AN OVERVIEW OF GHANA’S OIL AND GAS INDUSTRY

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DISCLAIMER:

This presentation does not reflect the views of The Ministry of Finance and Economic Planning, Ghana. All views expressed here are entirely personal.
This presentation is divided into three distinct sections:

- **Section 1**: Historical review of petroleum activities in Ghana.

- **Section 2**: Assessment of fiscal regime and the Government of Ghana’s estimated revenue from petroleum activities.

- **Section 3**: Focus on regulatory as well as policy issues arising from the emerging petroleum sector in Ghana.

- Concluding Remarks
1. Review of Petroleum Activities in Ghana
PROSPECTIVE AREAS FOR OIL AND GAS

1. Western Basin
2. Central Basin
3. Eastern Basin
4. Voltaian Basin
Phases of Exploration: The History

- Initial Phase 1896 – 1967
- Second Phase 1968 – 1980
- Fourth Phase 1981- 2000
- Current Phase 2001 – To Date
Phases of Exploration (Cont.)

1896-1967
◆ Exploration activities were intermittent and unsustained
◆ Petroleum exploration limited to onshore

1968-1980
◆ Intense exploration activity in the offshore
◆ 31 wells drilled, 3 discoveries (Cape Three Points, Saltpond and the North and South Tano)

1981-2000
◆ New regulatory and legal framework established
◆ Exploration Program intensified further
◆ Comprehensive Exploration promotion Program

2001-Present
◆ Focus on Deepwater
Five (5) major oil and gas discoveries since 2007

- Jubilee
- Odum
- Sankofa
- Tweneboaa
- Dzata
Jubilee Fields – Interest Holding Structure Post Unitization

Assumption:
- 50% in the Deepwater Tano block
- 50% of discovery in West Cape Three Points block

GNPC exercised option - additional paying interest
- Five percent (5%) Deepwater Tano block
- Two and Half percent (2.5%) West Cape Three Points block

Interest Holding Unitized Area
- Tullow: 34.7046%
- Kosmos: 23.4913%
- Anadarko: 23.4913%
- GNPC: 13.7500%
- Sabre: 2.8127%
- E. O. Group: 1.7500%
Jubilee Field Development

Phased Development

– **Phase 1 production starts in 4th Quarter 2010**
  - 280 Million Barrel+ to be produced
  - 120,000 Barrel/Day Oil Production
  - 120 MMSCF/Day Gas Production

– **Phase 2 production expected to start in 2013**
  - Additional infrastructure required
    - 240,000 Barrel/Day Oil Production
    - 240 MMSCF/Day Gas Production
Jubilee Field Development (Cont.)

• Reserves
  – 800 Million Barrels of Oil
  – Upside of 1.5 Billion Barrels of oil
  – Light Sweet Crude
2. Fiscal Regime and Expected Revenue from Petroleum Activities
What Makes Up Oil & Gas Revenues?

**DIRECT - Revenue Streams**

- Royalties on Oil & Gas
- State Participation
  - Initial Carried Interest
  - Additional Carried Interest
- Corporate income Tax
- Additional “Profit Tax”
- Dividends from NOC,
- Return on Investments

**OTHERS**

All payroll taxes, VAT, Other Corporate Taxes of mid-stream and downstream activities
### Fiscal Benefits

<table>
<thead>
<tr>
<th>Description</th>
<th>Calculation</th>
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<tbody>
<tr>
<td>Fiscal Benefit to the state</td>
<td>Reserves of 500 million barrels</td>
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<tr>
<td></td>
<td>100,000 barrels per day</td>
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<tr>
<td>A Gross Production</td>
<td></td>
</tr>
<tr>
<td>B Royalty</td>
<td>5% of A = 5,000 barrels per day</td>
</tr>
<tr>
<td>C Net Production</td>
<td>95,000 barrels per day</td>
</tr>
<tr>
<td>D Production Cost</td>
<td>10,000 bpd = Cash Equivalent</td>
</tr>
<tr>
<td>E Basis for Carried Interest</td>
<td>C – D = 85,000 barrels per day</td>
</tr>
<tr>
<td>F Carried Interest</td>
<td>10% of E = 8,500 barrel per day</td>
</tr>
<tr>
<td>G Development Cost</td>
<td>$3Bln @ $60pb = 10,500 bpd</td>
</tr>
<tr>
<td>H Basis for Additional Interest</td>
<td>E – F – G = 66,000 bpd</td>
</tr>
<tr>
<td>I Additional Interest</td>
<td>3.75% of H = 2,475 bpd</td>
</tr>
<tr>
<td>J Basis for Tax</td>
<td>H – I = 63,525 barrels per day</td>
</tr>
<tr>
<td>K Tax</td>
<td>35% of J = 22,234 barrels per day</td>
</tr>
<tr>
<td>L Total State Share</td>
<td>B + F + I + K = 38,209 barrels per day</td>
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Exact Percentage of Government Take?

**CAUTION**

Depends on:

- **Fiscal Regime** in the petroleum agreement
- **Quantity** of oil produced plus associated gas
- **Costs**
  - Development Cost, and
  - Production Cost
- **Prices** – Highly Unpredictable

But for planning purposes ..........forecast, averages Variable Revenues
Gov't Revenue at Different Average Take of Gross Oil at Different Average Price/bbl (800 mmbls)

Average Price of Crude (2011-2035)
Natural Gas: The Real Jewel??

- **Natural Gas will drive the economic development of Ghana**

- **National Corporation, GNPC, playing lead role in:**
  - Harnessing the natural gas for domestic use
  - Dry gas to be used for power generation and fertilizer production primarily
  - Sizing the gas infrastructure to enable the monetization of Jubilee field gas and other indigenous natural gas reserves in its vicinity;
Strategic Plan

- To Bring Associated Gas from the Jubilee Field to shore

- To process the transmitted wet gas into dry gas and liquids including:
  - Liquefied Petroleum Gas (LPG)
  - Condensate
  - Propane
Gas Commercialization Project – Concept

Gas Plant

LPG Buoy
3. Regulatory and Policy issues
Why Oil & Gas Revenue Mgmt and Regulatory Laws?

- Recent industry accidents, legal battles, means this Multi-billion dollar industry must operate within a relatively transparent and stable environment.

- There is big money in oil and gas compared to the size of the economy.

- Revenues come from the extraction of a non-renewable resource.

- Revenues are different from normal tax revenues.

- Uncertainties about price and extraction, hence about future revenue.
In Ghana, the Parliament is currently reviewing the two main pieces of legislation which will govern the Petroleum industry in Ghana.

These are:

1. Petroleum Revenue Management Bill
2. Petroleum Regulatory Authority Bill

Details of the relevant bill’s may be a subject for another forum
Focus on two (2) very critical issues:

1. Management of Public expectations
2. Local Content Issues
“With all the accumulated experience since 1974 available to them, oil-rich developing countries can no longer plead either innocence or ignorance”

Dr. Ngozi N. Okonji-Iweala
MD of the World Bank
THANK YOU