



NIGERIA ONE

NEWSLETTER

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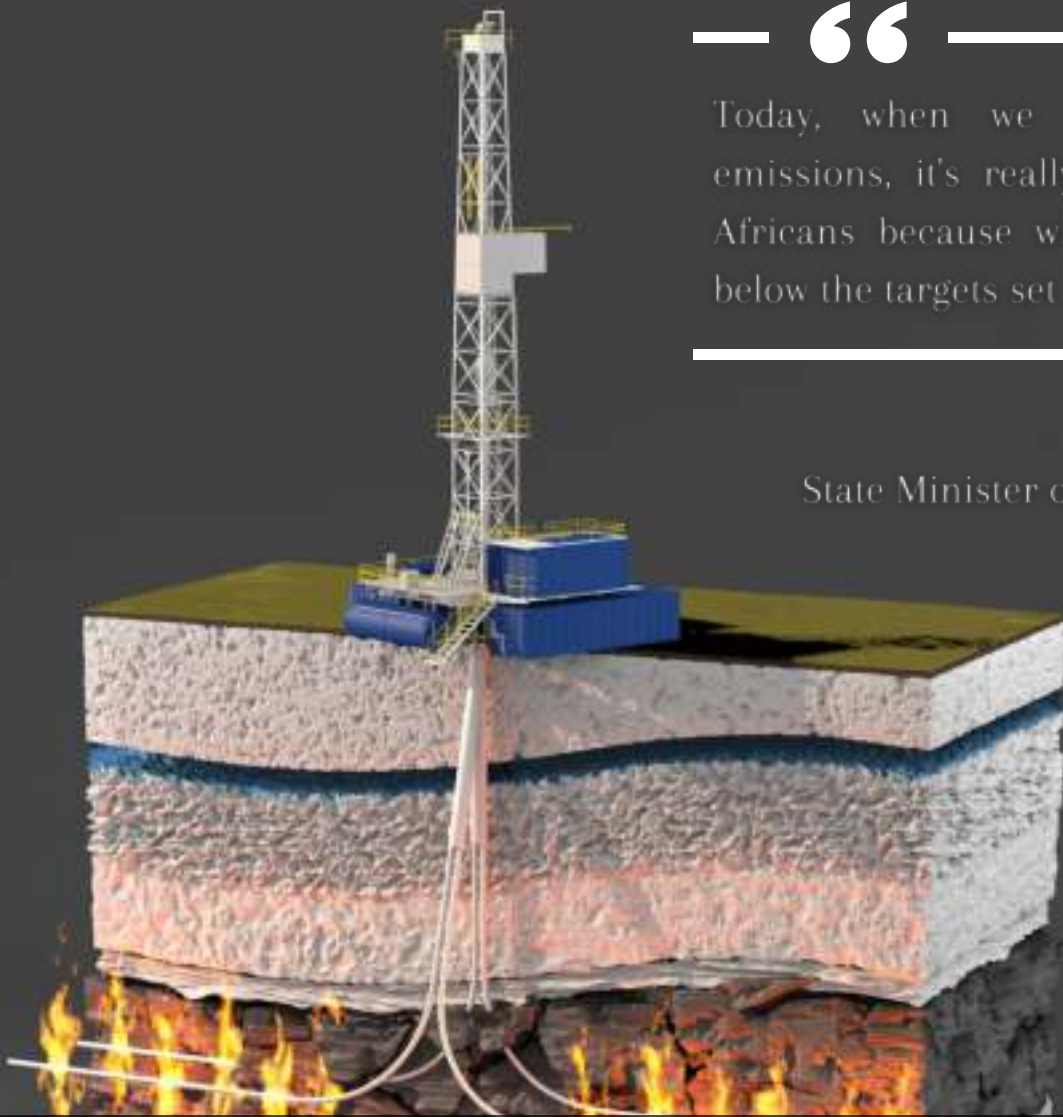
— “ —

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— ” —

Chief Timipre Sylva

State Minister of Petroleum Resources



NATURAL GAS

Natural gas challenges in Africa



SUMMARY

03 Inauguration of the
Dangote plant fertilizer

05 Increasing crude oil
production is a priority for
Nigeria

06 Underinvestment plaguing
Nigeria's energy sector

08 African energy equation

09 Natural gas challenges in
Africa

11 Africa's Top 10 Oil
Producers in 2021

13 CERAWeek 2022

15 Black gold, is it?

16 Refineries are the heart of
the petroleum industry



Inauguration of the Dangote plant fertilizer

Located in Lekki Free Zone, the Dangote refinery occupies 2,635 ha of land along the coast of the Atlantic Ocean, near Lagos. Geographically, the location was strategically chosen for its ease of transshipment of refined petroleum products to international markets. In addition to being Africa's largest oil refinery, it will be the world's biggest single-train facility. The refinery is designed to produce 100% of Nigeria's refined petroleum products and even be able to export surplus products. This integrated refinery and petrochemical project is an industrial city with a capacity of 650,000 barrels per day (bpd).

Dangote group's president disclosed that the refinery will be able to process crude oil in the third quarter of 2022, bringing the processing capacity to 540,000 barrels a day. Full production is expected by the end of 2022 or the beginning of 2023. It will process light and medium grades of crude oil to produce clean fuels, including gasoline and diesel, as well as polypropylene and jet fuel of euro-V quality. The facility will produce annually 10,4 million tons (Mt) of gasoline, 4,6 Mt of diesel, 4Mt of jet fuel, 0,69 Mt of polypropylene, 0,24 Mt of propane, 32,000 tons of sulfur, and 0,5 Mt of carbon black feed. There are currently approximately 40,000 workers on the site. After completion, the number of employees is expected to rise to nearly 50,000-70,000.

New

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Dangote Refinery

The biggest refinery
in Africa

A \$19 billion project



- The biggest refinery in Africa
- With 19 integrated factories, it is an industrial city
- Africa's largest pellet uree fertilizer plant, with a loading and distribution capacity of 700 trucks per hour

- 2,635 hectares along the coast of the Atlantic ocean
- Located in Lekki

- Capacity of 650,000 barrels per day (bpd)
- 50,000 to 70,000 jobs created





Increasing crude oil production is a priority for Nigeria

Nigeria's crude oil production drastically dropped to stabilize at 1.2 million barrels per day in recent years. Several reasons were cited to explain the significant decline. Some attributed it to securities issues and oil thefts, while others accused the Federal Government of neglect.

Minister for Petroleum Resources Timipre Sylva and NNPC Managing Director Mele Kyari were urged by President Buhari to respond to the crisis and reassure Nigerians and the international community that all would be back to normal soon.

Through the deployment of more resources to protect oil sites, the army began to tackle the issue on its own. The initiative has started to yield positive results and has restored confidence. Mrs. Zainab Ahmed, Minister of Finance, Budget, and National Planning, said the Federal Government (FG) will increase crude oil production within two weeks during an interview with Bloomberg Television on April 25, 2022.

The first and foremost measure will be to reopen the oil wells that closed due to oil theft. Consequently, this will have direct implications on production, and the first oil producer in Africa should be able to close that gap in the next two weeks to meet the 1.6 million bpd OPEC quota. In conjunction with the army's effort to secure the sites, this directly impacts oil thieves.

Nigeria has not benefited from the recent spike in crude oil prices caused by the Russia Ukraine war mainly because of internal issues that affected national production. The country lost as much as 400 000 barrels of oil per day, or roughly \$1.5 billion every month.

Due to low crude oil production and the fact that Nigeria imports final products, the country faced one of the worst petrol shortages last month, resulting in long lines at the pumps and soaring black market prices for hydrocarbon products. Since crude oil sales are the African giant's main source of foreign exchange, it is missing an opportunity to build its foreign reserves.



Underinvestment plaguing Nigeria's energy sector

Nigeria is the leading oil producer in Africa and has significant gas reserves. One wonders why this country does not receive more investment in its energy sector. Among the countries that received significant amounts of foreign investment, Nigeria did not stand out. A \$30 billion gas investment was made in Tanzania, and the country's LNG project is situated at Lindi. \$4.7 billion was received for the Rovuma basin, an offshore Mozambique gas development project. In 2022, Ethiopia received \$4 billion for the Ethiopia-Djibouti Gas Pipeline, located at the Ogaden Basin, Ethiopia - Djibouti. As part of a meeting with EU ambassadors to Nigeria, the Minister of State for Petroleum Resources, Chief Timipre Sylva, explained the economic hardship experienced by Nigeria's energy sector. He stated: "One of the biggest challenges the sector has is lack of investments. In the last 10 years, over \$70 billion worth of investments came to Africa, but sadly less than four billion dollars came to Nigeria. If we cannot attract investments to Nigeria, you know where we are heading. As of today, our gas reserve is one of the biggest in the world. We have a proven gas reserve of 206 tcf and if we really focus on gas exploitation, we can get up to 600tcf." The minister made the right choice to invite foreign investors to invest significant funds in the energy industry. In this geopolitical moment when gas supply to European countries is threatened by the Ukraine-Russia crisis, the speech of Mr. Sylva is quite relevant. Nigeria is ready to serve as an alternative gas supplier to Europe, according to the minister.

Oil data Energy Group's Chief Executive Officer, Emeke Ene, stressed the importance of factors that trigger and attract investment in any sector or country: property rights, enabling environment, and opportunity costs. He stated “the rule of law and property rights are tied together. The second is enabling environment, and we have had challenges in the past regarding security and all the issues with producing petroleum products. The third one is the opportunity, which we have in abundance, what you find out is that the absence of rule of law and property rights makes it difficult for investors to invest and be able to predict that they will recover their investment and make profits.” Nigerian officials recognize the importance of creating an inviting and secure environment for oil companies to operate in. In this context, the Petroleum Industry Act (PIA) was formulated. Despite having been signed, the PIA has not yet been implemented. The oil and gas industry should benefit from its implementation as soon as possible. Investors are concerned about profit as well as security. They are mindful of the business climate in Nigeria. That may explain Nigeria's sideline among investors. Samuela Isopi, ambassador of the European Union in Nigeria, urged the government of Nigeria to seize the opportunity offered by the current crisis in Europe to secure gas supplies to the continent. She said “The Nigerian government needs to step up security in the Niger Delta region to guarantee gas supply to EU member states. The spate of attacks on Shell, Eno, and Total Energies’ gas infrastructure which led to the declaration of force majeure by the companies is of great concern to Europe”. It is legitimate for investors to be worried about Nigeria's business climate, however, it is essential to applaud the ongoing efforts of the government to eradicate the oil theft and vandalism in the Niger Delta. They have involved the army that is committed to tackling illegal activities of vandals across the entire Niger Delta region. It may seem challenging but the success of the federal government to eradicate this security issue would guarantee the flow of foreign investment in Nigeria. The nation has significant oil and gas reserves and can be more competitive on the global stage once certain security issues are solved.





African energy equation

In recent years, the Western world has turned its back on fossil fuels and embraced other less-polluting energy sources.

Several meetings were held among the "powers" in order to refine an exit strategy and times for the rapid transition were set.

The process has so far not involved any African country, but Africans are required to comply. While some radical groups have declared the end of fossil fuel in the 2030s, others like OPEC are being more generous, suggesting 2045 as a more reasonable date.

Historically, the African continent has polluted less than 3% on a global scale but has been adversely affected by the massive pollution of rich countries.

Even as many African nations are discovering vast reserves of oil and gas, the fundamental question is what Africa will be like in the future.

Africans themselves fall into three groups. The first who bows to the decision of the Western powers, another more radical who just wants to go for it, and finally those who think that the energy transition is real but it needs to be done in accordance with each country's specific circumstances.

A prosperous Africa can only be achieved with abundant and affordable energy sources, and this can only be accomplished with industrialization. Furthermore, it will require a surge of solidarity between nations to ensure "equitable" access to energy.

About 75% of African production is exported to the West, which will inevitably affect the continent's development since 100% of current production can never meet local demand. The Secretary-General of the African Petroleum Producers Organization (APPO) Faruck Ibrahim said in an interview: "We have been conditioned to believe that without the European and Asian markets you cannot have a market, what we do not understand is that Africa today has about 1.3 billion people. People, 600 million of whom do not have access to electricity, 900 million do not have access to any form of modern energy. This means that if we can make concerted efforts to empower these people to buy energy, the 7 to 8 million barrels that we produce and sell 75% outside will not be enough for us, we would not need it on the outside market. »Finding viable solutions for Africa and taking our destiny into our own hands seems essential. Without action, we will still be at the mercy of the rest of the world as an applicant. It is imperative that we transition to cleaner and more affordable means of energy through less polluting gas.



Natural gas challenges in Africa

Natural gas continues to take a strategic place in African countries. It is positioned as a less polluting substitute for oil and several countries have already understood that it will be essential in the coming years, particularly in the context of the transition. Many major projects have been undertaken and others are in progress, including the large-scale Nigeria Morocco gas pipeline project.

In particular, Algeria, Egypt, Nigeria, and Libya show a keen focus on innovation as a major factor in their exploration and partner search strategies.

Recently discovered gas fields in Mauritania and Senegal are adding to the small circle of countries producing natural gas.

Morocco and Nigeria stand out for their innovative approaches to the exploitation of natural gas.

Morocco currently has two production areas, and a third is being built. In total, eleven structures are active in the field of hydrocarbon exploration. Just under 70 boreholes have been drilled and forty times natural gas have been discovered in Morocco in the past twenty-two years. Every effort is being made to increase the country's reserves and production capacity.

Following the discoveries in Nigeria's gas sector in 2021, the country has declared the decade of gas and is currently undergoing an intense revitalization of the industry. The federal government through its Minister of Petroleum Resources Chief Timipre Sylva recently decided to reactivate the Liquefied Natural Gas project in the Region of Brass, Bayelsa.

Even though it is considered a fossil fuel, the Minister of State explains Nigeria's position. "We want to rely on gas to make our transition to renewables. Let's face it, we're not the ones that emit the most carbon. Today, when we talk about carbon emissions, it's really not a concern for Africans because what we emit is even below the targets set for 2030-2040. We are asking to be allowed to ensure our basic energy supply with gas, which is a clean fuel that we have in abundance. Obviously, we will develop renewable energies in parallel because we are determined to achieve net-zero emissions by 2060" says Chief Timipre Sylva in an interview with France Info in November 2021.

An upcoming liquefied natural gas project worth 22 billion dollars in Brass, Bayelsa, initiated under the Obasanjo regime, is attracting the attention of Greenville LNG. There will be significant added value for the country if an agreement is reached. With a capacity of 8.4 million metric tons, this giant will include four processing plants for obtaining liquefied natural gas.

NLNG, Nigeria's gas giant, is located on Bonny Island, where the Minister laid last year the foundation stone for "Train 7", the seventh liquefied gas processing plant on the site. NLNG is a 100% Nigerian company recognized internationally, which has earned the respect of its peers.

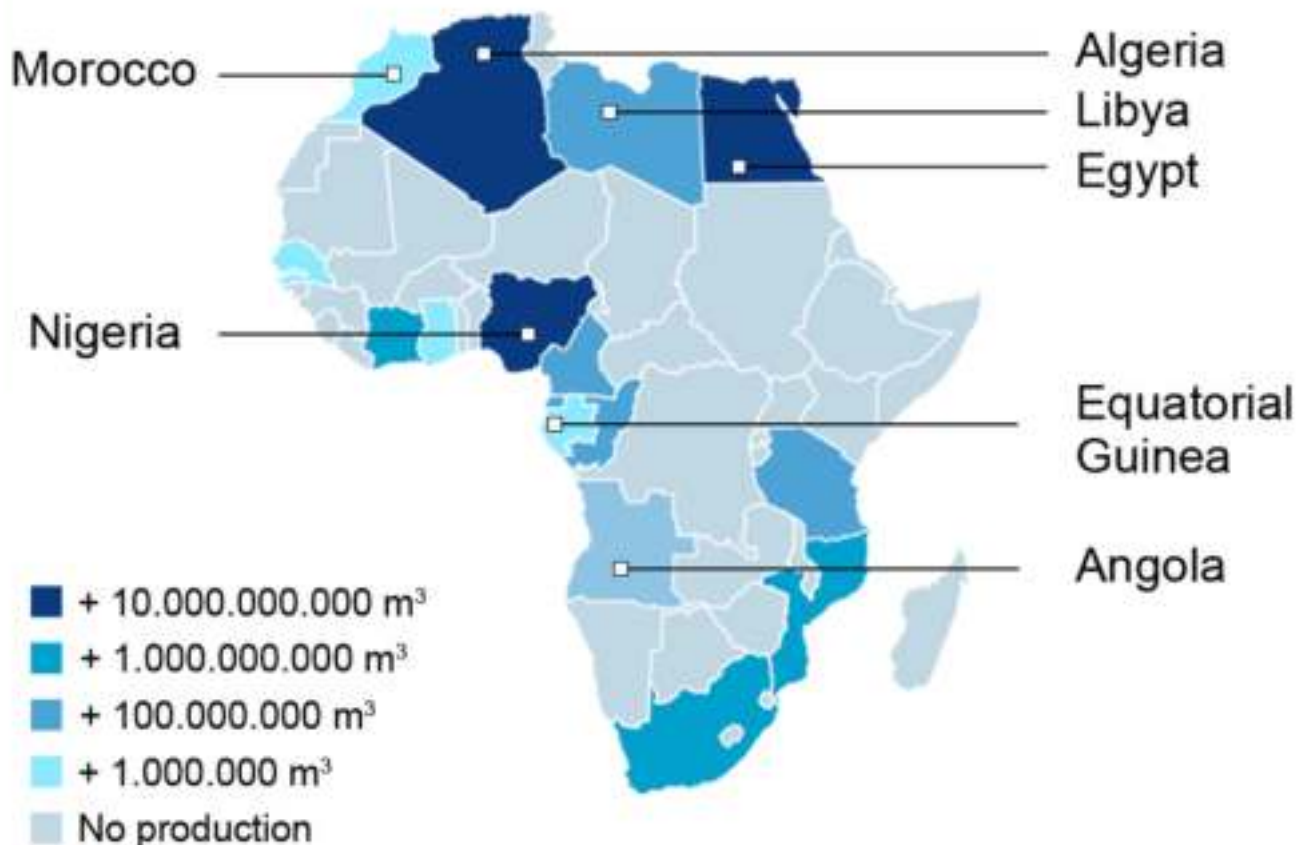
NATURAL GAS IN AFRICA



Natural gas production in Africa

Main natural gas producing countries

Production in millions of m³





Africa's Top 10 Oil Producers in 2021

As a result of COVID 19 and other cyclical economic issues, African oil production fell in 2021. In the first half of 2020, oil demand dropped by 11%. There are varying estimates of total production, but it is typically less than 10 million barrels a day.

With 1.36 million barrels per day, Nigeria is the market leader, and the country has several projects in the works that will contribute to significant growth in 2022. The next five years will see the implementation of over 100 projects, of which 25 will be in the upstream sector. NNPC is projecting to boost production by 250 000 bpd and will partner with big oil companies. As part of the security strategy, important decisions are being made in order to lower significantly oil theft.

Libya's crude oil production is about 1.17 million barrels per day, but it is making efforts to revamp the oil sector by committing a \$1.6 billion budget to the National Oil Corporation (NOC), which will develop new oil fields and maintain existing ones.

Angola, the third-largest oil producer in Africa, has taken every step in the right direction to revitalize the sector by undergoing six years of licensing rounds, prior to COVID-19 and OPEC-led production cuts. Its production turns around 1.14 million bpd.

In fourth place, Algeria produced only 874 000 bpd, despite having the second-largest reserves on the continent. Its production level pre covid was at 1.1 million bpd. Now the nation wants back into the game.

Egypt's oil production is currently at 560 000 barrels per day (bpd), but it is on track to substantially boost its production with a \$1 billion investment in new oil exploration in the western desert.

Although the Republic of the Congo faces many problems, it still produces 271 000 barrels per day and has been trying to implement several projects.

Ghana leads the way with a crude oil production of 189,000 barrels per day, followed by Gabon at 160,000 barrels per day, Equatorial Guinea at 153,000 barrels per day, and Chad with 109,000 barrels per day.

A number of African countries are in the process of setting up new processes and making important investments in the oil sector, which should result in an increase in production in 2022. Increasing oil and gas production is becoming a 'strategic must' as the west is trying to fill the void left by the Russian O/G supply in Europe.

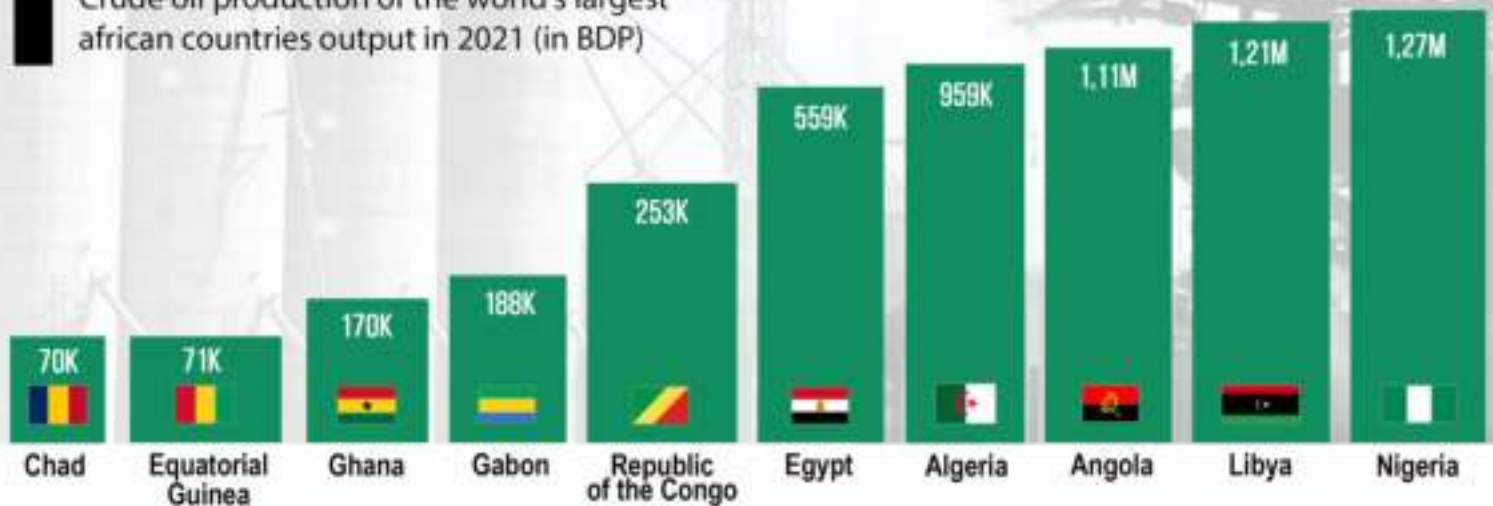


TOP 10

AFRICAN COUNTRIES WITH THE LARGEST CRUDE OIL PRODUCTION OUTPUT IN 2021



Crude oil production of the world's largest african countries output in 2021 (in BDP)





CERAWeek 2022

From March 7 to March 11, 2022, Houston (Texas) hosted CERAWeek, the U.S energy summit, which is considered one of the most prestigious and prominent energy conferences. This annual gathering was an in-person event after two years of virtual conferences due to the Covid pandemic. Energy, finance, policy, and technology leaders from around the world attended the summit to find solutions to the energy crisis. The event drew thousands of attendees. This year's theme was Pace of Change: Energy, Climate, and Innovation. It addresses the challenges and opportunities of reducing emissions while meeting global economic growth needs. The conference panelists have emphasized the need for a more secure energy supply. In response to the soaring price of oil following the Russia/Ukraine conflict, oil and gas leaders advocate for a combination of more fossil fuel production and renewable energy. In light of the ongoing conflict, the conference seemed particularly timely this year. Approximately 23 billion cubic feet of natural gas is exported from Russia every day, most of which (about 90%) go to Europe or Eurasia. Nearly half of it goes to Germany, Italy, France, and Belarus. It is believed that Russia has more proven natural gas reserves than any other country. It was therefore a constant topic of conversation at the event. During the seminar, the ramifications of this current war on global oil and gas prices were discussed extensively. Oil and energy markets are expected to experience more volatility in the near future, according to Exxon Mobile Corp. Chief Executive Officer Darren Woods. Suncor Energy Inc. Chief Executive Officer Mark Little estimates that Canada's oil could supply the U.S. with a third of the oil that it usually imports from Russia due to the Biden administration's ban. Charif Souki, Chairman of LNG Developer Telurian Inc, said that while the U.S administration has a climate policy, it lacks an energy policy. He stated, "What they can do is make it happen a little faster and take the credit for it, or take the blame for not doing it fast enough and watch somebody else do it.". He was specifically referring to the future expansion of U.S exports.

U.S Energy Secretary Jennifer Granholm addressed the conference attendees on March 9, 2022. She spread the word about the government's efforts to encourage additional output from partners throughout the world. Granholm spoke about the U.S administration's interest in partnering with the energy industry. This declaration contradicts the claim that the White House is seeking to speed up the transition to a low-carbon economy.

On March 8, 2022, Nigeria's Minister of State for Petroleum, Chief Timipre Sylva spoke to the audience. His speech focused on the challenges faced by African nations in embracing the global energy transition. According to him, investors backing renewable fuels have cut funding for oil projects, reducing oil, gas, and coal production faster than renewable energy sources could replace them, pushing up prices. He said that "Nigeria is now facing a double blow from high prices of gas for cooking that it imports and lack of investment in its oil industry, as banks and funds have been pushing to restrict investment in oil globally to cut greenhouse gas emissions and fight climate change." Due to a lack of financing to maintain its oil facilities, Nigeria had to reduce oil production from 1,8 million barrels per day (bpd) to less than 1.5 million bpd in the past. Loss of production could have contributed to global supply as the world now looks for alternatives to Russian oil.

During the conference, the Nigerian delegation focused on the energy transition agenda and met with certain U.S officials. Americans and their Nigerian counterparts reached convergence on the responsible monetization of Nigeria's gas resources. The U.S. officials expressed their interest in a bi-lateral partnership with Nigeria, which aimed at converting the enormous gas resources currently being flared to Ammonia. Ammonia presents significant revenue potential for Nigeria, particularly now that the European Union has announced its long-anticipated plans (net-zero program) to make importers and non-EU producers pay for carbon emissions associated with the goods and materials they sell in the EU. This would negatively impact vessels using fossil fuels to enter EU territory. Heating oil and other fossil fuels may be replaced by ammonia as an alternative fuel source. The U.S Secretary of State for Energy, Jennifer Granholm asked for a collaboration with the Nigerian government for the development of the country's gas resources, acknowledging that with the development of natural gas, Nigeria can achieve its net-zero emissions target faster and better as well as the rest of the world. In addition, the US DOE (Department of Energy) has promised to assist Nigeria with development partners to develop its gas resources. Nigeria's Upstream Petroleum Regulatory Commission (NUPRC) team met with Brendan Kelly of the U.S Department of Commerce and Puneet Sharma of Cyan NH₃ to discuss the potential of methane abatement in Nigeria, especially for the use of ammonia for fertilizer or export, in collaboration with the U.S. government. If ongoing discussions with the U.S. government and proposed development partners are successful, not only will environmental degradation be eradicated, but people's health will also be safeguarded. In addition to generating foreign exchange, this bi-lateral cooperation has the potential to revitalize the country's economy.



Black gold, is it?

Oil is a very complex industry, and achieving profitability has always required a specific approach. One of the distinct features of the sector is mastery of all processes. Three phases seem to be of interest: first is the exploration stage, in which reserves are located and determined if they are worth exploiting, second is known as the upstream phase when the reserves are exploited, and finally the downstream phase covers everything else after the product is extracted.

The first phase is very risky and requires significant financial resources without a guarantee that new discoveries will be made. The process often results in hundreds of millions of dollars being wasted. There are some companies specializing in this phase, and once they have the certitude that oil has been found, they will sell the discovery to another company. Sometimes, they simply ran out of money and cut a deal with another company that had more resources to take over.

After products are found, another set of companies will intervene to exploit the resources. At this level, investments are even more important, requiring the construction of the infrastructure and making the necessary studies. Whether the products are used on land or offshore, the means of exploitation are also important.

Finally, the downstream process begins with the movement and transformation of the precious liquid into its final form. This stage is very complex and some strategic decisions are required.

Governments, multinational firms, financial institutions, members of civil society, the press, and citizens of the concerned country are involved in the process to ensure that the correct decisions are made.

Conflicts between parties are often inevitable because of divergent interests and the importance of the money at stake. It is the government's responsibility to juggle between the parties and seek compromises that are all-inclusive.

Historically, developed nations' producers of oil went through this process without encountering serious issues but in other parts of the world especially in Africa, this benediction has often turned into a malediction and ended up in high-level corruption cases, security issues, and even civil wars. It is high time that African countries that produce oil realize the opportunity nature has given them to be the frontrunners and to play a critical role in positively impacting their population through their fairness and justice. If anything, this new wealth found should not be associated with a curse rather, it should only be viewed as a blessing.

As new nations enter the select group of African oil producers, they will need to learn from the experiences of the older producers to avoid repeating the mistakes of the past.



Refineries are the heart of the petroleum industry

In the oil industry, refineries play a crucial role throughout the world, and many nations have positioned themselves with investment to transform the precious commodity.

India, for example, holds 4,728,790,000 barrels of proven oil reserves as of 2016, ranking 24th in the world with 0.3% of the world's oil reserves but counts 23 public refineries. Other countries, like Senegal, which discovered oil recently, have a refinery (SAR) that is several decades old.

The development of refineries in Africa is a game-changer. A few countries realized the positive economic impact such investments could have. It will create thousands of jobs, generate additional revenue for the state through taxes, and increase the value of the product with the magic of transformation, just to name a few.

Interestingly, not a single country in Africa has one of the world's top 10 refineries. The leading refineries in Africa are Sonatrach (356 500 bpd) and NOC (220 000), as well as NNPC (Wari, Kaduna, Port Harcourt Refineries) with a capacity of 1,938,543 bpd. There are also new refineries being built by private companies, such as the Dangote refinery, which has a capacity of 650000 barrels per day. In light of all this, it is incomprehensible that the various governments throughout the continent failed to address this issue earlier for the purpose of better positioning the African continent based on proven oil reserves of 125.3 billion barrels in November 2021.

A priority for Africa should be to expand the capacity of existing refineries and build new ones to transform the much-needed oil resources.

With natural gas reserves estimated at more than 620 trillion cubic feet based on statistics from last year (2020), we can only hope this pragmatic approach will be adopted. A gas transition will require the building of new infrastructures for African countries if they plan to use gas as an energy alternative.



KEEP IN TOUCH

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