Backgrounder

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Africa's Oil and Gas Sector: Implications for U.S. Policy

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In his 2006 State of the Union address, President George W. Bush said, "[W]e have a serious problem: America is addicted to oil, which is often imported from unstable parts of the world."[1] Increasing political instability in the Middle East and growing U.S., Indian, and Chinese demand for oil have made energy security a paramount concern.

As the 2001 National Energy Policy Report notes, U.S. energy security depends on diversity of supply. African states, particularly West African producers, are an ideal source of U.S. oil imports because transporting oil from Africa is cheaper than shipping oil from the Middle East, and protecting Africa's onshore and offshore reserves is easier.

Increasing U.S. investment in Africa has numerous advantages. Geographically, the United States is much closer to West African oil states than it is to the Middle East. Most African oil reserves are offshore and therefore largely secure from domestic and political tensions. Oil can be transported via open sea lanes rather than through shallow water canals or straits. As a result, African oil accounts for a growing share of the oil refined on the U.S. East Coast.[2] In addition, Africa offers the ideal climate for private investors to create an ethanol industry to supply the U.S. with an alternative energy source and to diversify African economies.

Oil and gas are critical not only to U.S. security and economic health, but also to African nations. Properly managed oil and gas revenues would augment their economies, contribute to much-needed development, and improve their standards of living. Multinational

Talking Points

- Africa's strategic importance has increased as it has become a major potential supplier of oil and natural gas to U.S. markets, increasing U.S. energy security and diversifying U.S. energy sources away from the Middle East.
- Oil and gas are critical not only to U.S. security and economic health, but also to the growth of African nations.
- To attract scarce private global capital to develop Africa's energy sector, the investment climate must be improved, and significant political and economic hurdles must be overcome.
- The U.S. Departments of State, Energy, and Agriculture and the U.S. Agency for International Development should develop a comprehensive strategy to improve Africa's investment climate, focusing on privatization of the energy sector.
- The Departments of State and Energy and the International Energy Administration, with the full participation of energy companies, should create a coordinating forum of major energy-consumer countries.

This paper, in its entirety, can be found at:
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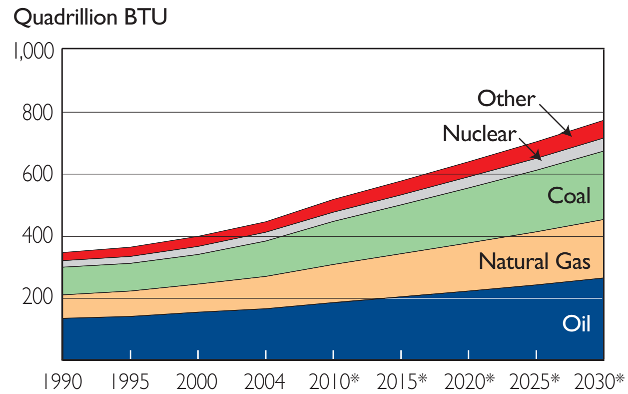
oil companies have the investment resources and technical expertise to make African states wealthier and more competitive. Numerous U.S.-based oil companies—including ExxonMobil, Marathon Oil, and Chevron—already have a strong presence on the African continent.

To help Africa to attract scarce global investment capital, to maximize Africa's energy potential, and to increase U.S. energy security, the U.S. should take the following steps:

- The Department of State, Department of Energy (DOE), Department of Agriculture (USDA), and Agency for International Development (USAID) should develop a comprehensive strategy to improve the investment climate in Africa, focusing on privatization of the oil and gas industry's assets and reserves.
- The State Department, DOE, and International Energy Administration, with the full participation of energy companies, should create a coordinating forum of major energy-consumer countries.
- The Department of Defense (DOD) should work with African governments through its Africa Command (AFRICOM) to determine security needs and improve the security environment in energy provinces and along the coasts of Africa.
- The DOE, U.S. Trade Representative (USTR), and Department of the Treasury should work with Congress to remove tariffs and quotas on sugarcane ethanol before 2009.
- The State Department and USAID should assist West African governments in creating national, independent, and professionally managed oil "generations" funds to address their long-term developmental needs.

Chart 1 B 2052

World Energy Consumption, 1990–2030



* Projected.

Sources: U.S. Department of Energy, Energy Information Administration, "International Energy Annual 2004," May–July 2006, Table 1.8, at *www.eia.doe.gov/pub/international/iealf/table18.xls* (June 29, 2007), and *International Energy Outlook 2007*, May 2007, p. 103, Table B2, at *www.eia.doe.gov/oiaf/ieo/pdf/ieohecon.pdf* (June 29, 2007).

The United States consumes 25 percent of the world's petroleum[3] and 22.5 percent of the world's natural gas.[4] The U.S. imports 13.5 million barrels per day (MMBD), which accounts for 63.5 percent of U.S. consumption (20.6 MMBD).[5] Since 1973, U.S. consumption of foreign oil has escalated as a percentage of total consumption.[6] The available data indicate that this trend will continue and that global oil consumption will increase by 76 percent over the next 30 years and natural gas consumption will increase by 153 percent.[7] (See Chart 1.)

1. George W. Bush, "State of the Union Address," January 31, 2006, at *www.whitehouse.gov/stateoftheunion/2006* (March 5, 2006).
2. Paul Michael Wihbey and Barry Schutz, eds., "African Oil: A Priority for U.S. National Security and African Development," Institute for Advanced Strategic and Political Studies *Research Papers in Strategy* No. 14, May 2002, pp. 2–5, at *www.iasps.org/strategic/africatranscript.pdf* (May 10, 2007).
3. U.S. Department of Energy, Energy Information Administration, *Annual Energy Review 2006*, Table 11.10, June 27, 2007, *www.eia.doe.gov/emeu/aer/inter.html* (April 19, 2007).
4. *Ibid.*, Table 11.12.
5. U.S. Department of Energy, Energy Information Administration, "U.S. Weekly Petroleum Products Product Supplied," at *http://tonto.eia.doe.gov/dnav/pet/hist/wrpupus2w.htm* (March 31, 2006).
6. Alan Greenspan, "Oil Dependence and Economic Risk," testimony before the Committee on Foreign Relations, U.S. Senate, June 7, 2006, at *www.senate.gov/~foreign/hearings/2006/hrg060607a.html* (May 3, 2007).

With crude oil prices above $60 per barrel and demand steadily increasing, the prospect of more African oil production coming on line should make both consumers and policymakers optimistic. With the exception of Angola and Nigeria, West African oil producers are not members of the Organization of Petroleum Exporting Countries (OPEC) and are therefore not subject to its dictates.

Africa's Growing Importance

Many Americans do not recognize the importance of Africa, particularly West African oil. Currently, over 18 percent of U.S. crude oil imports comes from Africa, compared to 17 percent from the Persian Gulf. (See Table 1.) Nigeria accounts for 47 percent of African oil imports, and Algeria and Angola provide 19 percent each.[8] A discussion paper issued by the National Intelligence Council in 2004 predicts that the U.S. will import 25 percent of its oil from Africa by 2015.[9]

Table 1 B 2052

U.S. Oil and Products Imports from Africa

Source	2000 Imports*	2000 Share	2005 Imports*	2005 Share
Nigeria	896	7.82%	1,166	8.50%
Algeria	225	1.96	478	3.49
Angola	301	2.63	473	3.45
Gabon	143	1.25	128	0.93
Chad	0	0.00	97	0.71
Equatorial Guinea	8	0.07	70	0.51
Congo, Republic of	52	0.45	32	0.23
Egypt	11	0.10	15	0.11
Cameroon	7	0.06	8	0.06
Congo, Democratic Republic of	8	0.07	2	0.01
Ghana	5	0.04	2	0.01
South Africa	2	0.02	1	0.01
Tunisia	3	0.03	4	0.03
Total U.S. Imports from Africa	**1,661**	**14.50%**	**2,476**	**18.05%**
Total U.S. Imports	**11,459**	**100.00%**	**13,714**	**100.00%**

* 1,000 barrels/day.

Source: U.S. Department of Energy, Energy Information Administration, "U.S. Imports by Country of Origin," updated April 19, 2007, at *tonto.eia.doe.gov/dnav/pet/pet_move_impcus_a2_nus_ep00_im0_mbblpd_a.htm* (April 19, 2007).

The main focus of this paper is to identify the formidable barriers to investment in the African energy sector and how they can be reduced. For African nations to attract the investment capital required to develop their energy resources, they will need to create a more attractive investment climate. Creating a hospitable investment climate should be a priority for African governments, the U.S. government, the private sector, and market-oriented non-governmental organizations (NGOs).

Investment Barriers

Africa is one of the world's most difficult places to do business. In many African oil-producing countries, investors face arbitrary or nonexistent law enforcement, selective and stifling taxation, conflicting legal codes, high transaction costs, shoddy infrastructure, and pervasive corruption. Key obstacles to foreign investment fall into three main categories.

Political Instability and Corruption. Doing business in Africa requires facing significant political risks, including coups, ethnic strife, resource battles, and unstable transfers of power. Investment in the energy sector incurs even greater risks because of large initial capital costs and longer time horizons. If a new regime takes power and expropriates a multibillion-dollar project without paying full and fair compensation, investors can lose their entire investment.

Political instability often arises when state budgets depend on petroleum revenues and various political factions compete for control of the cash flow. For any given five-year period, the chance of a civil war in an African country varies from less than 1 percent in countries without resource wealth to nearly 25 percent in countries with such

7. U.S. Department of Energy, Energy Information Administration, "International Energy Outlook 2006," June 2006, at *www.eia.doe.gov/oiaf/ieo/excel/ieoreftab_2.xls* (April 17, 2007).
8. U.S. Department of Energy, Energy Information Administration, "U.S. Imports by Country of Origin," updated April 19, 2007, at *http://tonto.eia.doe.gov/dnav/pet/pet_move_impcus_a2_nus_ep00_im0_mbblpd_a.htm* (April 19, 2007).
9. National Intelligence Council, "External Relations and Africa," discussion paper, March 16, 2004, at *www.dni.gov/nic/PDF_GIF_2020_Support/2004_03_16_papers/external_relations.pdf* (May 10, 2007).

resources.[10] Oil may be a curse rather than a blessing to countries without appropriate institutional mechanisms.

In addition to fighting over control of oil revenues, the presence of oil often leads to government neglect of other economic sectors, such as agriculture. The World Bank has documented numerous cases in which oil retards the economic growth of exporting countries.[11]

Corruption discourages investment because it acts like a tax, increasing the cost of doing business. Furthermore, the Foreign Corrupt Practices Act prohibits U.S. companies from engaging in corrupt transactions. Sadly, African oil-producing and gas-producing countries are among the most corrupt in the world. Of the 163 countries ranked in 2006 by Transparency International, a Berlin-based corruption watchdog, Algeria ranked 84th, Gabon ranked 90th, Nigeria and Angola tied for 142nd, and Chad ranked 156th, with the 163rd being the most corrupt.[12]

Oil by itself is not necessarily the problem. Professor Terry Karl, a prominent authority on the "Dutch disease" and "resource curse," explained: "Oil in itself means nothing. What matters is the social and political and economic institutions in which oil is inserted. Oil can be a force for development or it can be force for war."[13] If high budget revenues from oil are reinvested in African energy sectors, including biofuels, institutions will need to be strengthened to provide the necessary checks and balances and market incentives.

Lack of Property Rights. The first institution that should be strengthened is property rights. The *2007 Index of Economic Freedom*, published by The Heritage Foundation and *The Wall Street Journal*, found that African countries generally perform poorly in protecting property rights.[14] Clearly written and well-enforced land and mineral rights laws form the bedrock for economic development and help to attract foreign investment. The more secure a country's property rights are, the greater the incentive for foreign firms to invest.

Secure property rights—including a low risk of license revocation or nationalization of assets—encourage foreign investment and boost economic growth. In China, improving property rights, starting with agriculture, has helped to raise millions out of poverty by attracting tremendous amounts of domestic and foreign investment.[15] Recent surveys from Poland, Romania, Russia, Slovakia, and Ukraine illustrate that entrepreneurs who believe that their property rights are secure reinvest between 14 percent and 40 percent more of their profits in their businesses than do those who do not believe that their property rights are secure. Farmers in Ghana and Nicaragua reinvest up to 8 percent more when they believe that their property rights are secure.[16]

To attract foreign investment to the energy sector, countries need a pro-investment regulatory legal framework. Canada's federal energy policy reform in the 1980s is an example of the best practices. It improved the investment climate by making the energy sector more market-oriented and improving property rights. Competitive measures were introduced into the sector by loosening ownership restrictions on the upstream oil and gas industries

10. "The Paradox of Plenty," *The Economist*, December 20, 2005.

11. Wihbey and Schutz, eds., "African Oil," pp. 16–17.

12. Transparency International, "Corruption Perceptions Index 2006," 2006, at *www.transparency.org/policy_research/surveys_indices/cpi/2006* (April 17, 2007).

13. *Ibid.*

14. For example, in terms of economic freedom, Algeria, Guinea–Bissau, and Angola were ranked 134th, 148th, and 149th, respectively, out of 157 countries. See Tim Kane, Kim R. Holmes, and Mary Anastasia O'Grady, *2007 Index of Economic Freedom* (Washington, D.C.: The Heritage Foundation and Dow Jones & Company, Inc., 2007), at *www.heritage.org/index*.

15. Commission for Africa, *Our Common Interest: Report of the Commission for Africa*, March 2005, p. 230, at *www.commissionforafrica.org/english/report/thereport/english/11-03-05_cr_report.pdf* (May 7, 2007).

16. The World Bank, *World Development Report 2005* (Washington, D.C.: International Bank for Reconstruction and Development and The World Bank, 2004), p. 79, at *http://siteresources.worldbank.org/INTWDR2005/Resources/complete_report.pdf* (June 1, 2007).

and by removing key fuel subsidies. These provisions were then further strengthened when Canada ratified the North American Free Trade Agreement and eliminated foreign ownership restrictions on production in the frontier lands. These conditions and a traditionally strong commitment to the rule of law and democracy have made Canada a top destination for U.S. firms, which bought over $35 billion in Canadian oil and gas assets in 2001.[17]

In contrast, Zimbabwe has demonstrated some of the worst practices. From 2000 to 2003, President Robert Mugabe authorized the seizure of 4,500 commercial farms, with predictable and devastating results. By 2001, foreign direct investment in Zimbabwe had fallen to zero. Zimbabwe is an even more germane example considering the potential of future commercial farms to become biofuel producers.[18]

A modern, liberal mining code may be a key to attracting investment. A survey by the South African Chamber of Mines found that red tape and regulatory uncertainty cost the mining sector 5 billion to 10 billion rand ($0.7 billion–$1.4 billion) per year in lost investment.[19] A recent survey by the Fraser Institute, a Canadian research body, ranked countries and U.S. states by their mining policies from an exploration manager's perspective. Nevada ranked the highest, while Papua New Guinea, the Congo, Venezuela, Russia, and Bolivia were near the bottom and Zimbabwe ranked the lowest in the survey's history.[20]

Legal Regimes and Regulatory Certainty. A well-functioning, independent, speedy, and impartial court system or conflict dispute mechanism is necessary to improve the investment climate. In Africa, many judiciaries are corrupt and not independent. The Angolan judicial system, ranked 149th out of 157 countries by the *Index of Economic Freedom*, suffers from political interference. In Chad (ranked 147th), magistrates, judges, and other members of the judiciary are appointed by presidential decree, effectively eliminating any separation of powers. The Algerian judiciary (ranked 134) is strongly influenced by the Ministry of the Interior.[21]

Additionally, high court fees prevent many businesses from adjudicating their disputes, and poorly educated judges and lawyers, low salaries, and corruption plague legal regimes in Africa.

Case Studies

Chad, Nigeria, and Sudan illustrate some of the most salient challenges to foreign investment in the African energy sector. Nigeria needs much better security (onshore and offshore), stronger anti-corruption measures, and a better wealth distribution mechanism. Surprisingly, in spite of security concerns and a terrible human rights record, Sudan has undertaken comprehensive reform to improve its investment climate and has attracted foreign investors, including China. Chad provides insight into the international community's efforts to reduce the effects of the "resource curse."

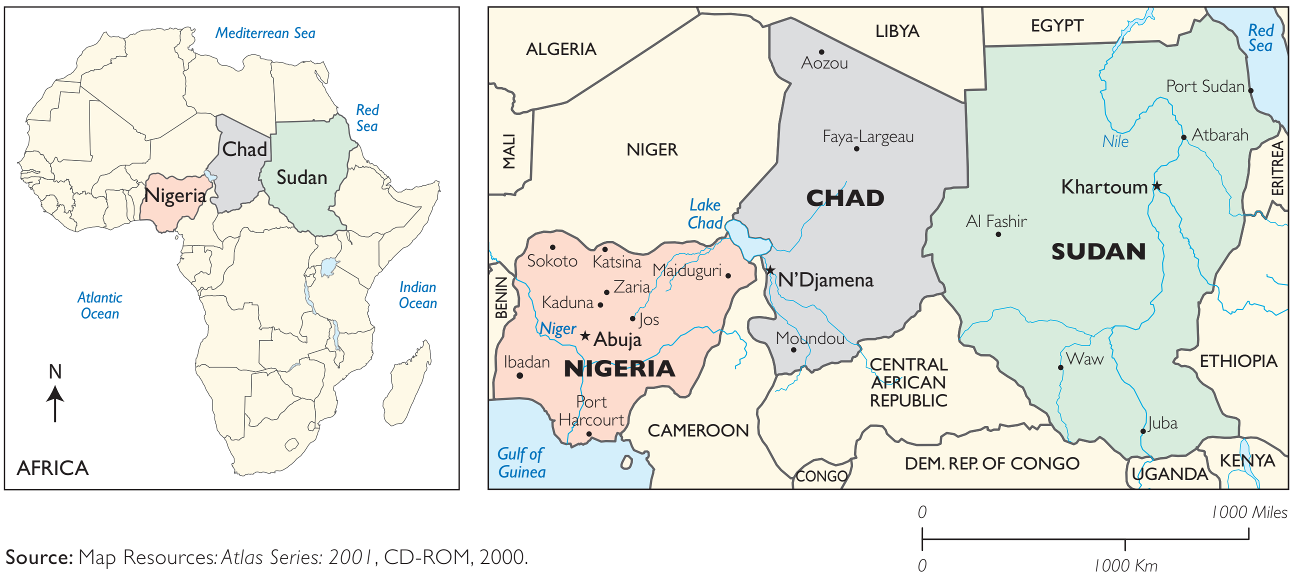
All three countries illustrate the need to diversify away from the petro-state model.

Nigeria. Nigeria is of great strategic importance to the United States. It is the largest oil producer (2.28 MMBD in 2006) in Africa and the 11th largest producer in the world.[22] Only Venezuela, Saudi Arabia, Mexico, and Canada export

17. Council of the Americas, Energy Action Group, "Energy in the Americas: Building a Lasting Partnership for Security and Prosperity," October 2005, at *www.americas-society.org/coa/publications/Papers/FINAL%20-%20COA%20Energy%20Action%20Group%20Report.pdf* (May 20, 2007).
18. For a vivid example of how detrimental the loss of property rights can be to a country, see Craig J. Richardson, "How the Loss of Property Rights Caused Zimbabwe's Collapse," Cato Institute *Economic Development Bulletin* No. 4, November 14, 2005, at *www.cato.org/pubs/edb/edb4.pdf* (May 6, 2007).
19. "South Africa Industry: Undermined," Economist Intelligence Unit *Country Briefing*, November 17, 2006.
20. News release, "Mining Executives Rate the Investment Climate of Jurisdictions Around the World," Fraser Institute, March 22, 2006, at *www.fraserinstitute.ca/shared/readmore.asp?sNav=nr&id=718* (May 9, 2007).
21. Kane *et al.*, *2007 Index of Economic Freedom*.
22. U.S. Department of Energy, Energy Information Agency, "Nigeria," *Country Analysis Brief*, April 2007, at *www.eia.doe.gov/emeu/cabs/Nigeria/Background.html* (May 1, 2007).

Map 1 B 2052

Chad, Nigeria, and Sudan



Source: Map Resources: *Atlas Series: 2001*, CD-ROM, 2000.

more oil to the United States. If currently shut-in oil were brought on line, Nigerian production could reach 3 MMBD.[23]

The Nigerian government is seeking to increase production capacity to 4 MMBD by 2010. In addition, Nigeria has estimated natural gas reserves of 184 trillion cubic feet, and the government is planning to generate as much revenue from gas as from oil by 2010. Over the next three years, Nigeria's oil and gas revenues are projected to reach $67 billion.[24] Nigeria has also embarked on a multibillion-dollar alternative fuels initiative geared toward reinvesting oil revenues into biofuel plantations to produce ethanol from sugarcane.[25] However, investment in Nigeria's energy sector is threatened by a number of formidable obstacles.

The fight over who controls oil revenues underlies many of Nigeria's problems. This is not surprising when one considers how few citizens currently benefit. Although petroleum revenues constitute 90 percent to 95 percent of Nigeria's total budget revenues, only 1 percent of the population receives the money.[26] A small group of foreign oil companies—including Royal Dutch Shell and Chevron U.S.A.—turn over nearly half of their profits to the Nigerian government. As a result, the government does not depend on revenues from the population and therefore does not provide quality services.[27]

23. U.S. Department of Energy, Energy Information Administration, "Crude Oil and Total Petroleum Imports Top 15 Countries," May 4, 2007.
24. Abiola Morgan-Anyakwo and Craig Withers, "B2B Opportunities in Nigeria's Oil and Gas Industry," *The Africa Journal*, Winter 2006, p. 14, at *www.africacncl.org/AfricaJournal/AJ_Winter_2006.pdf* (May 9, 2007).
25. Marianne Osterkorn, "Ethanol in Africa," EcoWorld, July 7, 2006, at *www.ecoworld.com/home/articles2.cfm?tid=389* (May 20, 2007).
26. New America Foundation, "The Petro Mirage: Conversation on Oil's Failed Promises in Developing Countries with Oil on the Brain's Lisa Margonelli," May 16, 2007, at *www.newamerica.net/events/2007/the_petro_mirage* (May 29, 2007).
27. David Adesnik, "Ignoring Nigeria," *The Weekly Standard*, May 14, 2007, at *www.weeklystandard.com/Content/Public/Articles/000/000/013/614ytnro.asp* (May 9, 2007).

This phenomenon, common among oil states, insulates political leaders from popular opinion. Instead of serving the public, they concentrate on securing oil revenues. A Nigerian official involved in anti-corruption efforts has stated that more than $380 billion was stolen or wasted from Nigeria's treasury between 1960 and 1999. During that period, the country produced over $400 billion worth of oil.[28]

Crime and politics are intertwined in the Niger Delta. While most petrol-states have a paucity of jobs, Nigeria's delta region offers ready employment, but only in crime. The region is home to the Movement for the Emancipation of the Niger Delta (MEND), an organization of disenfranchised citizens who are demanding that more of the oil proceeds be distributed to the population. Working for local elites, these rebels (mostly young men) steal oil directly from the pipeline and sell it offshore on the black market for guns and money. The local crime bosses then use the guns and money to consolidate control over land and local offices. This criminal network "bunkers" 40,000 barrels oil per day for an annual income of $1.5 billion.[29]

While operating offshore, MEND agents attack facilities and kidnap and sometimes kill foreign workers. In 2007 alone, there were 18 attacks against oil facilities, and about 70 foreigners were abducted. Thousands of foreign workers have fled, and at least three foreign companies have left, including a private drilling company and pipeline-laying company. As a result of this situation, Nigeria has lost an estimated $16 billion in export revenues since 2005, and Shell has shut down half of its production and has 500,000 barrels per day (bbl/d) shut in.[30]

Offshore workers are not safe either. Four Chevron oil workers were recently kidnapped from a barge off the Nigerian coast.[31] Clearly, security is one of the biggest challenges, but Nigeria's recovery will also depend on economic diversification.

Africa is also a potential source of ethanol, which could help to meet President Bush's call for a 20 percent reduction in U.S. gasoline consumption by 2017. Africa offers the ideal tropical climate for producing ethanol from sugarcane. Expanding the biofuel industry in Africa promises to create thousands if not millions of jobs for the long term, diversifying away from petroleum-based economies that produce few jobs. Increased ethanol production and trade with Africa would also send a strong signal to oil-producing countries, especially OPEC, to stop driving up prices by restricting production.

To tap Africa's potential and expand U.S.–Africa energy cooperation, real barriers will have to be overcome, especially the U.S. 54-cents-per-gallon tariff on ethanol. This tariff violates the principles of free trade and undermines U.S. energy security.

Nigeria has launched a multibillion-dollar alternative fuels initiative, reinvesting oil revenues into biofuel plantations to produce ethanol from sugarcane. If implemented successfully using market mechanisms, this initiative promises to attract massive foreign investment and create tens of thousands of jobs in the biofuel industry. Nigeria could become a model for successful diversification of an oil economy.

Sudan. War-torn Sudan has emerged as a major African oil exporter. After completing a major oil-export pipeline that runs from central Sudan to Port Sudan in 1999, Sudan's oil-exporting revenues have grown rapidly with help from consumer countries, especially China. From 2005 to 2006 alone, Sudan's crude oil production rose from 363,000 bbl/d to 414,000 bbl/d.[32] With new fields coming on line, Sudan anticipates that its oil production will reach 600,000 bbl/d this year.[33] The Economist Intelli-

28. Lydia Polgreen, "Africa's Crisis of Democracy," *The New York Times*, April 23, 2007, p. A1.

29. Adesnik, "Ignoring Nigeria."

30. Robin Knight, "Concerns Grow About Big Drop in Nigerian Oil Production," CNBC, May 9, 2007, at *www.cnbc.com/id/18569318* (May 10, 2007), and U.S. Department of Energy, "Nigeria."

31. *Ibid.*

32. U.S. Department of Energy, Energy Information Administration, "Sudan," *Country Analysis Brief*, April 2007, at *www.eia.doe.gov/emeu/cabs/Sudan/Background.html* (May 1, 2007).

33. Sapa–Agence France-Presse, "Sudan Oil Output to Reach 600,000 bpd," *Business in Africa*, April 3, 2007, at *www.businessinafrica.net/news/north_africa/390808.htm* (May 14, 2007).

gence Unit estimates that almost 90 percent of Sudan's export revenues come from oil.[34] The *Oil and Gas Journal* estimates that Sudan has 5 billion barrels in reserves, mostly in southern Sudan.[35]

With the exception of grave security concerns, Sudan has a good investment climate. Even while under U.S. sanctions, Sudan has received high praise from the International Monetary Fund (IMF) for its comprehensive economic reforms and the government's management of the economy, specifically for managing inflation well and for robust economic growth.[36]

The government in Khartoum prefers development that is led by the private sector. To attract more foreign investment, Sudan has removed key price controls, liberalized its investment code and exchange regime, and reduced trade restrictions. These reforms and high oil prices have created an economic boom in Sudan. Sudan's growth rate has exceeded 5 percent for the past six years, and its gross domestic product is expected to double every five years.[37] Sudan has also been reinvesting in the energy sector.

While Sudan is reeling from what former Secretary of State Colin Powell has called the 21st century's genocide,[38] China continues to support Khartoum by buying half of its oil and supplying it with the arms that help to keep the government in power. In the past few years, Khartoum has doubled its defense budget, spending 60 percent to 80 percent of its estimated $500 million in oil revenues on weapons.[39] Some of these weapons have gone to the government-backed Janjaweed militia, which is accused of displacing over 2 million refugees—mostly into neighboring Chad—and killing more than 200,000 people in the four-year conflict in Darfur.[40]

A new report from Amnesty International cites 2005 trade figures to show that Sudan has imported $24 million in arms from China and $57 million of aircraft parts and equipment. Russia has exported to Sudan $21 million worth of aircraft and military equipment and $13.7 million of helicopters, such as the Russian Mi-24 helicopter gunship.[41] Ignoring international norms, Chinese Defense Minister Cao Gangchuan recently vowed to boost military exchanges and cooperation and stated that "military relations between China and Sudan have developed smoothly."[42] Unconditional support for the regime in Khartoum sets a negative precedent that the international community must continue to resist.

Despite today's positive investment climate, current and future battles will likely figure large in the run-up to southern Sudan's referendum on independence. Signed in 2005, the Comprehensive Peace Agreement (CPA) ended a 21-year civil war that killed 2.2 million people. The CPA stipulates that the people of southern Sudan can vote on independence in 2011. Because Khartoum depends on oil revenues, it will do everything within its power to keep its share of the oil from the south, where the majority of proven reserves exist.

34. Economist Intelligence Unit, "Country Report: Sudan," April 2007.

35. U.S. Department of Energy, "Sudan."

36. David Christianson, "Sudan: Getting In at Ground Level," *Business in Africa*, September 6, 2006, at *www.businessinafrica.net/energy_in_africa/997130.htm* (May 14, 2007).

37. *Ibid.*

38. BBC News, "Powell Declares Genocide in Sudan," September 9, 2004, at *http://news.bbc.co.uk/1/hi/world/africa/3641820.stm* (July 5, 2007).

39. Peter Brookes, "Into Africa: China's Grab for Influence and Oil," Heritage Foundation *Lecture* No. 1006, March 27, 2007, at *www.heritage.org/Research/Africa/hl1006.cfm*.

40. Marc Lacey and Lydia Polgreen, "The Tragedy of Darfur: Ethnic Conflict in Sudan Has Killed 200,000 Civilians and Created 2 Million Refugees," *The New York Times Upfront*, May 8, 2006, at *http://findarticles.com/p/articles/mi_m0BUE/is_14_138/ai_n17212967* (May 29, 2007).

41. Amnesty International, "Sudan: Arms Continuing to Fuel Serious Human Rights Violations in Darfur," May 5, 2007, at *http://web.amnesty.org/library/index/engafr540192007* (June 1, 2007).

42. Ling Zhu, ed., "China, Sudan Vow to Boost Military Exchanges," Xinhua, April 2, 2007, at *http://news.xinhuanet.com/english/2007-04/02/content_5926215.htm* (May 14, 2007).

Chad. Chad has a long history of civil war and exhibits many conditions associated with post-conflict zones. Throughout Chad, running water, electricity, paved roads, and health clinics are generally unavailable. Life expectancy is 46 years for men and 48 years for women.[43] Moreover, in 2005, Transparency International rated Chad the world's most corrupt country. In 2006, Chad fared only slightly better, ranking 156 out of 163.[44]

To overcome its geographic disadvantage of being landlocked, Chad needed a pipeline to make use of its over 1 billion barrels in proven oil reserves. In 1999, conditions inside Chad were so bad that no one in the private sector was willing to invest in a pipeline unless the World Bank was involved.[45] In the first project of its kind, the World Bank agreed to provide investment coupled with institutional oversight and transparency. The World Bank and a consortium of oil companies led by ExxonMobil, ChevronTexaco, and Petronas set up a pipeline project in Chad. This was supposed to be the first international effort to overcome the resource curse.

Construction on the $3.5 billion Chad–Cameroon Petroleum Development and Pipeline Project began in 2000 and was completed in 2004. To increase transparency, Chad was required to adopt the Petroleum Revenues Management Law, which stipulated that Chad's 12.5 percent of the oil revenues would be deposited into a Citibank escrow account monitored by an independent "college" before the Chadian government received it. Another 10 percent was deposited in a "future generations" fund to provide Chad with revenues after the oil reserves are exhausted.[46]

However, in December 2005, Chad's National Assembly abolished the future generations fund and diverted money away from poverty-mitigation efforts to arms purchases. The World Bank responded by suspending $124 million in loans.[47] In July 2006, the two sides reached a compromise, which specified that the Chadian government would commit 70 percent of revenues to development programs and 30 percent to government expenditures.[48]

President Idriss Deby will continue to face major military threats from Sudan-supported rebel groups in east Chad and threats from within the Chadian military. Rebels and military personnel will continue to be paid off with oil revenues. Corruption and investor uncertainty over potential civil war will continue to deter investment.[49] While some have called the Chad experiment a *prima facie* failure, others say that after three years it is still too early to judge.

What the U.S. Should Do

To attract scarce global capital and bolster economic development, African leaders need to develop the political will to overcome investment barriers. While the onus is on African leaders, policy coordination is crucial. Congress, the Administration, and energy companies can take a number of concrete steps to assist Africa.

- **The State Department, DOE, USDA, and USAID should develop a comprehensive strategy to improve the investment climate in Africa, focusing on privatization of the oil and gas industry's assets and reserves.** Liberalization of the energy sector should be made an

43. Central Intelligence Agency, *The World Factbook*, s.v. "Chad," April 17, 2007, at *www.cia.gov/library/publications/the-world-factbook/index.html* (July 1, 2007).
44. Transparency International, "Corruption Perceptions Index 2006."
45. U.S. Department of Energy, Energy Information Administration, "Chad and Cameroon," *Country Analysis Brief*, January 2007, pp. 1–4, at *www.eia.doe.gov/emeu/cabs/Chad_Cameroon/Background.html* (April 24, 2007).
46. Carin Zissis, "Chad's Oil Troubles," Council on Foreign Relations, updated April 27, 2007, at *www.cfr.org/publication/10532/chads_oil_troubles.html* (May 16, 2007).
47. Raymond Thibodeaux, "Anger Rises in Oil-Rich Chad as Funds Don't Aid the Poor," *The Boston Globe*, April 30, 2007, at *www.boston.com/news/world/articles/2006/04/30/anger_rises_in_oil_rich_chad_as_funds_dont_aid_the_poor* (April 30, 2007).
48. U.S. Department of Energy, "Chad and Cameroon," p. 4.
49. Economist Intelligence Unit, "Country Report: Chad," March 2007.

explicit part of the U.S. agenda for Africa. U.S. assistance should emphasize economic freedom and sound property rights. The U.S. should review assistance to countries that have state monopolies in their oil and gas sectors.

USAID should target technical assistance to help governments to privatize oil and gas sectors, establish stable regulatory environments, craft stronger property rights laws, create transparent and fair tax regimes, reform their judiciaries, fight corruption, and train government officials who supervise economic policy and the oil and gas sectors. This should include establishing liberal currency exchange control regimes and developing modern mining codes, especially subsoil legislation.

- **The State Department, DOE, and International Energy Administration, with the full participation of energy companies, should create a coordinating forum of major energy-consumer countries.** The forum should work with African governments and financial institutions to harmonize policy and to develop a more hospitable energy investment environment. The forum could provide a venue for consumer countries to share best practices for increasing investment, promoting transparency and good governance, and fighting corruption. It should review state-of-the-art techniques of oil privatization and revenue generation and distribute this knowledge in Africa. Many African officials, industry managers, and elites are unfamiliar with the best practices of privatizing and instituting publicly accountable and transparent decision-making processes in oil production and revenue distribution.
- **The DOD should work with African governments through Africa Command to determine security needs and improve security environments in energy provinces and along the coasts of Africa.** Greater cooperation with African governments will enhance the professionalism of African armed forces and improve the investment climate by increasing the security of energy resources and onshore and offshore platforms. This could help African militaries to develop doctrines, tactics, techniques, and procedures to protect energy resources. African countries can also apply to participate in the U.S. Foreign Military Sales program to obtain equipment, such as coastal patrol ships, aircraft, and other defense articles.
- **The DOE, USTR, and Treasury Department should work with Congress to remove tariffs and quotas on imported ethanol before 2009.** Rescinding these market-distorting measures would encourage African governments to expand sugarcane ethanol production by ensuring a reliable U.S. market for their ethanol. Until lifted, these trade barriers will continue to hinder development of ethanol as a global, competitive energy commodity.
- **The State Department and USAID should assist African governments in creating national, independent, professionally managed oil "generations" funds.** Such funds would provide revenues after oil resources are exhausted. They should be modeled on Norway's Government Pension Fund and similar funds. Ideally, they would be managed by the private sector. Such measures would go a long way toward legitimizing governments, increasing transparency, and overcoming the resource curse.

  The Departments of State and Commerce and oil companies should also support the Extractive Industries Transparency Initiative (EITI), which seeks to set transparency standards for both investors and governments. Key elements of EITI are (1) public reporting of oil and gas payments by companies to governments and of the revenues received by governments from companies; (2) credible independent audits of payments and revenues; and (3) public release of the report and information on any discrepancies found.[50]

Conclusion

Development and transformation of Africa's energy sector presents a unique opportunity for cooperation between African countries and energy consumers, particularly since Africa is both geo-

50. For more information, see Extractive Industries Transparency Initiative, "EITI Priniciples and Criteria," at *www.eitransparency.org/section/abouteiti/principlescriteria* (July 1, 2007).

graphically closer to the U.S. and safer than the Middle East as a source of energy.

Lack of security, corruption, waste, and mismanagement are inexcusable to all stakeholders. Increasing transparency of oil and gas revenue is vital for Africa, especially as African countries have a great opportunity to use petrodollars to drive economic development. It is also crucial that U.S. oil companies have a level playing field in this harsh environment so that their government-owned competitors cannot simply bribe their way into the choicest projects. Finally, it is important for the U.S. and other principal energy consumers, such as China and India, to ensure that governments supervising foreign investment in Africa maintain a modicum of transparency.

An attractive investment environment, especially in the lucrative energy sector, is the key to Africa's modernization. Developing sugarcane ethanol as an alternative energy sector is an important avenue in diversifying away from oil. The U.S. government and the private sector should strive to be the principal partners of their African counterparts in developing African energy resources for the benefit of Africans and Americans.

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