

Oil & Gas Practice

The future of African oil and gas: Positioning for the energy transition

With momentum for sustainability building, Africa's oil and gas producing nations have a unique opportunity to embark on an inclusive energy transition and chart a course toward a sustainable future.

by Acha Leke, Peter Gaius-Obaseki, and Oliver Onyekweli



Africa's oil and gas industry is entering a new era. As the world looks to accelerate its transition away from fossil fuels, the pressures on the continent's oil and gas producing nations are mounting. Our analysis has found that most are highly exposed to the global energy transition, as their economies depend on oil and gas revenues, while their reserves both cost more to produce and are, on average, more carbon-intensive than oil and gas from other regions.

At the same time, energy demand on the continent threatens to outstrip supply. Over the next two decades, rapid population growth and industrialization are expected to drive strong energy demand growth across the continent—including for fossil fuels. McKinsey modeling estimates that African energy demand in 2040 could be around 30 percent higher than it is today,

compared with a 10 percent increase in global energy demand (Exhibit 1).

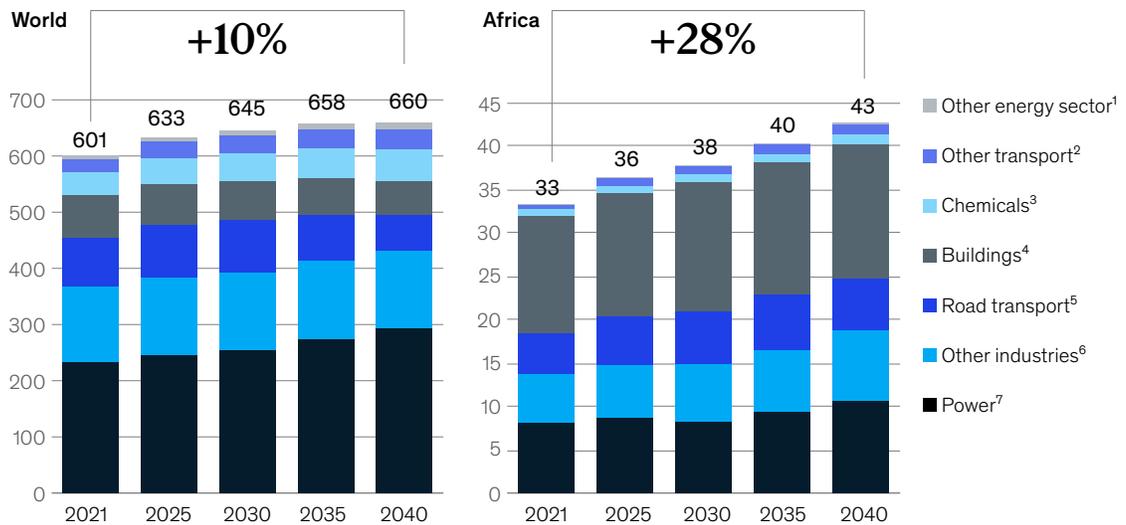
While these dynamics bring challenges that will need to be negotiated, they also create a clear opening for the continent to take stock and reconsider its energy approach. If oil and gas producing countries in Africa consider steps to create enabling environments, improve access to available capital pools, and attract the right skills and capabilities, they could both meet the energy needs of their developing populations and position themselves strongly in a new energy landscape.

The ongoing invasion of Ukraine, which has had deep human, social, and economic impacts across countries and sectors, adds another layer of consideration. European gas prices have increased by more than three times over the past 12 months, based on our data analysis. And since the start of the

Exhibit 1

Africa's energy demand in 2040 could be 30 percent higher than it is today, compared with a 10 percent increase in global energy demand.

Primary energy demand by industry, million terajoules



¹Energy for refining processes and hydrogen production. ²Energy to operate other forms of transport (eg, airplanes, ships). ³Energy to operate petrochemical plants. ⁴Energy for residential and commercial buildings (eg, cooking, cooling, water, and space heating). ⁵Energy to power motor vehicles. ⁶Energy to support agriculture, iron, and steel sectors. ⁷Energy for power generation and heating.
Source: McKinsey Energy Insights Global Energy Perspective 2021

conflict, the European Commission has announced a plan to make Europe independent of Russian fossil fuels before 2030 through a combination of acceleration of renewable energy and diversification of natural gas supplies.¹ This could result in increased demand for oil and gas from the African countries that have the reserves and infrastructure in place to help meet that demand.

In this article, we unpack how the energy transition—and a potential restructuring of global natural gas supply sources—could shape the future of Africa's oil and gas sector, and we share high-level options that affected countries could consider to encourage the necessary investments and build long-term resilience at this critical juncture.

The challenge: The pressure on Africa's oil and gas sector is growing

It is increasingly clear that the global momentum toward sustainability and away from fossil fuels is accelerating. For the first time, the United Nations' Framework Convention on Climate Change Conference of the Parties (COP26) explicitly referenced a shift away from coal and the phasing out of fossil fuel subsidies in its 2021 decision text,² while governments, investors, and consumers around the world are signaling plans for a more rapid shift away from fossil fuels. McKinsey's "current trajectory" energy transition scenario suggests that global oil demand could peak by 2027, while global gas demand could peak by 2040. If leading countries achieve their net-zero commitments through targeted policies, the transition could be even faster. Under this "achieved commitments" scenario, global oil

demand could peak as soon as 2024, while global gas demand could peak around 2030.³

This shift is bringing new pressures to bear on the oil and gas sector from stakeholders and regulators. In its net zero by 2050 road map, the International Energy Agency (IEA) highlighted that the global energy sector needs to achieve a significant reduction in the use of hydrocarbons by 2040—including the phasing out of all unabated coal and oil power plants—in order to reach net zero by 2050.⁴

At COP26, several new commitments were made, giving further momentum to the transition. In total, more than 150 countries have put forward new or updated emissions targets, with several African countries, including Botswana, the Democratic Republic of the Congo, Egypt, Ghana, Kenya, Morocco, Nigeria, and South Africa, making various commitments to restrict methane emissions, halt and reverse forest loss, phase out coal, and end international financing for fossil fuels.⁵ Nigeria also joined some of the world's largest energy exporters, including Saudi Arabia, in committing to net zero by 2060.⁶

Outside Africa, many countries are also starting to implement carbon pricing and taxes, which could have an impact on African countries dependent on oil and gas exports. The European Union's Carbon Border Adjustment Mechanism, for example, will require EU importers to secure carbon certificates on imported goods corresponding to the carbon price that would have been paid, had the goods been produced under the EU's pricing rules.⁷ And while South Africa is currently the only African

¹ "REPowerEU: Joint European action for more affordable, secure and sustainable energy," European Commission, March 8, 2022.

² Molly Bergen et al., "COP26: Key outcomes from the UN climate talks in Glasgow," World Resources Institute, November 17, 2021.

³ McKinsey Energy Insights Global Energy Perspective 2022. The current trajectory scenario assumes that the current trajectory of renewables cost decline continues; however, active policies presently remain insufficient to close the gap to the net-zero ambition, with global temperature rise estimated to be 2.4 degrees by 2050. This scenario assumes oil demand peaks in 2027, while gas demand peaks in 2040, and assumes long-run equilibrium oil prices of \$45 to \$55 per barrel of crude oil (bbl) for the period 2030 to 2040. The achieved commitments scenario assumes net-zero commitments are achieved by leading countries through targeted policies, while followers transition at a slower pace, resulting in an estimated global temperature rise of 1.7 degrees by 2050. The achieved commitments scenario assumes that global oil demand will peak in 2024 and global gas demand will peak in 2030 and assumes long-range equilibrium oil prices of \$25 to \$35/bbl for the period 2030 to 2040.

⁴ *Net Zero by 2050: A roadmap for the global energy sector*, International Energy Association, updated October 2021.

⁵ *COP26: The Glasgow climate pact*, UN Climate Change Conference UK 2021, November 2021.

⁶ Net Zero Tracker.

⁷ "Council agrees on the Carbon Border Adjustment Mechanism (CBAM)," Council of the European Union press release, March 15, 2022.

country with a carbon-pricing system—signed into law at the end of 2019—others could soon follow.⁸

In this context, oil and gas majors are increasingly challenged to deliver higher returns more sustainably. As a result, many are opting to reduce their African upstream exposure and rebalance their portfolios across resources with lower emissions intensity. Investor scrutiny for oil and gas projects, meanwhile, is intensifying as capital providers factor environmental, social, and governance considerations into their decisions. This shift is contributing to a widening gap between oil and gas company valuations and renewable-energy company valuations.⁹

This trend creates several considerations for African oil and gas producing countries that are highly dependent on global capital pools to fund their hydrocarbon projects and maintain their oil and gas operations. African oil and gas assets are on average 15 to 20 percent more costly to develop and operate and 70 to 80 percent more carbon intensive than global oil and gas assets. And as global capital pools for hydrocarbon projects begin to reduce, our analysis suggests the cost of oil and gas production in Africa is expected to rise, making African oil and

gas projects potentially even less competitive in global markets.

Under McKinsey's achieved commitments energy transition scenario, the replacement of approximately 60 percent of Africa's current oil production could become uncompetitive by 2040 (Exhibit 2). As oil majors shift toward lower-emission basins, Africa's oil-producing countries could find themselves deprioritized for further development and facing an increased risk of stranded assets with significant oil and gas reserves remaining untapped. This could put further pressure on government spending and impact development priorities; more than half of African oil and gas producing countries rely on oil and gas exports for more than 50 percent of their total export revenues.¹⁰ In Nigeria, for example, petroleum exports make up more than 85 percent of the government's total export revenues.¹¹

The opportunity: Leveraging the energy transition

Despite these challenges, the shift to a low-carbon future could create significant opportunities for oil and gas producing countries in Africa; several options exist for them to potentially strengthen the resilience and sustainability of their resource

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⁸ South African carbon tax, International Energy Association, updated June 30, 2020.

⁹ S&P Global, Performance Analytics by McKinsey.

¹⁰ Observatory of Economic Complexity Database.

¹¹ Nigeria facts and figures, annual statistical bulletin 2021, Organization of the Petroleum Exporting Countries.

bases and build robust positions in the new energy businesses of the future. The speed and the urgency of the actions required, and which levers to pull, will depend to a large degree on the level of reliance that

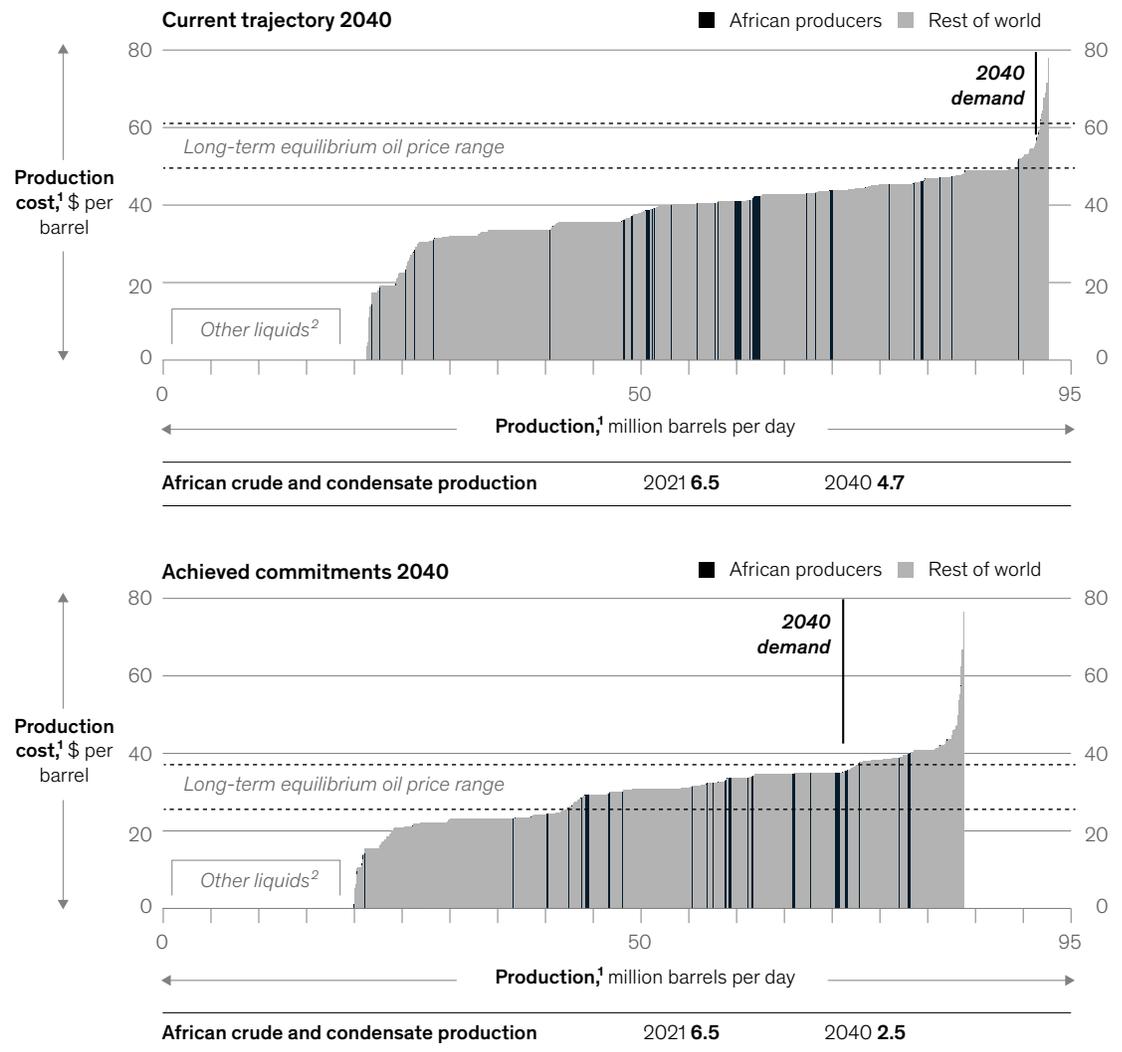
each country has on oil and gas revenues and where they sit on the global hydrocarbon cost curve.

African countries can be categorized into four archetypes based on the resilience of their crude

Exhibit 2

Material share of potential 2040 oil and gas production in African nations is concentrated on the more expensive end of the global cost curve.

2040 global liquids cost curve, resource type, and life cycle per country



¹Includes technical cost (capital expenditures, operating expenditures, exploration expenditures) and government take (taxes and royalties); cash cost for existing fields and full life cycle cost for greenfield project developments. Production cost is capped at \$100 per barrel of crude oil for presentation purposes.

²Includes biofuels, gas-to-liquids (GTLs), coal-to-liquids (CTLs), methyl tertiary-butyl ether (MTBE), refinery gains, and natural gas liquids (NGLs); break-even costs are not shown.

Source: McKinsey Energy Insights Global Energy Perspective 2021

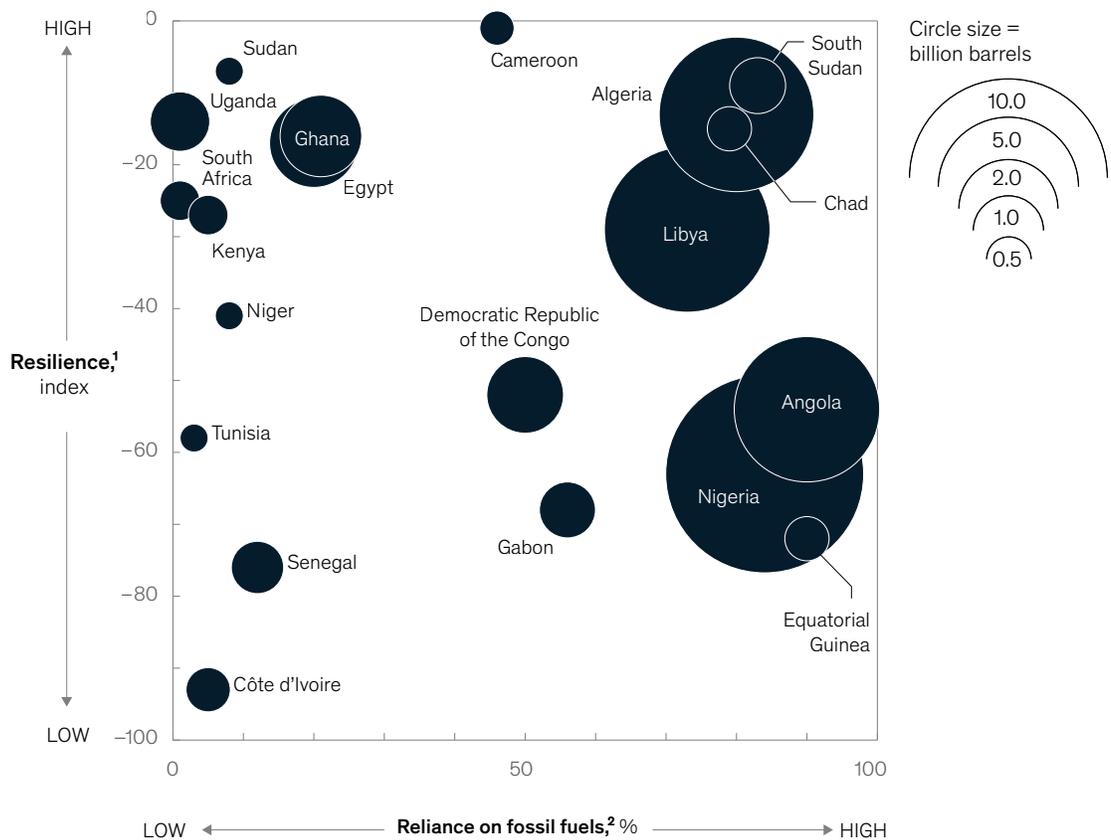
oil reserves and the extent of their economic reliance on oil and gas revenues (Exhibit 3). Countries with more than 50 percent of projected oil production at risk in the event of a more rapid energy transition (achieved commitments scenario) can be considered vulnerable, while those with less than 50 percent of production at risk are likely to be more resilient to global shifts. This analysis focuses primarily on the competitiveness of African crude supply, given the global nature of oil demand

and supply dynamics. In general, countries with significant gas production could expect their gas reserves to be more resilient than their oil reserves under a range of energy transition scenarios. However, it is worth noting that in Africa, more than one-third of gas production is associated gas—gas produced as a byproduct of crude oil production—and therefore the resilience of gas production in Africa is linked, at least partially, to the resilience of the continent’s crude oil production.¹²

Exhibit 3

African countries can be grouped into four archetypes based on resiliency of hydrocarbon reserves and economic reliance on fossil fuels.

2022–40 African oil production (current trajectory scenario)



¹Resilience: How much of a country's production will be at risk of falling "out of the money" in the "achieved commitments" scenario? Index based on % change in 2040 production between "current trajectory" and achieved commitments scenarios.
²Reliance: How reliant is the economy on fossil fuels? Index based on oil and gas export revenues as a % of total export revenues.
 Source: McKinsey Energy Insights Global Energy Perspective 2021

¹² Rystad UCube Database, accessed May 5, 2022.

Nigeria and Angola are examples of countries that have both lower oil-resource resilience and economies that are heavily reliant on the production of oil and gas. Countries in this archetype could consider implementing levers to strengthen the cost competitiveness of their resources, such as optimizing fiscal terms, addressing sources of cost premium (for example, insecurity), and improving the ease of doing business. These countries could further strengthen the resilience of their resources by considering initiatives to decarbonize their existing oil and gas operations and encouraging investment in lower-carbon energy infrastructure such as gas pipelines. This could reduce the risk of stranded gas resources. Countries in this archetype could diversify their energy revenues by fostering an enabling environment to encourage scale-up of renewable-energy projects that provide exposure to new energy revenue streams and help to ensure energy supply.

By contrast, Senegal and Côte d'Ivoire are examples of countries that are less reliant on the production and sale of oil and gas but have oil resources that are less resilient under a more rapid energy transition. Countries within this archetype could focus on spurring investment in renewable-energy or carbon-offset businesses, while also decarbonizing their existing production to extend their license to operate.

Countries with higher resource resilience and lower oil and gas revenue reliance, such as Egypt or Ghana, could focus on protecting their already resilient reserves by decarbonizing their existing oil and gas operations. This would help to maintain the competitiveness of their production in key destination markets such as Europe, which are likely to be subject to carbon border adjustment mechanisms. These countries could also focus on growing investment into renewable-energy businesses to generate new revenue streams.

Finally, Algeria and Libya are examples of oil-producing nations whose reserves are more cost competitive and for whom oil and gas revenues represent a large share of overall national revenues. These countries could prioritize protecting their cost-competitive reserves by taking measures to reduce emissions from their existing operations, while also exploring opportunities to diversify their energy revenues through investment in renewable-energy projects.

No matter where a country falls in this matrix, prioritizing the sustainability of oil and gas production will be increasingly important for all. To position themselves optimally in the energy landscape of the future, we highlight three dimensions on which African oil and gas producing countries could focus: decarbonizing and improving the cost efficiencies of their existing resource bases, increasing their energy supply through lower-carbon infrastructure projects, and investing in renewable energies.

Decarbonizing and improving cost efficiency of the existing resource base

Decarbonizing oil and gas production could help African countries reduce emissions while also extending their license to operate into the future. Focusing on sustainability and decarbonization also presents an opportunity for oil and gas producers to reduce their cost of capital and retain access to customers who are increasingly prioritizing production that has lower carbon intensity. For example, last year Occidental Petroleum delivered two million barrels of carbon-neutral oil to Reliance Industries in India. The emissions offsets for the transaction were sourced from a variety of projects and applied against the crude cargo shipment.¹³

Technologies to decarbonize the extraction and production of hydrocarbons already exist and many are economically viable. A potential first step could be to optimize operations by minimizing heat

¹³ "Oxy Low Carbon Ventures, together with Macquarie, deliver world's first shipment of carbon-neutral oil," Occidental Petroleum press release, January 28, 2021.

and power demands and optimizing feedstocks to ensure more energy efficiency. Sustainable-design choices, for example, monetizing wasted gas from flaring, minimizing fugitive emissions, and deploying zero-carbon energy supply such as solar power for energy at the well pad are also now available for deployment and increasingly present economic benefits.¹⁴ Further downstream, CO₂ released from large point sources such as oil refineries could be captured and used in other applications or permanently stored in deep geological formations, including depleted oil and gas reservoirs or saline formations. Beyond initiatives to directly decarbonize operations, oil and gas sector players could consider, as a last resort, offsetting their emissions or generating carbon credits by implementing nature-based solutions that protect or improve natural ecosystems that sequester atmospheric CO₂. Such initiatives could include forest conservation, reforestation, and improved land practices, among others.

To improve the cost competitiveness of their resource bases, African oil and gas producing countries could consider a range of levers. First, national governments could explore optimizing their fiscal regimes to improve their resources position on the resource supply curve. For example, Nigeria recently passed the Petroleum Industry Act, which among other provisions introduced a fiscal framework designed to improve the cost competitiveness of the basin. Host governments could additionally consider initiatives to reduce operating costs, by addressing regional insecurity, for example. There are also regulatory levers that African producer countries could consider to improve the cost environment, including ensuring that local content regulations strike an appropriate balance between building local-industry capacity and reducing costs. Lastly, African oil and gas producing countries could implement measures to generally improve the ease of doing business, including streamlining the permitting processes and

strengthening contract enforcement, which could also help to reduce operating costs.

Increasing energy supply through lower-carbon infrastructure projects

As Africa's demand for energy increases, the need for projects that boost energy supply on the continent will likely rise, notably in the core demand centers of its larger economies: Egypt, Nigeria, and South Africa. Investment in lower-carbon-energy infrastructure projects, especially gas pipelines, processing infrastructure, and liquified petroleum gas (LPG), could enable African countries to promote intraregional trade and boost global exports of African energy products, while also helping to strengthen regional energy access. To ensure bankability, these infrastructure projects would likely need to incorporate decarbonization or carbon offset levers.

For example, McKinsey analysis suggests that despite having the largest proven gas reserves on the continent, Nigeria could find itself in a situation in which gas demand outstrips gas supply by 2030 by at least three billion cubic feet per day. This presents a potential opportunity for investment in gas infrastructure such as gas pipelines, gas processing facilities, and coastal LNG regasification to connect currently stranded gas reserves onshore and offshore with domestic industrial, commercial, and power demand centers.

Certain natural gas investments are consistent with Nigeria's recently announced commitment to reach net zero by 2060. Our analysis indicates that Nigeria's net-zero 2060 plan will require significant expansion of on-grid electrification. In the short term this will come from flexible gas-based power generation to compensate for renewables intermittency until cost-competitive, long-duration energy storage solutions become available. Expanding on-grid electricity supply via increased gas-powered generation will require investments in

¹⁴ Paul Gargett, Stephen Hall, and Jayanti Kar, "Toward a net-zero future: Decarbonizing upstream oil and gas operations," McKinsey, December 6, 2019.

To help secure energy resilience into the future, African oil and gas producing countries could also consider investing in renewable-energy projects.

gas pipeline and processing infrastructure to move natural gas from its source of supply to gas-powered generation plants. Increasing on-grid electrification could also help to displace more carbon-intensive decentralized power sources; McKinsey estimates that there is between 40 and 60 gigawatts of installed capacity of diesel and petrol generators in Nigeria, generating approximately 33 metric tons of CO₂-equivalent (MTCO₂e) each year—12 percent of Nigeria's total emissions.¹⁵

Countries in West and East Africa with significant gas reserves could consider developing cross-border gas pipeline infrastructure to connect to regions where gas will be in significant demand, including countries in North Africa and southern Africa. Alternatively, African countries with significant natural gas demand could invest in coastal LNG regasification plants to allow gas to be imported from other African countries with LNG export capabilities.

Looking globally, there is also potential for increased demand for natural gas resources from Africa, after the European Commission¹⁶ announced a plan to make Europe independent of Russian fossil fuels before 2030, following the invasion of Ukraine.

This demand could potentially be met through investment in gas-export infrastructure such as LNG export terminals or continental gas pipeline projects to deliver African natural gas to European and other global customers.

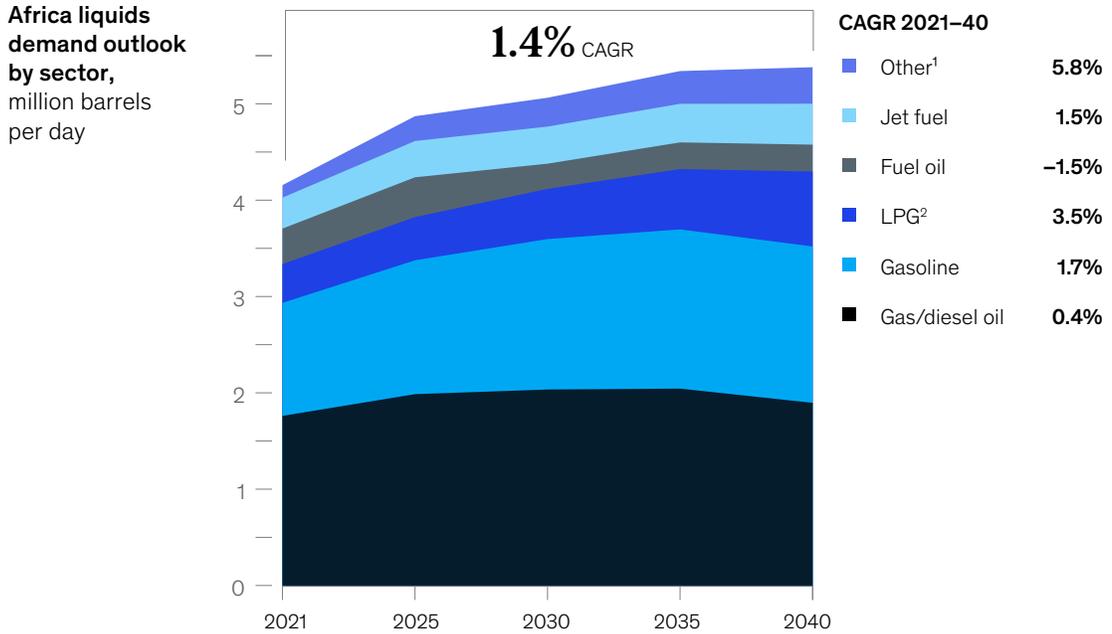
For refined petroleum products, McKinsey analysis suggests that African demand will grow from 4.1 million barrels per day today to approximately 5.3 million barrels per day by 2040, nearly half of which will need to be imported based on existing and planned refining capacity (Exhibit 4). This could create opportunities for lower-carbon projects such as biofuels production, including bioethanol and biodiesel—to partially offset gasoline and diesel demand—or increasing LPG production, bottling, and distribution infrastructure. For example, in Nigeria, carbon-intensive cooking, such as firewood, charcoal, and kerosene, generates an estimated 37 MTCO₂e per year—roughly 14 percent of Nigeria's baseline emissions. Expanding access to LPG in Nigeria by investing in distribution infrastructure could stimulate the uptake of cleaner cooking fuels for the more than 100 million Nigerians who rely on carbon-intensive cooking fuels, while also being a potential source of carbon credits.

¹⁵ Metric tons: 1 metric ton = 2,205 pounds.

¹⁶ REPowerEU, 2022.

Exhibit 4

Demand for oil products in Africa is expected to grow by 1.4 percent over the next two decades.



¹Includes other oil products, other kerosene products, crude oil, bitumen, petroleum coke, refinery gas, lubricants, naphtha, white spirit and special boiling point solvents, natural gas liquids, paraffin waxes, ethane, refinery feedstocks.

²Liquefied petroleum gas.

Source: McKinsey Energy Insights Global Energy Perspective 2021

Across the continent, a number of such infrastructure projects could be undertaken to simultaneously enhance energy supply, including decarbonizing existing refineries, increasing storage and distribution capacity for refined products, and upgrading port terminal infrastructure.

Investing in renewable-energy projects to generate new revenue streams

To help secure energy resilience into the future, African oil and gas producing countries could also consider investing in renewable-energy projects. Given the high demand for electricity in many African countries, several alternative energy sources such as solar and wind energy have attractive outlooks. Since 2009, renewable-

energy solutions have experienced rapid cost improvements. Installation and operational efficiencies have fallen in the past decade, with reduced lead times across both solar and wind energy. Blue and green hydrogen, nascent technologies with unit costs projected to decline, also hold potential for future export to European demand markets. The government of Namibia has recently announced plans to develop a 300,000-ton green-hydrogen project to supply green hydrogen (hydrogen produced from electrolysis of water using renewable energy) and derivatives to regional and global markets.¹⁷

African oil and gas producing countries could also look to their natural ecosystems for significant new

¹⁷ Green Hydrogen Namibia.

carbon-abatement revenue streams. For instance, protecting, sustainably managing, or restoring Africa's plentiful natural ecosystems could represent a carbon abatement opportunity of 1.2 gigatons of CO₂ per year.¹⁸

New business opportunities such as these would likely require support from a number of stakeholders. Market changes may also be necessary. In the case of blue hydrogen (hydrogen produced from natural gas through the process of steam methane reforming), for example, carbon pricing would be an important enabler.

Each new project would need to be assessed on its ability to attract funding and how well it aligns with its host country's Nationally Determined Contribution, and the suitability of development in that region.¹⁹ For example, Algeria, Chad, Egypt, and South Africa are particularly well placed for wind and solar energy, while the availability of plentiful natural gas resources in countries such as Nigeria presents opportunities for the production of blue hydrogen.

Preparing for the new energy landscape

While the speed of the energy transition is uncertain, there is no doubt that the world is moving toward a low-carbon future. African oil and gas producing nations will need to evolve their strategies to prepare for this, taking into account the particular challenges and opportunities at stake in their context. In charting a pathway toward the new energy landscape, we present here three broad actions that could be considered.

1. *Create an enabling environment to stimulate investment*

A supportive environment could enhance the development of renewable-energy projects.

African governments could consider initiatives to stimulate investment in the decarbonization of existing operations and in new energy projects while pioneering sustainable-energy opportunities in Africa. Some countries including Kenya, Malawi, and Rwanda have already introduced incentives such as tax holidays, value-added tax exemptions, and import-duty exemptions for renewable-energy businesses to encourage the sector to scale up.²⁰ Kenya has also announced plans to launch an emissions-trading system that allows companies to buy emissions allowances through a carbon-credit and green-asset registry.²¹

African nations could also consider facilitating collaboration among key stakeholders in the private sector, nongovernmental organizations, and others, to develop perspectives on sustainable-energy policies to stimulate investment, consider cross-border decarbonization approaches, and to enhance contract approval processes for renewable energy opportunities that reduce the time and costs incurred in the contracting phases.

2. *Access available capital pools*

Ensuring energy resilience and security in the new energy landscape may require different approaches to financing projects. Investment in renewable energy has increased tenfold in Africa over the past decade, from \$5 billion from 2000 to 2009 to approximately \$55 billion in 2010 to 2020—approximately 70 percent of which was destined for southern and North Africa.²² Stakeholders could look to tap into these financing sources including governments, donors, climate-focused investors, and international energy players—that are already active in the new energy sector and offer attractive access to capital pools.

¹⁸ "Green Africa: A growth and resilience agenda for the continent," McKinsey, October 28, 2021.

¹⁹ The UN Paris Agreement requests each country to outline and communicate its post-2020 climate actions, known as their Nationally Determined Contributions (NDCs), which embody efforts to reduce national emissions and adapt to the impacts of climate change.

²⁰ Esther Mukami Githinji, "Tax incentives on renewable energy," Clean Energy 4 Africa, November 5, 2021.

²¹ "Kenya setting up emissions trading market, says Ukur Yatani," Sustainable Inclusive Business, May 11, 2021.

²² *Renewable energy market analysis: Africa and its regions*, International Renewable Energy Agency, January 2022.

To improve bankability of oil and gas projects, project sponsors could prioritize decarbonization in the design phase and consider incorporating carbon-offset opportunities. A recently announced \$10 billion deal between TotalEnergies SE, the China National Offshore Oil Corporation, the Uganda National Oil Company, and the Tanzania Petroleum Development Corporation is a case in point. The project, which aims to develop crude oil production in East Africa, also intends to take steps to limit greenhouse-gas emissions to below 20 kilograms CO₂e per barrel of oil, including by solarizing the East Africa Crude Oil Pipeline and extracting LPG for use in local markets to offset more carbon-intensive cooking fuels. The project also includes a commitment to develop one gigawatt of renewable energy.²³

Additionally, as global funding shifts away from oil and gas projects, African countries may need to increasingly seek domestic sources of financing to unlock lower-carbon energy projects. Governments, sovereign wealth, and export/import banks could play an important role as anchor investors. For example, in the past year, the African Export-Import Bank (Afreximbank) signed a \$1 billion deal with the state-owned Nigerian National Petroleum Corporation (NNPC) to finance petroleum exploration.²⁴

3. *Attract skills and develop the capabilities needed for the energy future*

McKinsey analysis suggests that approximately 40 percent of oil production in African countries is controlled by international energy players that are increasing their focus on renewable energy, carbon-emissions reduction, and cost containment. There is a significant risk of a technical and skills gap if international players continue to divest from the region. To help address this, African countries could consider

increasing and strengthening local oil and gas workforce capabilities while also attracting and investing in the talent, skills, and expertise needed to grow sustainable-energy businesses. In the short term, stakeholders could look to drive regional content policies to increase local participation across the oil and gas value chain and coordinate global recruitment campaigns to attract the required professionals.

In the longer term, there may be an opportunity to explore the development of regional centers of excellence to share best practices and develop oil and gas knowledge and to create knowledge-transfer mechanisms between international and national partners. Stakeholders could also invest in partnerships with local universities to develop relevant new curricula to nurture homegrown talent and skills to support the energy transition. It will also be vital to develop programs to reskill and transition oil and gas workers to adjacent opportunities.²⁵ For example, in Nigeria, Actemium oil and gas training has, since 2020, been helping to transition oil and gas workers into the offshore-wind sector by offering a suite of safety and technical training standards and qualifications developed by global skills organization Opito to address the skills requirements of a net-zero economy.²⁶

McKinsey analysis suggests that more than one million jobs in Africa could be vulnerable as global economies transition away from oil and gas and global consumption patterns shift in favor of lower carbon intensity of production.²⁷ The UN Paris Agreement, a legally binding international treaty on climate change adopted in December 2015 at the United National Climate Change Conference (COP 21) in Paris, explicitly calls for countries to pursue a “just transition” that ensures environmental sustainability as well as decent work, social inclusion, and poverty eradication. Given that African countries continue to have

²³ “Uganda and Tanzania: Launch of the Lake Albert Resources Development Project,” TotalEnergies, February 1, 2022.

²⁴ “Afreximbank signs US\$1.04 billion deal with NNPC at IATF2021,” Afreximbank, November 17, 2021.

²⁵ “Green Africa,” 2021.

²⁶ “Opito marks strategic shift, launching new product suite for the renewable energy workforce,” Opito, September 28, 2020.

²⁷ “Green Africa,” 2021.

among the highest poverty rates in the world, the importance of foregrounding just transition principles cannot be overemphasized.

facing energy supply challenges. While these challenges are real, so are the opportunities. Specifically, African stakeholders have a significant opportunity to decarbonize existing production to maintain access to capital and customers. They also have the chance to leverage the energy transition to lead in the creation of renewable-energy businesses that will help to meet the growing energy demand on the continent and create new revenue streams and jobs.

As the world prepares for COP27, African oil and gas producing nations have an opportunity to be proactive in a rapidly evolving global energy sector. Operating in higher-cost, higher-carbon basins has become increasingly difficult in the face of mounting pressure from stakeholders and regulators alike. Furthermore, as African economies look to industrialize to meet the needs of rapidly growing and urbanizing populations, a rise in energy demand could leave many countries

If successful, a strategic shift of this nature could unlock significant value for the continent while reducing the risks of climate change and help to secure a greener and more prosperous future for all Africans.

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