Nigerian Gas Policy

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• Nigeria has an estimated 182 TCF of proven natural gas reserves;
• 7th largest natural gas reserve holder in the world;
• High grade quality: 0% sulphur & rich in NGLs
Background (contd.)

- Most gas discoveries have been made in the process of exploring for oil;
- Nigeria is globally the No. 1 gas flarer:
  - 40% of Nigeria’s annual production is flared;
  - The country accounts for 12.5% of the gas flared in the world (Source: World Bank).
- The current legal and fiscal framework for the petroleum industry is geared towards oil production and utilisation with very little focus on gas.
Historical Background

• Petroleum (Drilling and Production) Regulation
  • Licensee was expected to submit feasibility study, programme or proposal for gas utilisation not later than five years of the commencement of production
  • No adequate penalty for violation

• Petroleum (Amendment) Act
  • Government may take the gas at the flare at no cost
  • Absence of infrastructure to develop and utilise the produced gas
National Energy Policy

- Policies
  - The nation's gas resources shall be harnessed and optimally integrated into the national economy, energy mix and industrial processes.
  - The nation shall engage intensively in gas exploration and development with a view to increasing the reserve base to the highest level possible.
  - The nation shall put in place necessary infrastructure and incentives to encourage indigenous and foreign companies to invest in the industry.
  - The nation shall put in place necessary infrastructure and incentives to ensure adequate geographical coverage of the gas transmission and distribution network.
National Energy Policy (contd.)

• **Objectives**
  - To eliminate the flaring of associated gas by 2008.
  - To expand the utilization of natural gas as industrial and domestic fuel, as well as for power generation.
  - To increase the use of natural gas as industrial feedstock for petrochemical, pharmaceutical and fertilizer plants, etc.
  - To use gas to diversify the foreign exchange earning base of the nation.
  - To accelerate the process of technology acquisition and diffusion in the gas industry.
  - To encourage indigenous entrepreneurial capability in the gas industry including the development of end-use devices.
  - To determine the level of gas reserves available to the nation.
• Strategies
  – Encouraging the oil-producing companies to gather and utilize associated gas in order to eliminate flaring by 2008.
  – imposing appropriate and effective penalties to discourage gas flaring.
  – Encouraging the establishment of the necessary infrastructure for the effective gathering, transmission and distribution of gas nationwide.
  – Formulating suitable urban and regional planning regulations needed for the effective distribution of natural gas to, and its utilization by, domestic and industrial consumers.
  – Providing necessary incentives to indigenous and foreign entrepreneurs to facilitate their participation in the gas industry.
National Energy Policy (contd.)

- Providing incentives to encourage industrial and domestic consumers to use gas or to convert to gas.
- Providing incentives to encourage the introduction and use of LPG appliances in areas not accessible to natural gas so as to encourage the consumer preference for gas.
- Establishing suitable infrastructure for the export of natural gas.
- Expanding and promoting gas related R & D outfits in the country.
- Ensuring that the price of natural gas is cost-effective, while giving due attention to the effect on local consumption.
- Embarking on deliberate exploration for as deposits in all parts of the country.
Nigerian Gas Masterplan

• Approved by the Federal Executive Council
• Hinged on 3 critical elements
  – Gas pricing policy
  – Domestic gas supply obligation
  – Gas infrastructure blueprint
Elements of the Nigerian gas masterplan

**Gas Infrastructure Blueprint**
- Envisages the development of:
  - 3 Central processing Facilities;
  - A network of gas transmission pipelines;
  - LPG storage & supply Facilities.

**Gas Pricing Regime**
- Pricing regime to be differentiated across sectors:
  - Mandatory reserves allocation for domestic use;
  - Strategic Domestic Sector (cost of supply basis);
  - Strategic Industrial Sector (product netback basis);
  - Strategic commercial sector (alternative fuels basis).

**Domestic Gas Supply Obligation**
- Regulation to impose:
  - Compliance to be a condition of export.
Gas Pricing Policy

- The objective is to create a structured and transparent framework for gas pricing
- It establishes 3 broad categories of domestic buyers of gas:
  - Strategic domestic Sector (Power)
  - Strategic Industrial Sector (methanol, GTL, fertiliser)
  - Commercial Sectors Cement, Steel, CNG, Other domestic industries
Demand Sectors

- Strategic Domestic Sector – this refers to sectors that have a significant direct multiplier effect on the economy. The strategic intent is to facilitate low cost gas access.

- Strategic Industrial Sector – use gas as feedstock in the production of value added products typically destined for export. The strategic intent is to ensure that feedgas price is affordable and predictable.

- Commercial Sectors – use gas as fuel and are able to bear high prices.
Differentiated Pricing Structure

• The pricing policy does not fix gas prices but provides a framework for establishing the minimum gas price that can be charged to any category of buyer.
  – Strategic Domestic sector – lowest cost of supply + 15% IRR
  – Strategic Industrial sector – product netback but gas floor price must not be lower than cost of supply of gas
  – Commercial sector – indexed to price of alternative fuels
Aggregate gas price and the domestic gas aggregator

• Aggregate domestic price is the forecast average domestic price based on projected total demand portfolio and using the pricing framework

• All suppliers would be paid the aggregate domestic price

• The gas aggregator manages the implementation of the DGSO & aggregate price
Domestic gas supply obligation

• In recognition of the need to have sufficient gas to meet the need of the demand sectors, the government has introduced a DGSO by regulation.

• It is an obligation to dedicate a specific volume of gas towards domestic gas and to deliver the gas to a purchaser.
  – Volumes are to be set by minister.
  – Allocation to be based on principles of “equity” to be determined by minister.
Domestic gas supply obligation (contd.)

• Failure to meet obligations would lead to:
  – Penalties (obligation to pay for the volumes not supplied)
  – Prohibition not to supply gas to any export project
Gas infrastructure blueprint

• Current state of gas infrastructure is poor!
  • The Escravos to Lagos Pipeline System (ELPS), completed in the nineties is the main transmission pipeline system dedicated to domestic consumption in the country
    – ELPS also serves as the source of gas supply for the West African Gas Pipeline System
    – repeated sabotage of the pipeline and feeder systems has led to frequent supply disruptions
• The other major downstream pipeline systems are dedicated to single projects leading to suboptimal pipeline configurations

  – These pipelines are mainly to export oriented projects and cover areas already served by other single project pipelines.
Gas infrastructure blueprint

• Blueprint provides a framework for future gas infrastructure developments in Nigeria
• Provides for 3 gas gathering and processing facilities and a network of gas transmission lines
Gas gathering facilities

• Indicative locations
  – Warri/Forcados
  – Obiafu area
  – Calabar/Akwa Ibom

• Each CPF to cover a designated exclusive franchise area
  – A network of gas gathering pipelines and compressor stations to be developed in each area
  – Each franchise area to serve as regional hubs
Gas transmission lines

• The blueprint proposes 3 backbone gas transmission systems:
  – South to North transmission backbone
  – Western transmission system
  – The Interconnector system
Gas infrastructure blueprint
Contractual framework

Domestic Buyers
- Power Plants
- Fertilizer Plants
- Methanol Plants

Other Export Buyers
- Regional Pipelines
- Pure Liquefaction NG Plants

Transmission Company

GTA
- Transmission Agreement

CSPA
- Domestic Substitution
- Tripartite Agreement

CSP
- Terminals
- Interconnectivity Agreement

Gas Suppliers
- IOC's/Majors
- Independent | AL-HAJA PETROLEUM

Odujinrin & Adeulu estd. 1972
Downstream gas

• Petroleum industry bill incorporates some of the terms of the moribund Downstream Gas Act

• The bill lays the foundation for the establishment of a wholesale gas market

• Appears to conflict with NGMP
  – No recognition of the pricing policy

• Authority required to monitor anti-competition activities
Gas flaring
Gas produced, utilised, flared
• The percentage of gas flaring has reduced significantly from 98% in the 70s
• Several gas flare out dates have been set
  – Latest is December 2008
  – Has routine gas flaring ended?
Gas flaring policies

• Associated gas reinjection act 1979 and
  – Set deadlines for ending gas flaring
    • Flaring was meant to end January 1, 1984
    • Flaring is illegal without the permission of the Minister
    • Penalty for flaring was forfeiture of all concessions
Gas flaring policies (contd.)

• Associated gas reinjection (continued flaring of gas) regulations
  – Flaring could continue:
    • More than 75% is effectively utilised or conserved;
    • Produced gas contains 75% impurities;
    • Ongoing utilisation programme is interrupted by equipment failure;
    • If the volume of gas produced is small in relation to the distance to a possible utilisation point and it is not technically advisable to reinject
    • Where the minister, as he may deem fit orders the production of oil from a field that does not satisfy the above conditions
Gas flaring policies (contd.)

• Associated Gas Re-injection (Amendment) Act 1985
  – More circumstances for exemption
  – Minister may issue exemptions when he is satisfied that utilisation or reinjection of produced gas is not appropriate or feasible

What does history say about our gas flaring policy?
Gas flaring policies (contd)

• Routine flaring continues
• Coys happy to pay penalties
• Mechanisms available to government not fully utilised
  – Ministerial permission
  – Legislation
  – NNPC’s position in JVs