# Africa in the Wider World

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# 7 | The Three Faces of African Energy

Sarah O. Ladislaw

Africa's place in the energy world is defined by its growing population and energy consumption, its legacy and new resource endowment, and its strategic location. In recent years excitement over newfound natural gas resources in East Africa has dominated headlines, heralding speculation about an emerging age of African energy. At the same time, however, increasing discoveries and development of U.S. shale gas and tight oil resources and the reality of the continued turmoil in historically large producing areas like Nigeria and Libya have put a damper on the "rise of Africa" narrative. As a consequence, Africa's energy landscape is far more complicated than any one narrative might suggest. In fact, there are at least three faces of African energy that will have strategic implications for the continent's place in the global energy landscape for the next several decades. Each one requires careful public, private, domestic, and international attention.

## Traditional Oil Exporters: Production Challenges and Changing Patterns of Trade

Several African suppliers have been and remain important contributors of energy resources to the global market. In 2012, the North and West Africa regions together were responsible for around 13 percent of total crude and product exports.¹ Nigeria, Angola, Algeria, and Libya all ranked among the top 15 oil-exporting countries in the world. Together they represented 9 percent of global oil production. However, production in all four countries has been flat or declining since 2010. Libya has experienced the most dramatic fluctuations, due in large part to ongoing political turmoil. Current production is estimated at less than 200,000 barrels per day.² In Nigeria, theft and sabotage continue to hold production below 2 million barrels per day. Algerian and Angolan production are in a state of marginal decline with both countries needing more investment to bring on greater supplies. These major African oil producers and exporters all traditionally serviced U.S. and European markets. With the onset of domestic tight oil production, U.S. imports of African crude oil have declined. Looking forward, African oil producers also see challenging and declining markets for their crude in Europe as well. Increasingly these supplies will likely find their way to markets in Asia.

### New Resource Development: Big Finds, Uncertain Future

Several promising oil and natural gas resource discoveries in recent years have created optimism about Africa's overall resource potential. In West Africa, Angola, Equatorial Guinea, and other countries have undertaken significant offshore development programs to assess the resource potential of their deepwater resources. According to the

<sup>&</sup>lt;sup>1</sup> BP, *BP Statistical Review of World Energy* (London: BP, June 2014), http://www.bp.com/content/dam/bp/pdf/Energy-economics/statistical-review-2014/BP-statistical-review-of-world-energy-2014-full-report.pdf.

<sup>2</sup> U.S. Energy Information Administration (EIA), "Short-term Energy Outlook: Table 3c: OPEC Crude Oil Supply," June 10, 2014, http://www.eia.gov/forecasts/steo/tables/?tableNumber=7#endcode=201512&periodtype=m&startcode=201001.

U.S. Geological Survey, Western Africa's offshore deepwater could hold 71.7 billion barrels of oil, 187.2 trillion cubic feet of natural gas, and 10.9 billion barrels of natural gas liquids.<sup>3</sup> Given the right investment frameworks this potential could be attractive compared to other international investment opportunities. On the east coast of Africa in Mozambique and Tanzania, major world-class natural gas finds have created a great deal of excitement and investor interest. So far three notable oil and gas finds in these two countries alone have revealed an estimated 127–160 trillion cubic feet of recoverable natural gas resources.<sup>4</sup> That said, the development of these resources faces significant challenges, notably the immature and uncertain investment terms over the long run, the lack of domestic capacity and infrastructure to develop, transport, and utilize these resources, as well as governance and institutional capacity issues. All of this is on top of the very dynamic international gas market investment landscape that makes development of costly greenfield projects all the more uncertain.

Finally, several African countries are home to potentially significant unconventional oil and gas resources. Morocco, Algeria, Tunisia, Libya, Egypt, and South Africa were all assessed as part of a recent global Technically Recoverable Shale Oil and Shale Gas study commissioned by the U.S. Energy Information Administration. Of the 137 shale formations assessed in 41 countries, Libya ranked fifth in terms of shale oil potential and Algeria and South Africa ranked third and eighth respectively in terms of shale gas potential. Resource potential by no means guarantees development, and each country is at the very early stages of evaluating the possible commercial opportunities. Development of these prospective resources can be an important contributor to African economic growth but also the global oil and gas market picture. Africa is expected to account for 10 percent of global oil and 9 percent of global gas production by 2035, as well as 23 percent of interregional gas exports and 10 percent of interregional oil exports in that same year.5

### Africa the Energy Consumer

Africa's energy demand is growing faster than any other region of the world and its share of energy exports is expected to decline from 51 percent of production today to 36 percent by 2035 as demand for energy on the continent grows by over 90 percent over that same time period. 6 Sub-Saharan Africa is home to half of the 1.2 billion people who lack electricity, and 17 of the 20 countries with the lowest electricity consumption in the world are in Africa. Addressing this gap is not only important for meeting broader societal development goals but it can also provide enormous investment and technological opportunities for investors. Countries around the world are simultaneously investing in the development of African energy resources and the modern infrastructure (transportation, telecommunications, and electricity) requirements that will underpin future economic growth and investment opportunities. The U.S. government launched its own strategic Power Africa Initiative in 2013 designed as a multigovernment agency, public-private partnership to catalyze investment opportunities starting in six key countries in the region. The initiative brought together

<sup>&</sup>lt;sup>3</sup> U.S. Geological Survey, "Assessment of Undiscovered Oil and Gas Resources of Four West Africa Geologic Provinces," February 2010, http://pubs.usgs.gov/fs/2010/3006/pdf/FS10-3006.pdf.

<sup>&</sup>lt;sup>4</sup> EIA, "Emerging East Africa Energy," May 23, 2013, http://www.eia.gov/countries/regions-topics2.cfm?fips=

<sup>&</sup>lt;sup>5</sup> BP, "Energy Outlook 2035: Africa," http://www.bp.com/content/dam/bp/pdf/Energy-economics/Energy-Outlook/Country\_insights\_Africa\_2035.pdf. <sup>6</sup> Ibid.

35 partners from various regions to commit \$14 billion of funding (not all of it new) to investments that will increase generation capacity, improve electricity connection, boost cross-border electricity trade, and enhance domestic resource management capabilities.<sup>7</sup> The energy infrastructure investment need in Africa far exceeds any single country's efforts or capabilities but it does appear that a new strategic game is afoot to capture not only the resource-development potential in Africa but also the new market for consumption of goods and services.

#### Conclusion

Africa's energy landscape is dynamic and important to regional and global supplies. Part of the exuberance over Africa's economic rise has focused on the new energy discoveries that could serve as engines for growth and sources for energy if developed in a profitable and sustainable manner—big "ifs" over the near to medium term. But African countries without significant energy resources are growing as well, such as Ethiopia, Rwanda, and Zambia. Moreover, energy development is not necessarily a guarantor of a sustainable economic growth and development trajectory and, if mismanaged, can actually serve to undermine economic and political stability goals.

This growth and its implications have garnered a great deal of attention. As the world economy is "shifting east," eastern focus is shifting west. The growing interest of Asian nations—including China and India, but also Middle Eastern countries—in both Africa's resources and growth opportunities is making the Indo-Pacific region one of the most interesting geopolitical areas of growth, opportunity, and possible tension going forward.

The competitive field for Africa's natural resources is well trodden by global entrepreneurs and governments from around the world. The key for many African nations is to encourage development of a natural resource base to fuel an era of sustainable economic growth and development.

<sup>&</sup>lt;sup>7</sup> Earl Gast, "Powering Africa's Future: Examining the Power Africa Initiative," testimony before the Senate Foreign Relations Subcommittee on Africa, March 27, 2014, http://www.foreign.senate.gov/imo/media/doc/REVISED\_Gast\_Testimony1.pdf.