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## Introduction

Africa has considerable oil and gas resources that can help accelerate growth on the continent if used strategically. Although new resources are discovered progressively, they are *not* equally distributed; indeed, 38 African countries are currently net oil importers. High and volatile oil prices are thus a challenge for all of Africa; they represent an opportunity to be pursued for exporting countries and an obstacle to be tackled for importing countries.

The broad objective of this report is to shed light on the key issues related to the social, environmental, and economic impacts of high and volatile oil and gas prices. This includes a discussion of Africa's oil and gas status, from a worldwide perspective, and the continent's major challenges and opportunities in the energy sector.

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### 1.1 Renewed Focus on Oil and Gas

For many, the twenty-first century is the “hydrocarbon century” as the dynamics of global energy markets have become distinctly marked by sharp increases in global demand and severe supply shocks that are hitting global economies. These trends are causes of concern as they affect economic performance, especially in oil-importing African countries.

Key reasons for the renewed attention on global oil shocks relate primarily to their impact on macroeconomic variables, notably inflation, the exchange rate, current account and fiscal balances. The effect of oil price shocks is more pronounced in developing net oil-importing countries, 38 of which are located in Africa (African Development Bank, 2008). These countries have been more severely hit than developed countries, partly because they are more dependent on imported oil, but mostly because energy use is far less efficient in these countries than in developed countries. In this context, the International Energy Agency (IEA) estimates that “... on average oil-importing developing countries use more than twice as much oil to produce a unit of economic output as do the OECD countries” (IEA, 2004). This high dependency on energy inputs, coupled with low efficiency in energy use, takes a toll on developing economies. Oil price shocks in net oil-importing countries are transmitted through a number of main channels:

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*First*, the supply-side effect creates immediate economic distortions that hit oil-intensive production sectors. The supply-side effect refers to the reduced availability of a key production input (oil) when oil prices rise. Because the cost of other production inputs, notably labor, do not fall, the overall per unit cost of production rises, leading to reduced output levels. Since output prices do not necessarily rise with increasing oil prices, the profit margins of oil-intensive production sectors plummet and may have an overall negative effect on the macro economy.

*Second*, it is a well-established fact that a rise in oil prices leads to deterioration in the terms of trade of net oil-importing countries, and, subsequently, to a fall in the purchasing power of firms and households in net oil-importing countries (Dohner, 1981). This is essentially a transfer of wealth from net oil-importing to net oil-exporting countries. However, some argue that the effect of high oil prices can also be indirect, which works through the economies' trading partners. Increased trade between net oil-importers and net oil-exporters, where oil windfall is used to import more manufactured products from net oil-importing countries, may have a positive effect on the economies of net oil-importers (Abeyasinghe, 2001). Therefore, the net effect of oil shocks on net oil-importing economies depends on how net-exporting countries decide to spend extra windfall purchasing power, and their trade preferences. Since most net oil-importing African economies are not well diversified or industrialized, their effective supply response capacities are limited, even if net oil-exporters choose to spend their windfalls on importing goods and services from them.

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*Third*, increasing oil prices may lead to increased money demand in net oil-importing countries (Mork, 1994), and failure to meet this demand through increased money supply leads to higher interest rates. This has negative effects on consumption and investment, leading to lower growth. Consumption is affected through its positive relation to disposable income, and investment through increasing firm costs.

*Finally*, if oil price increases prevail over a long period, they may lead to a change in the production structure in favor of non-oil intensive sectors, which may lead to other distortions. The resulting reallocation of labor and capital across sectors in response to oil price increases can affect the unemployment situation in the long term (Loungani, 1986).

Overall, therefore, net oil-importing African countries remain vulnerable to energy price shocks, particularly non-export-oriented economies. Since economic diversification is still low in most African economies, energy shocks have the potential to continue taking a toll on the continent's economies. Given that the continent's energy use efficiency is among the lowest in the world—precisely at a time when energy prices are skyrocketing—and given the unique opportunity offered by discoveries of oil and gas fields on the continent, an explorative study of the oil and gas situation in Africa is timely, especially in the face of emerging evidence of the impact of the high level and volatility of oil prices.

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### 1.2 Recent Developments

The price of crude oil rose from less than US\$40.00 per barrel in 2004 to a high of US\$70.85 per barrel in August 2005. Crude oil prices continued to rise, trading at about US\$80.00 per barrel in 2006, and reaching a record of just over US\$147.00 per barrel in July 2008. However, following the global financial crisis and the collapse of a number of banks and loss of jobs, demand for oil fell, leading to a drastic fall in the price of oil. By early November 2008, oil prices had plummeted to less than US\$62.00 per barrel, settling at about US\$42.00 per barrel by the end of February 2009. The causal factors of the earlier observed increase in oil and gas prices are many and vary widely from a market perspective. The main drivers of the high oil price can be summarized around basic demand and supply relationships.

On the demand side, the principal factor is the large and growing energy demand from especially China, India, and other emerging economies—driven by their rapid growth. Because most of the increased demand in global energy markets is a derived demand of these countries, and given the huge scope that exists for these economies to continue growing, there is a cautious expectation that energy prices will rise again in the medium term.

On the supply side, there has been a recorded sharp decline in the spare oil production capacity of OPEC, against a backdrop of noticeable decline in upstream

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investment by multinational oil companies, coupled with the prevailing crisis in the Middle East, a region that enjoys the world's largest oil and gas production capacity. With the current OPEC stance of not raising production levels, it is only reasonable to expect that the energy crisis will persist and that oil prices will rise again in the future.

In the short term, therefore, high energy prices will continue to hit net oil importers, which comprise about 71 percent of African countries. In particular, high oil prices are making it harder for African oil-exporting countries to meet critical development challenges, chiefly the Millennium Development Goals (MDGs). For instance, while such approaches as the Highly Indebted Poor Countries (HIPC) Initiative and the Multilateral Debt Relief Initiative (MDRI) have eased the debt burden on low-income African countries, the gains have been undermined by the oil crisis. In particular, net oil-importing HIPCs face difficulties as debt relief resources are diverted towards cushioning oil shocks.

A recent study by the African Development Bank (AfDB, 2008) concluded that "... the increase in the annual cost of oil between 2002 and 2006 is more than twice the projected savings from the debt relief initiatives" for low-income African countries. Thus, much of the gains from debt relief over the last decade are quickly being eroded or diverted to adjusting to oil price increases. This in turn has slowed down progress in delivering service in the social sectors as required by the debt

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relief initiatives, ultimately delaying progress in meeting the MDGs.

### 1.3 Africa's Oil and Gas Resources

Africa is well endowed with minerals, including fossil fuels and gas resources. However, knowledge about the quantities of these resources is limited and a comprehensive, country-based assessment still remains a challenge. New discoveries of oil and gas resources on the continent continue to emerge and present unique economic opportunities. However, the exploration and exploitation of these resources are yet to benefit the populations. Nigeria, for instance, has been exploiting oil resources for the last 50 years and is now the world's fourth largest oil exporter. Yet, its human and physical capital development is assessed to be 400 percent lower than it would have been if the oil revenues had flown into public funds, and if such funds had been utilized in the public interest to generate economic opportunities for all (African Development Report, 2007: 108–11). Issues of concern include technical limitations, inefficient contract negotiations, inadequate auctioning of extraction rights, inefficient taxation, and, most importantly, poor public expenditure prioritization and (lack of) transparency in the use of revenues.

The continent's poor management of its natural resources has been a recurring theme in recent debates and need not be repeated in detail here. While there is

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ample evidence of countries that have managed their natural resources (gold and diamonds, for example) in ways that have benefited their populations (Botswana, Namibia, South Africa), the continent has yet to see success stories in the case of oil and gas. However, with the ever-increasing discoveries of new oil and gas (for example, in Ghana, Tanzania, Mozambique and Uganda) and prospected fields in many countries (Sierra Leone, Mali, Kenya), the oil and gas sector still offers a unique opportunity that can be harnessed. It is critical for the continent to learn from the failures of the past in designing strategies that fully maximize the benefits of the new oil and gas discoveries.

It is equally important to explore ways to enhance regional energy security. In this context, an assessment of the oil and gas situation on the continent—the objective of this study—is a significant step towards harnessing the gains from oil and gas resources and achieving regional energy security.

### 1.4 Objectives of the Report

It is against this background that the African Development Bank (AfDB) and the African Union (AU) undertook joint studies on the *Impact of High Oil Prices on African Economies*—concluded in 2007—and an *Analysis of the Oil and Gas Situation in Africa*, whose findings are presented in this report. The findings of both studies will serve as technical inputs into the establishment of

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the proposed African Petroleum Fund (APF),<sup>1</sup> which is jointly developed by the AfDB and the AU. The idea of the APF first emerged from the Sixth General Assembly of the African Union (AU), held in Khartoum on January 24 2006, where the AU Commission was directed to convene a meeting of experts to consider a proposal for the establishment of an African Petroleum Fund (APF) within the African Union, to mitigate the effects of oil price increases on African countries.

The broad objective of the report is to shed light on key issues related to the social, environmental, and economic impacts of high and volatile oil and gas prices. This will be achieved by analyzing the oil and gas situation in Africa and examining the continent's major challenges and opportunities in the energy sector. The report seeks to achieve the following specific objectives:

- Undertake a comprehensive review and analysis of the oil and gas situation in Africa;
- Analyze Africa's most recent oil and gas performance and highlight the specific challenges and constraints

<sup>1</sup> The purpose of the envisaged African Petroleum Fund (APF) is to assist low-income, net oil-importing African countries severely affected by oil price increases. The goal is therefore to mitigate the balance of payments effects from the increase in oil prices on poor African countries dependent on oil imports. The specific objective of the APF is to smooth out domestic (African) price fluctuations in oil and petroleum derivative fuels caused by unpredictable changes in international market dynamics. The immediate expected result is reduction in the effects of unforeseen natural and geopolitical factors that drive international oil prices. In a wider perspective, the APF also aims to become a platform for the regional integration of African countries by promoting intra-regional import and export of oil products and by becoming a discussion forum for mitigating the impacts of high oil prices.

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facing African countries in the exploitation and utilization of these resources;

- Discuss the impacts of rising oil and gas prices in African countries with *limited or no* resources (net importing countries);
- Analyze the unique role that development partners, including the African Development Bank and the African Union, can play through coordinated action to help African countries overcome challenges in the energy sector; and
- Make recommendations on future strategic directions to achieve optimal exploitation and utilization of the continent's oil and gas resources in a generationally equitable manner.

### 1.5 Scope

The report includes a comprehensive analysis of the oil and gas sector in Africa—background information that is pertinent to the implementation of the African Petroleum Fund (APF). It draws largely on the two APF-related studies conducted by the AfDB and the AU. The findings of these studies have been enriched through extensive literature review, desk research, and analysis of data from secondary sources.

Comprehensive analysis of the oil and gas situation in Africa, specifically, remains limited in the literature. The few existing regional studies—conducted by

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international financial institutions such as the World Bank and the IMF—categorize North Africa as a separate entity from Sub-Saharan Africa. This report uniquely highlights—through country examples and an African focus and perspective—the specific challenges and constraints facing the continent in the exploitation and utilization of its oil and gas resources. The report partly draws on a model that simulates the impact of high oil prices on African economies—a model developed by the Research Department of the Bank in a separate study. The roles of the AfDB and the AU are analyzed, considering their differing, but complementary, mandates geared towards the development of the continent. Finally, the report includes recommendations on future directions and actions for maximizing the benefits from Africa’s oil and gas resources.

### 1.6 Outline

**Chapter 1** provides the general background, objectives and methodology of the report. **Chapter 2** presents an overview of the status of oil and gas in Africa, including reserves, consumption and trade. **Chapter 3** analyzes how the continent has used its rich oil and gas resources historically, and how it can maximize the benefits from these resources going forward. **Chapter 4** discusses the impact of high oil prices on African economies, anchoring the analysis on a model developed by the AfDB. It also explores relevant recommendations and coping

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mechanisms to deal with high and volatile oil and gas prices from both the perspective of net oil-exporting and net oil-importing countries. **Chapter 5** discusses the main challenges stemming from the “resource curse” *and* opportunities for translating and converting the natural resource wealth into tangible benefits and economic growth. It further examines and highlights governance as the basic element of an enabling environment for transforming natural resources into shared growth. **Chapter 6** wraps up the report with recommendations; it discusses the main lessons learned and the role of development partners, including the AfDB and the AU, in achieving sustainable growth and energy security in Africa.