reserves and approximately 148.60 trillion cubic meters of proven natural gas reserves, accounting for over 7% of the global total. Given this immense wealth, one would expect the continent to be an economic paradise in the making, but unfortunately, that is not the reality.

This raises a vital question: can Africa's leaders set aside their many geopolitical differences to seize this golden opportunity, partner with Europe, and supply the gas it so urgently requires? Doing so would provide African nations with the robust revenues needed to finance the infrastructure projects desperately required to support the continent's long-term growth.

Can Europe Depend on Africa?

An equally critical question remains: can Europe truly depend on Africa as a reliable, long-term gas partner? Structurally, the answer leans toward no. The European Union's $17.90 trillion economy cannot easily rely on nations facing severe internal friction—such as Libya, Niger, Mozambique, the Republic of the Congo, or even Algeria—to permanently take Russia's place.

Unless aggressively addressed by its government, Algeria's ongoing struggle with domestic demands for deep political, social, and economic reform poses a significant risk to its future stability, which would heavily impact its state-run oil and gas sectors.

As for Libya, the international community has largely tempered expectations regarding its return as a stable global partner in the short term. The country's continuous descent into political chaos and civil conflict is fueled by fragmented leadership, local militias, and competing regional powers, leading many analysts to view it as a failed state. This reality is explicitly mirrored in Italy's Eni business expansion strategies over the past few years, which show a substantial transition away from Libya as a primary supplier in favor of heavier investments in Egypt and Algeria.

Conclusion: The Immediate European Outlook

Currently, Europe—and Germany in particular—remains profoundly impacted by the fallout of the Russia-Ukraine war. As winter approaches during any prolonged energy crisis, logistical difficulties with heating and industrial supplies only intensify.

Ultimately, while the African continent possesses the raw geological capacity to replace Russia as a prominent energy supplier to Europe, a formidable wall of obstacles—namely political unrest, civil conflict, and a systemic lack of physical security—stands firmly in the way, preventing this potential from becoming a full reality.

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