The West African Gas Pipeline – An Overview

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Presentation Outline

- Introduction
  - Background
  - Objectives
  - Ownership and Sponsorship
- Project Description
- Benefits (Economic/Social/Environmental)
- Challenges/Setbacks
- Conclusion
1.0 INTRODUCTION

1.1 Background Information

- The West African sub-region:
  - Has enormous mineral resources
  - Strategically located
  - Potential for trade, industry and economic growth.
  - Inadequate infrastructure, including those in the energy sector
  - Lack of available, reliable and cost-effective energy supply
The West African Gas Pipeline (WAGP) Project:

- an unprecedented energy development project in the sub-region
- holds much promise for the effective and economic utilisation of the region's resources.
The Pipeline is an International Gas Transmission System that will transport clean, reliable and cheap natural gas from Nigeria to customers in Benin, Togo and Ghana.
1982 - ECOWAS proposed a Natural Gas Pipeline across West Africa as a key Regional economic goal.

1992 – World Bank Study confirmed viability of a Natural Gas Pipeline based on ample reserves of Nigerian Natural Gas and Regional Energy needs.
Background......history

- 1995 – Leaders of Nigeria, Ghana, Togo and Benin signed an Agreement for the development of the West African Gas Pipeline.
- 2000 – The four nations signed an Inter-governmental Agreement for a harmonized fiscal and regulatory framework for cross-border construction and operation of the gas pipeline.
Background…history

2003 – The four Nations and the West African Pipeline Company (WAPCo) signed International Project Agreement (IPA) for the development of the pipeline.

2005 – Construction of the WAGP began.

2008 – Pipeline construction completed and gas introduced into pipeline.
1.2 Project Objectives

- **The Pipeline project seeks to:**
  - improve the competitiveness of the energy sectors in Ghana, Benin and Togo by promoting:
    - the use of cheaper and environmentally cleaner gas from Nigeria in lieu of solid and liquid fuels for power generation and other industrial, commercial, and domestic uses;
    - reforms including a modern, institutional legal and regulatory framework that facilitates private sector participation in the energy sector;
Objectives

- foster regional economic and political integration that would support economic growth, and in particular the development of the West Africa electricity market.
1.3 WAGP Ownership

- West African Gas Pipeline Company (WAPCo) Limited, a Bermuda Corporation:
  - owns and will operate the pipeline.
  - established in May 2003
  - joint venture limited liability company
  - owned by both public and private sector companies in Nigeria, Ghana, Benin and Togo.
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Chevron West African Gas Pipeline Company Ltd - (36.7%)
Nigerian National Petroleum Corporation - (25%)
Shell Overseas Holdings Ltd - (18%)
Volta River Authority (Ghana) - (16.3%)
Société Togolaise de Gaz (Togo) – (2%)
Société BenGaz S.A (Benin) – (2%)
World Bank’s sponsorship of the project through its International Development Agency (IDA) and Multilateral Investment Guarantee Agency (MIGA) provides financial and political risk guarantee for the project. In 2004:

- IDA approved $50M guarantee to the Government of Ghana; and
- MIGA approved $75M guarantee to WAPCo.
2.0 Project Description: The Pipeline

- Total pipeline length is approximately 690 km.
- Will travel through onshore and offshore routes from the Niger Delta to Takoradi terminus in Ghana.
- About 620 km of the pipeline is being built offshore.
The Pipeline

- At three locations, connections will be made in from the main offshore trunk into lateral spurs, which will transport gas to delivery points at or near Cotonou (Benin), Lomé (Togo), and Tema (Ghana).

- The final terminal of the proposed pipeline system is at Aboadzi, site of VRA’s Takoradi Power Station (Ghana) with an option to extend the pipeline to other West African states, if feasible in the future.
The Pipeline......Alagbado to Takoradi

Figure 2.1-2 Connections to the Main Offshore Trunk

Ghana
Togo
Benin
Nigeria

Takoradi
Tema
Lome
Cotonou
Alagbado Tee

LEGEND
- Connection to Main Offshore Trunk

Kilometers
0 25 50 75 100
The Pipeline

The gas to be transported in the WAPCo pipeline will be produced and processed in the Niger Delta area in south eastern Nigeria; the gas will be primarily associated gas from oil production that previously would have been flared or vented to the atmosphere.

From there, it will be transported through an existing high-pressure gas pipeline, the Escravos-Lagos Pipeline System (ELPS), to the existing terminal point of that system at Alagbado in Ogun State, near Lagos, where the new WAPCo pipeline will commence.
The ELPS is an existing pipeline system owned and operated by the NNPC. The new WAPCo pipeline thus begins physically at Alagbado. The WAGP will therefore be one of many customers of the Niger Delta producers, receiving the gas it transports from the ELPS system.

From that point, the new WAPCo pipeline will run about 56 kilometres onshore, to the Nigerian coast, and from there straight out to sea.
The main trunk of the offshore pipeline will be placed on the seabed in 26 to 70 meters water depths at an approximate distance of 15 to 20 kilometers from the shore.
The initial capacity of the project will be 175 million cubic feet per day (mmcf/d), ultimately expected to expand to 475mmcf/d as demand grows.

Total Project Investment is estimated at US$600million.
3.0 Project Benefits

- The project is the sub-region's solution to bringing energy for economic growth and environmental benefits to Ghana, Togo, Benin and Nigeria.
- It will provide a long-term supply of abundant, clean, relatively cheaper fuel from Nigeria to Ghana, Togo and Benin.
Benefits

- The Pipeline construction and operations will transfer technical knowledge and skills to relevant public agencies, local consultants, contractors and their employees across the four countries.
- WAPCo employs over 100 skilled people from the sub-region, on competitive selection basis. This number has been far greater during construction.
Benefits

- The pipeline project has provided a new level of regional co-operation and economic integration to enhance regional stability under the auspices of ECOWAS.
- The pipeline as a regional energy infrastructure will serve as a catalyst for direct foreign investment in the project countries.
Benefits

- **Nigerian producers will benefit from additional revenues accruing from the sale of associated gas to WAPCo**
- **Each of the four countries will have some direct tax benefits**
- **The three gas recipient countries will make some fuel gains.**
The project will enhance the regional environment by substituting natural gas for less desirable fuels:

- reduction in gas flaring in Nigeria
- reduction in greenhouse gas emissions.
- could serve as a springboard in the efforts against deforestation
Challenges/Setbacks

- Project delays
  - work on a Compressor Station at Lagos Beach, in Nigeria and Regulating and Metering stations in Tema, Cotonou and Lome are yet to be completed
  - gas specification: moisture content
- Regulatory framework
**Challenges/Setbacks**

- Project cost expected to rise
- Source of gas: Niger Delta
- Safety: construction, operation & maintenance
- Pressure groups: Examples are;
  - Environmental Rights Action
  - Friends of the Earth Nigeria
Conclusion

- Commissioning of the pipeline began in late Nov 2008
- Gas introduced into the offshore pipeline on Dec 6, 2008 from Nigeria to Takoradi
- Commissioning successfully completed on Dec 14, 2008.
- Construction of the Takoradi Regulating and Metering Station has been completed
Conclusion

- WAPCO thus ready to supply VRA with enough gas to run one turbine at the moment
- All outstanding work is scheduled to be completed by the end of 2009.
Enquiries or Questions???

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For your attention...........

- THANK YOU
- VIELEN DANK
- MEDA MO ASE