

Barriers to Energy Investment in Africa and Challenges for the Oil and Gas industry

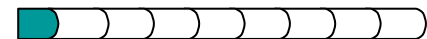
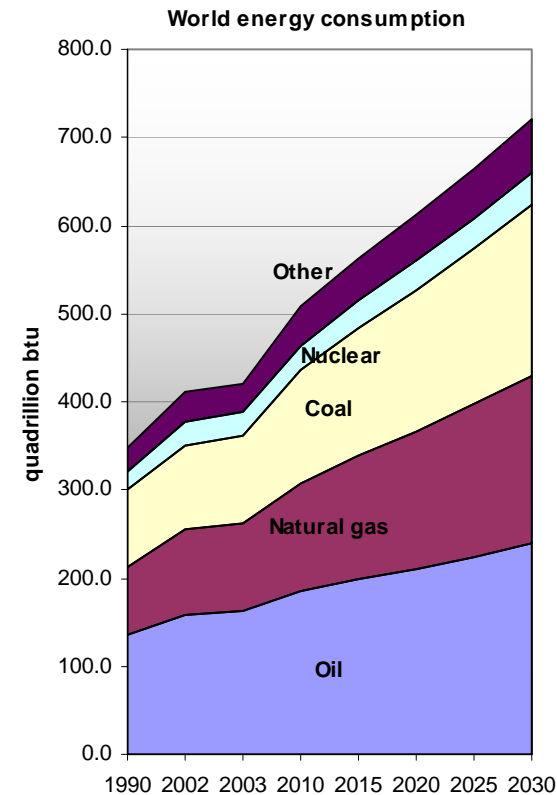
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Key Findings

- **Middle East political risk is increasing; Africa's importance is rising**
- **The worldwide demand for oil and gas will grow, driven primarily by non-OECD Asian countries, the U.S. and Europe**
- **To ensue U.S. energy security, it is crucial to diversify energy sources as well as promote economic freedom and the rule of law in oil producing countries**
- **In Africa, it is essential to create an investment-friendly climate by curbing corruption and the misuse of wealth**

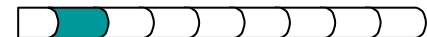
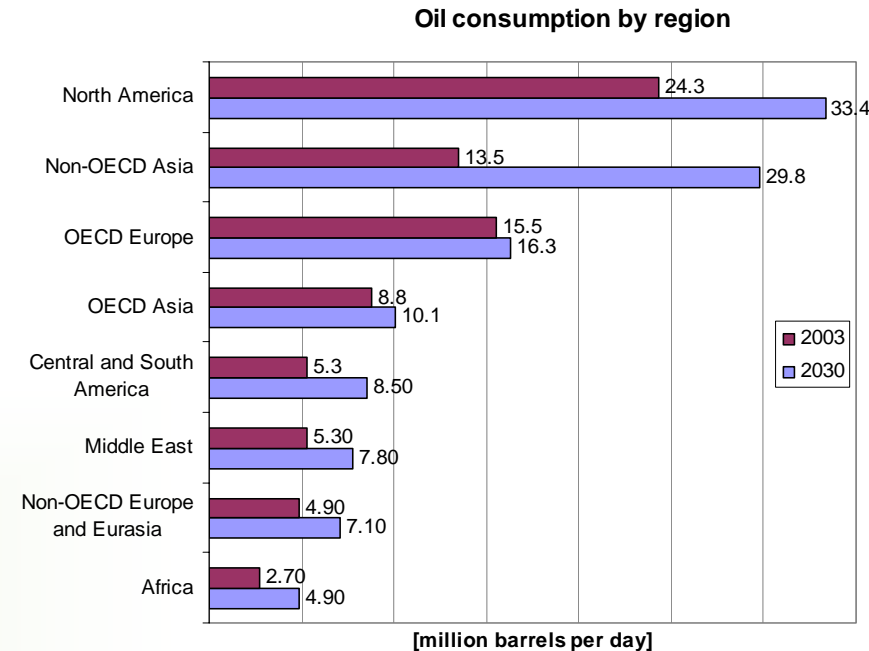
Overview of the Oil and Gas Industry

- **Worldwide consumption of oil and gas will rise by 76% and 153%, respectively, over the next 30 years**
- **Currently, oil supplies more than 40% of total U.S. energy demands, especially for air and ground transportation**
- **Natural gas is displacing coal due to its efficiency and its environmentally friendly characteristics**
- **In 2004, average yearly world oil production was the equivalent of 9.7% of the U.S. GDP. Using today's oil prices and adjusting for inflation, that figure would be over 15% of the 2006 GDP – a jump of 50% over 3 years.**



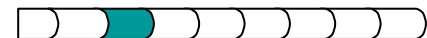
Industry Trends

- The world demand for oil is projected to grow from over 80 million barrels per day in 2006 to 118 million in 2030, an increase of 47.5%
- Gas demand is projected to grow by 82% by 2030
- Non-OECD Asia and North America will account for the most of this growth in demand. The rate of growth will be highest in non-OECD Asian and African countries (3% and 2.3% each year, respectively)
- Current proven oil resources (extractable with current technologies) are estimated at 1,200 billion barrels, and gas reserves at 6,300 trillion cubic feet



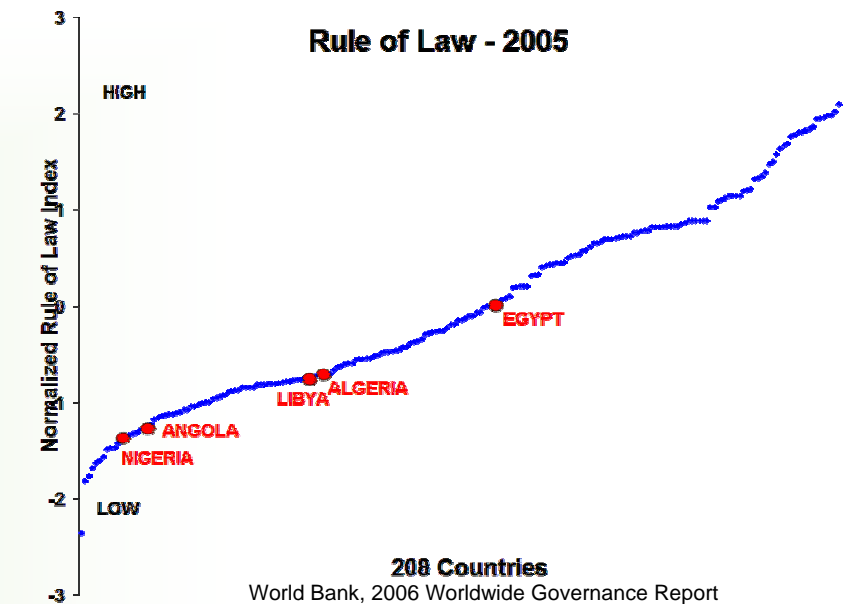
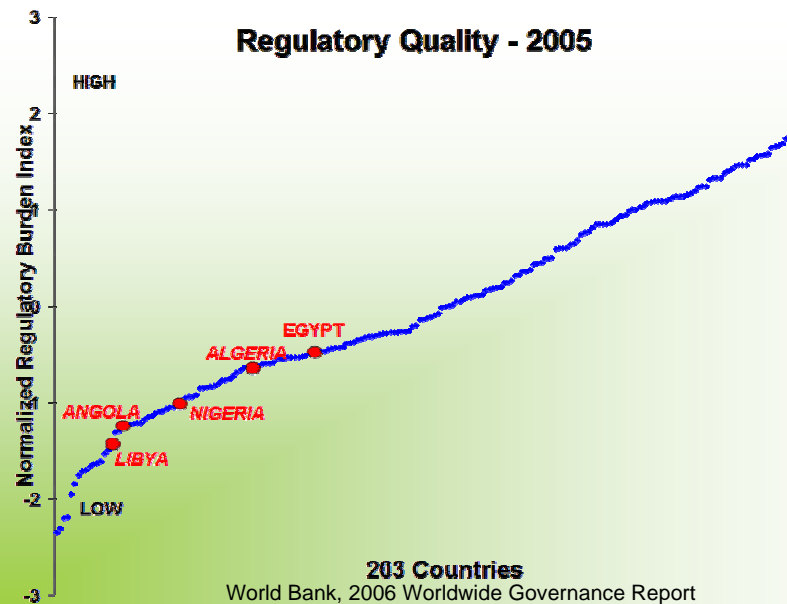
Risks and Obstacles

- **Geopolitics**
Political instability limits the ability of producers to access promising oil and gas basins. In Africa and the Middle East, rising religious, ethnic and tribal tensions result in a security premium, further driving-up energy prices
- **Investment climate in oil & gas producing countries**
Producing countries from the Middle East (30% market share), Eurasia (14%) and Africa (11%) are often characterized by authoritarian political regimes, significant legal obstacles for potential investors, high levels of corruption, and a pervasive disregard for property rights
- **Growing costs of exploration and exploitation**
Growing demand and a scarcity of resources tends to drive companies to drill in harsh and/or remote locations which require large capital investments and a highly qualified workforce



Investment Barriers in Africa

- Oil and gas producing countries in Africa are among the most corrupt in the world. According to Transparency International, out of 158 countries, Chad is the most corrupt at 158, Angola – 157, Nigeria – 152, Somalia – 144, Libya – 117 and Algeria – 97
- Major African oil and gas producing countries all rank poorly in terms of rule of law, regulatory quality, political stability and government effectiveness. Result – an unfriendly investment climate



Source: Transparency International - Corruption Perception Index report, World Bank, Heritage Foundation research



Investment Barriers in Africa

- **Africa scores at the bottom of The Heritage Foundation's Index of Economic Freedom**
 - **In Nigeria, an underfunded judiciary is plagued by corruption and long delays in the hearing of cases. The lack of proper court facilities and computerized systems undermine the effective enforcement of justice.**
 - **In Angola, investment law is vague with regard to profit repatriation; legal safeguards to protect foreign investors are weak; and foreign investments over \$100,000 require government approval and are subject to numerous limitations.**

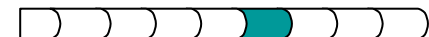
| Index of Economic Freedom 2006 (157 countries) | | |
|---|-------------------|----------------------|
| Rank | Country | Score |
| 119 | Cameroon | 3.46 (mostly unfree) |
| 119 | Algeria | 3.46 (mostly unfree) |
| 128 | Egypt | 3.59 (mostly unfree) |
| 136 | Equatorial Guinea | 3.74 (mostly unfree) |
| 139 | Angola | 3.84 (mostly unfree) |
| 146 | Nigeria | 4.00 (repressed) |
| 152 | Libya | 4.16 (repressed) |

Source: The Heritage Foundation – Index of Economic Freedom 2006



Lost Opportunities in Africa - Chad

- **In Chad, developmental funds for the Chad-Cameroon pipeline have been misused and the rights of local communities repeatedly violated.**
 - **The construction of the pipeline began in October 2000, with the pipeline becoming operational in 2003**
 - **By September 30, 2005, only about 118 million barrels of oil had been produced**
 - **The government of Chad spent the first \$20 million of their World Bank grant on arms rather than on the educational and development projects required by the World Bank. As a result, the credibility of the Chad government was compromised**
 - **Understaffed and poorly motivated, the governmental monitoring staff provided poor project management, which featured seizure of private property and destruction of the local infrastructure**

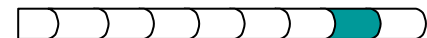


Lost Opportunities in Africa – Nigeria

- President Olusegun Obasanjo transparency initiatives in Nigeria are not progressing sufficiently
- Contracts not published (for example, the Addax/Starcrest affair)
- Allegations of corruption in LNG projects
- Nigerian government has not provided adequate development for the indigenous population in the Niger Delta, resulting in increasing friction between the oil majors and the local population

Lost Opportunities in Africa – Sudan

- **The government of Sudan has failed to publicize existing oil contracts**
- **Oil revenues fuel the civil wars in the South and in Darfur, with spillover effect to Chad**
 - **From 2000 to 2001, Sudan diverted its windfall oil revenues to massive increases in military spending to support the war in the South**
 - **In November 1999, the government officially claimed that military spending amounted to only 15 to 18 percent of the government oil revenue and promised there would be no increases in defense spending. In 1999, military spending was more than 27 percent of the government oil revenue, and in 2001 it was 60.5 percent, according to the figures the government later disclosed to the International Monetary Fund (IMF)**
 - **In 2001 Sudan purchased twenty-two armored combat vehicles (ACV) and twelve attack helicopters. In 2002, Sudan bought another eight ACVs and four attack helicopters, plus fourteen large-caliber artillery systems**



The Chinese Challenge

- China's trade with Africa has grown tenfold since 1995
- Africa now accounts for 30 percent of China's oil imports
- Angola surpassed Saudi Arabia this year to become China's top foreign oil source, and Sudan trails only slightly behind
- China tolerates corruption

Implications for U.S. Policy

- **Making the African oil and gas industry competitive would result in increased security for investors in the region, thus serving U.S. energy security goals**
- **Diversifying the sources of U.S. energy imports will require securing access to, and encouraging increased oil production in Africa**
- **North Africa and sub-Saharan Africa accounted for 18.6% of U.S. oil imports in 2005, compared to 17.4% from the Middle East. Within the next decade, U.S. imports of African oil are forecast to increase to at least 25% of total U.S. imports.**
- **A growing market share of African oil and gas producers (from 3.2 million barrels per day in 2003 to 8.9 mbd in 2030, i.e., from 4% market share in world output to 7.55%) will make African producers increasingly important to the U.S.**

