

**Exploration and Production of Oil & Gas:
Ghana's Experience**

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30th November, 2012

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Introduction

With the discovery in 2007 of a major untapped oil and gas field off the coast in Ghana, the die was cast for the future of the West African country. Since then a revolution has taken place to begin the process of exploring the huge amount of this natural resource and transforming the country.

Oil has been mined in Ghana in small quantities since the late nineteenth century, but the discovery in commercial quantities in 2007 has brought Ghana into the realms of becoming a major producing nation. The three blocks of crude oil deposits uncovered 65km off the coast of Ghana have been grouped together and named Jubilee field, and already the field has reaped millions of barrels of oil.

Further explorations have revealed two more major fields which have been named, Enyenra and Tweneboa, both of which possess potential huge amounts of oil and gas for years to come. Explorations are going on in many other areas along the coast with potential discoveries.

In November 2010 history was made when the UK-based Tullow Oil began producing oil and gas on a field which has been name 'Jubilee field', and already the pumps are producing around 120,000 barrels of oil a day. The financial benefits alone are immense, with the Ghanaian government got a yield of some \$400 million dollars in 2011, a figure which is expected to rise to some \$1 billion dollars a year once production reach its full capacity on Jubilee field alone.

The industry comes with its own challenges as well, since natural resources in Africa have on many occasions done more harm than good, the question is, can Ghana take a clue from other countries experience and avoid this natural resources curse? Well, it depends on how this resource is managed. This and many other issues is this paper seeks to address.

History

Since independence it has been part of every government's policy to explore Ghana's hydrocarbon deposits. Historically, exploration for oil and gas reserves in Ghana had been very limited due to the high risk nature of its terrain. Between 1898 to the late nineties an estimated hundred exploration wells had been drilled in Ghana with no significant discoveries except for the Saltpond oil find in 1970 which was insignificant in quantity.

The following companies had been to Ghana for exploration activities without success: NUEVO 1998, Dana 1999, Hunt oil 1999, Fusion oil and gas from Australia in 1999, Santa Fe, 2000. Unfortunately all the wells drilled by these companies yielded no viable commercial discoveries.

The oil industry worldwide therefore regarded Ghana as a place too risky and expensive and so their petroleum agreements unfriendly. It is against this background that the E.O Group sought to convince international oil companies to come to Ghana and overcome all the biases of Africa and invest in what had become known as the "grave yard"

In 2001 with the help of the Greater Houston Partnership, a major business group in Houston, Texas dedicated to the promotion of Business between Houston, Texas companies and the rest of the world. Mr. George Owusu organized a conference in Houston to enable Ghana's energy experts from Ghana National Petroleum Company (GNPC) and the Energy ministry address the industry on the offshore hydrocarbon potentials in the Country. Many companies in Texas and the rest of the World attended the conference. As a result of the E.O groups interaction with industry experts in both Ghana and the USA they stepped up their effort to find a suitable partner for a prospecting lease with the Ghana National Petroleum Company (GNPC). The group was able to partner with Ennex Energy of Ireland who came to Ghana but Ennex gave up on the deal as they evaluated Ghana too risky to invest. The EO group solicited interest from many companies including Texaco, Oxy, Shell, Hess, Addax Petroleum of Switzerland and the Chinese oil company but they were all reluctant due to the risk.

Talking about risk, it costs one million dollars a day to drill an oil well. It can cost up to 80 million dollars to drill one oil well.

In December 2003, the E.O group and Kosmos formed a partnership to review data in Ghana and initiate the negotiation of a Petroleum Agreement.

It took the Kosmos /EO Group three years from the agreement signed in 2004 to find oil in the deep waters of Ghana in June 2007 which is now a record in Africa. It is also possibly one of the largest oil finds in the last decade offshore West Africa. All the four wells drilled by the Kosmos/E.O group encountered significant accumulation of hydrocarbons.

The industry

The petroleum industry is usually divided into three major sectors: Upstream, midstream and downstream. Midstream operations are usually included in the downstream category. The upstream oil sector is a term commonly used to refer to the searching for, developing the field and production of crude oil and natural gas. The upstream oil sector is also known as the exploration and production (E&P) sector.

The upstream sector includes the searching for potential underground or underwater oil and gas fields, drilling of exploratory wells, and subsequently operating the wells that recover and bring the crude oil and/or raw natural gas to the surface

The Midstream activities include the transportation off the product from the field to the refineries. However, this activities are normally extended to the refinery itself which has made the two terms :Midstream and Downstream being used interchangeably.

The downstream oil sector is a term also commonly used to refer to the refining of crude oil, and the selling and distribution of natural gas and products derived from crude oil. Such products include liquefied petroleum gas (LPG), gasoline or petrol, jet fuel, diesel oil, other products. asphalt and petroleum coke.

The downstream sector also includes, petrochemical plants, petroleum product distribution, retail outlets and natural gas distribution companies.

Partners

Jubilee, which began production in 2010, is operated by London-based Tullow Oil Plc, which also owns 35.5 percent of the field. Anadarko and Kosmos Energy (KOS) both U.S based companies hold 24.1 percent each and Ghana National Petroleum Company (GNPC) 13.6 percent. Sabre Oil & Gas Ltd. holds 2.7 percent. These are the companies which together operate the Jubilee field and have also in the process of developing more fields. It is estimated that they will invest some \$20 billion in the exploration and developing of new fields in the next 10 years.

“We will raise the money in collaboration with our partners,” said Nana Boakye Asafu-Adjaye, chief executive officer of the Ghana National Petroleum Corp., in a July 3, 2012 interview in the capital, Accra. “We have made clusters of discoveries and these needs to be developed.” This is going to boost production from the current 120 000 barrels per day to about 500, 000 barrels a day.

Impact on the Economy

Over the years natural resources including oil and gas have impacted positively and/or negatively on many economies. Whiles good management of these resources brings economic growth and long term socioeconomic development, bad management of same resources can lead to abject poverty, injustice, inequality and socio-political destabilization. Corruption and unfair distribution of the proceeds of these resources usually lead to conflict. Nigeria, which produces about two million barrels a day for instance in recent years have experience terrorist attacks in many parts of the country partly because, some citizens feels that they are being denied the “national cake”. It is against this background that Ghana responded quickly to the potential problems that might arise from the oil find.

Petroleum Management in Ghana

On March 2, 2011, Ghana Parliament approved the petroleum management bill, which seeks to establish a legal framework for efficient collection, allocation, and management of petroleum revenue from the nation's oil reserves.

Among the most notable provisions of the bill are ones that establish two funds: the Ghana Heritage Fund and the Ghana Stabilization Fund. While the Heritage Fund will be used to generate a long-term, alternate stream of income to support public expenditures and as a means of saving for future generations, the Stabilization Fund is earmarked for use as an emergency source of funds in times of budget shortfalls.

To position itself to secure its fair share of profits derived from the oil and gas industry, Government will also have to determine and implement the appropriate level of income tax, resource rent tax, royalties and bonus payments, though tax allowances and re-investment credits will be offered to sustain interest in the industry and to reward industry players for re-investing in the county and its people.

The Petroleum Revenue Management Bill, therefore, provides a framework to guide the efficient collection, allocation and management of revenue from the oil resource for the benefit of present and future generations as well as ensure the overall management of petroleum revenue, based on sound and sustainable fiscal policies that transcend political regimes.

To avoid the costs associated with the alternative options of leaving the revenue to be collected and accounted for as part of conventional revenue or in the hands of the national oil company, the bill assigns clear responsibilities from collection to final utilization of petroleum revenue within a transparent and accountable framework.

The bill has also provided adequately for the collection and management of petroleum revenue in order to reduce waste, the potential loss of control of public expenditure and weaken the purpose of the national budget as the primary instrument to manage all the resources of the country. For petroleum revenue to be transparent, the bill provides for regular revenue management audits as well as the regular publication of receipts and disbursements.

In addition, oversight mechanisms, auditing and transparency and reporting obligations have been catered for so as to safeguard the prudent management of petroleum revenue.

To safeguard the long-term interest of Ghanaians and to sustain a reasonable level of development even after all the oil and gas resources have been exhausted, and to ensure a stable level of budgetary support from revenue accruing from Petroleum, two Petroleum Funds – The Heritage Fund and the Stabilization Fund – have been established. Indeed, the Stabilization Fund is expected to help manage the potential short-term adverse effects on the economy due to fluctuations in oil prices.

It is also important to note that the bill has provided investment guidelines to invest the funds abroad in qualifying instruments and, except for stabilization purposes, also serve as an endowment for the future.

Another laudable aspect of the law is that petroleum revenue is to be directed into a transitory Petroleum Account to be held by the Bank of Ghana for purposes of tracking and transparency. Indeed, the bill, in line with international best practice, sets out clear quantitative rules to guide the transparent movement of petroleum receipts from the Petroleum Account into the national budget and into and out of the Heritage and Stabilization Funds.

The bill allocates savings between the two Funds in a way that puts immediate emphasis on the need to ensure a smooth and effective budget implementation.

Furthermore, the bill makes provision for withdrawals to support budget implementation in the event of shortfalls with ceilings, however, on the amount that can be withdrawn in order to enhance fiscal discipline.

In effect, the bill incorporates checks and balances to ensure the highest level of transparency and accountability in the management of Ghana's petroleum resource funds.

The Bill also anticipates a national development plan to guide medium-term planning and annual budgeting. The annual budget funding amount is to ensure a fair distribution of the national wealth among the people of Ghana as well as equality among the citizens and be in line with a long-term national development plan while broad areas of spending priorities are to be identified through a national survey in the event of the absence of a long-term national development plan.

Forecast

The industry which has already employed hundreds of Ghanaians, it is expected that the oil and gas industry will employ about five thousand Ghanaians in the next five years. Ghanaians are expected to take full control of the industry in the next 20 years. This is what the local content in the agreement signed seeks to address. Foreign companies are mandatory to give priority to Ghanaians as it is done everywhere if they qualify so far as jobs are concern. They are also to give support in terms of training to Ghanaians so as to transfer technology and skills to the local people.

The economy is already witnessing rapid growth as it recorded some 13.6 per cent in 2011 as a result of the oil proceeds, a figure which is expected to be hovering around 9 percent in the years ahead.

With the construction of the Gas processing plant to generate adequate energy constant electricity supply is a good news to a country where constant power outages is the other of the day. Not only constant power supply but also this is going to create employment to many Ghanaians as many companies are establishing in the country.

This will lead to the establishment of many petrochemical companies in the country, as many investors have already expressed the interest and some have already taken the move to invest in this newly exciting industry in the country. It is estimated that the Jubilee partners alone going to invest some \$20 billion as a result of their exploration and developing new fields in the next ten years.

Conclusion

The potential for growth in Ghana's oil and gas industry is huge. With some 1.5 billion barrels of oil in the Jubilee field alone, and many more fields expected to be discovered in the coming years, there are countless opportunities for the right investors. Knowledge, timing and the right solutions to the challenges that exist in this exciting industry will be the key to unlocking its potential.

References

- **Ghana National Petroleum Corporation**
www.gnpcghana.com/
- **Tullow Oil plc - Ghana**
www.tulloil.com/ghana/
- Ghana News: Ghana's comprehensive Business.....
www.myjoyonline.com/
- **Ghana's Petroleum Revenue Management Bill**
www.ghana.gov.gh/index.php?...ghanas-petroleum...management-bil...