THE GOVERNMENT

OF

THE FEDERAL REPUBLIC OF NIGERIA

THE NATIONAL GAS SUPPLY AND PRICING POLICY

The purpose of this document is to define the policy of the Federal Government of Nigeria in respect of the pricing of gas to be supplied to customers in the downstream gas sector.

THE NATIONAL DOMESTIC GAS SUPPLY AND PRICING POLICY

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(A) INTRODUCTION – Policy Aspirations

Given the abundance of Nigeria's gas resources, Government has identified the accelerated development of the domestic gas sector as a focal strategy for achieving the national aspiration of aggressive GDP growth (10% per annum).

LNG exports provide high returns to government through tax receipts and dividends for equity stake. However, it is recognized that beyond economic rent, there are broader strategic benefits to the economy that may be attained from the domestic utilization and value addition to natural gas.

As gas continues to grow in importance in industrialized nations and gas reserves continue to decline in those nations, the phenomenon of rising gas prices in the key international markets however continues to create a preferential pull for export LNG. Consequently, there is a disproportionate focus by gas suppliers in the country for LNG projects. This is creating an anomaly in Nigeria where there is now a significant shortfall in the availability of gas for domestic utilization. The continued shortfall directly threatens the economic aspirations of the nation which if unchecked may result in Nigeria subsidizing the development of the economies of the industrialized nations.

The energy requirement to sustain an aggressive GDP growth is enormous. Currently, demand (export and domestic) for natural gas far outstrips supply, driven by growth in the Power sector and other gas based industries such as Fertilizer, methanol, LNG etc. Gas demand is forecast to grow from the current level of 4 bcf/d to about 20 bcf/d by 2012. In the short term, the growth in the domestic sector is most aggressive, growing from less than 1bcf/d in 2006 to about 7bcf/d by 2010. This demand growth is underpinned largely by the power sector and by an increasing requirement by large industries such as fertilizer and methanol that require gas in high quantities. These industries which are unable to compete in high gas cost locations have expressed strong interest in relocating to Nigeria. However, Nigeria needs to demonstrate the availability and affordability of gas or else risk losing these industries to competing nations. A preferential focus on export gas will compromise this objective.

Demand growth translates to a significant reserves and production capacity development requirement. Specifically, for the domestic market alone, about 40 – 60 tcf of gas reserves will be required over the next 20-25years. In addition, significant development activity is required to translate the reserves into the required daily production to supply the huge demand.

Among other challenges in meeting the supply requirements of the growing domestic demand is the challenge of price affordability and hence gas pricing. The domestic demand sectors such as electric power, Fertilizer, methanol, industrial manufacturing etc all have varying capacity to bear gas prices (Fig. 1). For example, the Power sector has a lower gas price threshold than methanol. Government is however keen to stimulate the growth of these sectors. However, timely availability and affordability of natural gas is a critical pre-condition for realizing the government's aspiration for the domestic economy.

In the recognition of the urgent need for domestic gas availability and a pricing framework to drive major gas based industrialization in Nigeria, this policy document seeks to:

1. provide solutions to the issue of gas pricing;

2. address domestic gas supply availability in a manner that delicately balances the need for domestic economic growth and revenue generation from exports; and

3. provide an implementation approach for the gas pricing that enables the full participation of all gas suppliers in the country in a manner that ensures sustained gas supply to the domestic market.

(B) GROUPING OF NIGERIA'S DOMESTIC DEMAND SECTORS

Government is of the view that linkage of the domestic price of gas to the international market price will only encourage a preferential flow of gas to export projects. Such a scenario would be counter–productive to the imperative of domestic economic growth given the potential for price volatility, relatively high gas price, particularly for industries using gas as feedstock. The likely consequence of these will be a possible slow pace of growth of the domestic economy or, indeed, destruction of potential domestic demand.

There is a need for a pricing strategy that recognises the diversity in the ability of the various industrial sub-sectors to bear gas price and the need to deliver a fair rate of return on investments to both the user and supplier of gas. It is expected that the adoption of a sector based pricing framework will not only enable and sustain diversity of the demand sectors, it will also facilitate supply availability for balanced export and domestic sector growth and, where appropriate, enable the maximization of net revenues for Nigerian gas as a commodity.

From a gas demand perspective, Government has grouped the entire country demand (including both domestic and export) into three broad groupings. The grouping provides a holistic basis for aligning the gas price bearing capacity of the sectors identified with the strategic economic objectives of government for those sectors – this being the basis for the development of a sector based gas pricing framework further discussed in this policy document. Fig. 2 presents the 3 groupings.

Fig. 2: Government grouping of gas demand sectors.

The groupings are:

- *Strategic Domestic Sector* – this refers to the Power sector that has the most significant direct multiplier effect on the economy (supplying power to the national grid, rather than power for captive use). The strategic intent is to facilitate and ensure low cost gas access to the Power sector in order to spur rapid economic growth. Other examples may include Compressed Natural Gas (CNG) for transportation or any other sector that the Honourable Minister for Energy may from time to time consider applicable.

- *Strategic Industrial Sector* – this refers to domestic industries that utilise gas as feedstock in the production of value added products that are primarily destined for export or consumed locally. Strategically, these sectors offer the potential to diversify Nigeria's gas related export portfolio whilst ensuring that value is added to Nigerian gas before it is exported. The process of value addition ensures industrialisation, job creation etc. Typical projects in this group are Methanol, GTL and Fertilizer. For this sector, the strategic intent is to ensure that feedgas price is affordable and predictable in order to ensure competitiveness of the products in international markets in the face of competition from other gas producing countries such as Qatar, Trinidad etc that provide gas at very low prices to buyers.

- *Commercial Sectors* – This refers to sectors that use gas as fuel as opposed to feedstock. Unlike the two previous classifications, projects in this category are a potential major direct revenue earner for Nigerian gas in view of their capacity to bear high gas prices as the competing alternative fuel is LPFO. In essence, they are less vulnerable to a crude oil based gas pricing. Typical projects are: LNG, CNG, cement and domestic manufacturing industries.

The concept of strategic sectors is introduced to capture the non-direct economic benefit inherent in these sectors by adequately pricing gas to enable the growth of those sectors.

(C) GAS PRICING REFORM

A widely known characteristic of Nigerian gas is its relative richness in liquids. The experience from several gas projects is that the relatively high value of gas liquids can be a key driver for the economics of gas supply, such that the residue (lean) gas can be delivered at relatively little or no cost as the project remains profitable to the supplier on the strength of the liquids contract alone. Consistent with its aspirations for rapid economic growth, the Government proposes a reform of the existing gas pricing approach to one that fully leverages the intrinsic value of liquids to price dry gas, in particular, for the supply of lean gas to projects in the strategic domestic demand sectors earlier identified, for which the strategic intent of the Federal Government is a structurally low gas price.

Based on the philosophy outlined above, it is the position of Government that there is a significant amount of gas reserves in Nigeria for which the residue gas can be delivered at very low prices, if the benefits of liquids are fully captured. Specifically, there are enough reserves with this potential that can satisfy the strategic domestic demand sectors, these being the sectors with the requirement for the lowest possible gas price.

On the assumption of a base case of $40/bbl long run liquids price, the proposed gas pricing framework assumes a minimum rate of return of 15% for the gas supplier and a minimum or floor price of $0.10/mmbtu at the fence of the gas supplier as the floor price for Nigerian Gas. At this price, the upstream suppliers on the aggregate are expected to earn an adequate rate of return for a limited amount of gas reserves within their portfolio that is rich in liquids. The gas reform therefore requires that this rich gas be first directed for the supply of strategic domestic and industrial sectors.

In addition, based on existing transmission infrastructure costs in Nigeria and international benchmarks, a transmission tariff (on postage stamp basis) of $0.30/mmbtu is proposed. The Honourable Minister for Energy may revisit this tariff from time to time as appropriate.

In essence, based on the philosophy of leveraging liquids to price dry gas, a floor price of $0.40/mmbtu is set as the lowest possible gas supply price to the domestic economy. This will apply only to the Power Sector, being a strategic domestic sector.

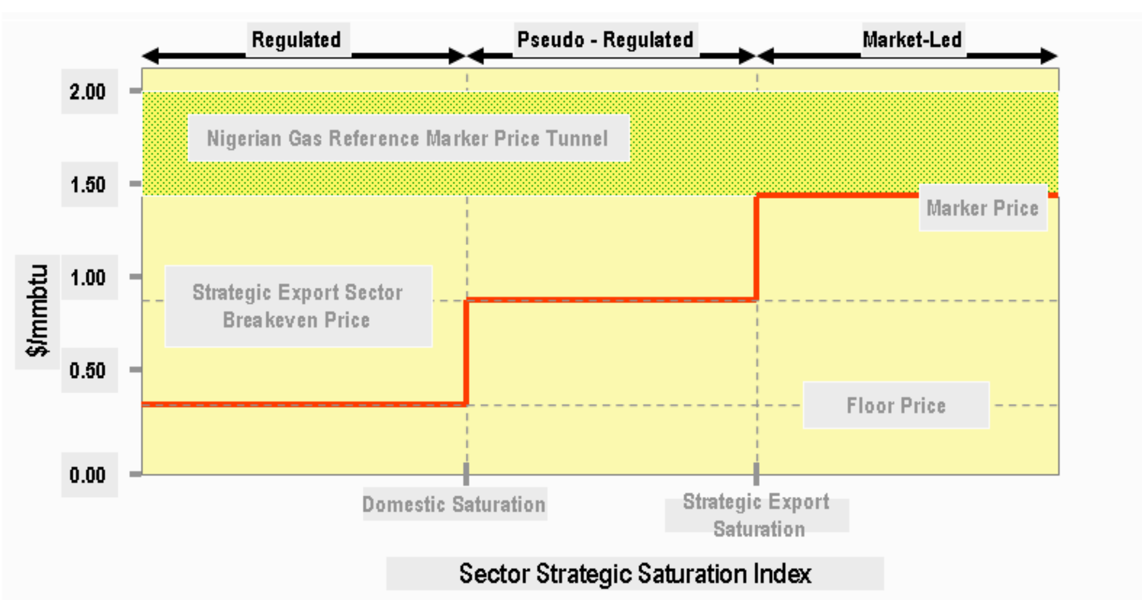
(D) THE GAS PRICING FRAMEWORK

The gas pricing framework carefully balances the requirements of various stakeholder groups and comprises 3 sections – a regulated regime, a pseudo-regulated and a market led regime. The figure below presents a schematic of the gas pricing framework approved by the Government. This framework can be applied generically to any sector.

The framework plots the proposed gas price for the sector against a variable called the *sector strategic saturation index* through which the capacity of a sector is measured against the demand for its products. At specific thresholds of saturation index, the applicable gas price changes for the sector. For example, domestic saturation for the fertilizer sector is assumed attained when the country fertilizer production capacity fully meets an aspired domestic requirement. Beyond this point, there is a shift in applicable price as it is assumed that any additional fertilizer capacity is for export.

At export saturation, it is assumed that the set capacity for export from Nigeria for that sector has been reached, beyond which any additional capacity will transit into the market led regime where prices are commercially negotiated

It is important to note that the price of gas will in all cases be indexed to inflation and to end product price. For example, if the end user Power tariff changes, the price of gas supply will change accordingly. It is expected that the indexation mechanism to end product price will be determined by gas suppliers and purchasers during the development of their respective Gas Sale and Purchase Agreements.



(i) Regulated Pricing Regime

The regulated pricing regime applies specifically to the Strategic Domestic sector (i.e. Power supplied to the national grid). With the strategic intent being to facilitate the lowest possible and sustainable cost of gas supply to the Power sector, the base gas price is predetermined and set at the Floor Price of \$0.1/mmbtu for the dry gas (plus additional \$0.3/mcf for transmission).

In essence, for Power Sector, a floor price of \$0.40/mmbtu above prevails.

(ii) Pseudo-Regulated Regime

This applies to the strategic industrial sectors where it is assumed that the feedgas is used for the creation of products that are targeted primarily for export (though some local consumption may apply). In essence, it is assumed that the domestic requirement is very small or non-existent. However, a target export level is set and once the export saturation is reached i.e. when the country capacity for that sector equals the target export level, the price will change.

Prior to reaching export saturation the gas price that applies for the sector is the netback price that assures the sector operator a post tax 15% rate of return based on an assumed end product price. This netback price will vary from sector to sector. For each sector, the feedgas price will be indexed to the end product price. For example, a base feedgas price for fertilizer will be set based on an assumed long run price of fertilizer in the export market. This will be the lowest price that gas will be supplied to the fertilizer investor. Subject to the adopted indexation mechanism, the feedgas price will increase accordingly when international prices for fertilizer increase.

(iii) Market - Led Pricing Regime

The market-led regime applies to all sectors of the economy in the following manner:

1. For strategic domestic and export sectors whose capacities are in excess of the export saturation index and

2. For other commercial domestic and export sectors that are able to bear a high gas price such as LNG, CNG, Cement and Industries.

In essence, if the installed capacity for the Power sector is in excess of the total domestic requirement and also in excess of a target export level, then any incremental power capacity will be subject to the market led regime prices.

For this regime, the price is to be negotiated between the buyer and the seller. However, a floor price is set – *the Nigerian Gas reference Marker price*. The Marker Price is the floor price for all sectors in the market-led regime. It is considered the fair value for Nigerian gas commodity which every non-strategic sector must ascribe to pay in the minimum.

The reference marker price has been established as the LNG net back price to the Nigerian gas plant - this sector being the sector with the highest potential economic return to government (as indicated in Figure 5) and highest consumer of gas. In essence, the LNG sector is the price setter for the market led regime. This price is estimated at about $2.08/mmbtu. However for the purpose of this framework, a discount of about 25% is applied to this netback price resulting in an effective marker price of $1.56/mmbtu.

(iv) Reference Marker Price Tunnel

In order to ensure stability in the gas market, a cushion is applied above the gas reference marker price referred to as *the reference marker tunnel*, with an upper limit of $2.50/mmbtu. Beyond the tunnel, the Gas Regulator is empowered to intervene in the event of conflict between a buyer and seller. For example, if a buyer is willing to pay more than 2.50/mmbtu, the Gas regulator can compel an unwilling seller to sell the gas. However, at a price range within the tunnel, the seller has the first right of refusal in utilisation.

(v) Indicative Gas Prices

The gas pricing framework will establish the base prices for the sectors.

(E) IMPLEMENTATION

(i) The Downstream Gas Act

To underpin the proposed pricing framework, Government will establish a Gas Regulatory Agency, the Gas Regulatory Commission, through the proposed Downstream Gas Act. Amongst other functions, the Commission will have the power, where necessary, to regulate the price of gas supplied and utilized in the downstream gas sector and the power to promote reliable and efficient use of gas throughout Nigeria. It will also have the power to monitor and impose pricing restrictions on licensees.

Consistent with the pricing principles established by the Act, the Commission will have the power to regulate the prices charged by licensees where competition has not developed to such an extent as to protect the interest of consumers. The relevant pricing principles in this regard are cost reflectivity, price disaggregation and the earning of a reasonable return on investment by licensees.

A Transitional Pricing Plan setting out temporary or transitional pricing arrangements allowing for a gradual transition towards pricing arrangements that are consistent with the pricing principles above is required to be introduced by the Downstream Gas Regulatory Agency. The gas pricing framework presented in this policy document is designed to achieve this objective.

(ii) Domestic Gas Reserves and Production Obligation

All gas (AG and NAG) asset holders will be required to dedicate a specific proportion of their gas reserves and production for supply to the domestic market. This is the "*Domestic Reserves and Production Obligation*".

The reserve and supply obligation – initially set at 5 years - will be broken down annually to a production obligation for the same period. The sum total of all obligations will equal the planned domestic requirement for the stated period. Periodical reviews to the domestic obligation will take place to reflect the changing demographics of the demand and supply landscape i.e. new demand will be allocated accordingly as new suppliers come on stream.

(iii) Demand Allocation Principle

In managing all gas demand and supply requirements within the domestic economy, the Strategic Aggregator will aggregate gas from gas asset holders for resale to the strategic projects. This will require each oil and gas producer to supply a specific volume of gas towards the Domestic Gas Demand Requirement for each year.

The mechanism for allocation will be equitable across all operators and also ensure predictability of commitments to the domestic economy.

It is important to note that gas demand with supply will be aligned by the Strategic Aggregator subject to:

- gas producer allocation quota
- minimum aggregated price target
- the limits of the supplier's obligation
- Other logistics considerations.

(iv) The Aggregate Gas Price and the Strategic Gas Aggregator

The gas pricing framework stipulates a pricing regime for various demand sectors ranging from a floor price of about $0.1/mmbtu for the power sector to over $2/mmbtu for the commercial sectors. The Aggregate Domestic Gas Price is the forecast aggregate domestic price based on the projected total domestic demand portfolio using the relevant prices proposed by the framework.

All suppliers of gas in the country will be paid the aggregate domestic gas price. A target aggregate price will be set by the Gas Regulator based on the known portfolio of domestic demand. The portfolio will be balanced continually to ensure that the aggregate price does not fall below the threshold. In essence, the suppliers have a fixed price whilst the buyers will pay the sector price proposed in the framework. The aggregate pricing will ensure that regardless of their geographical location all suppliers are able to benefit from the high priced customers as well as from the low priced buyers. The aggregate price will ensure that the suppliers receive an acceptable return for their domestic obligation.

The Strategic Aggregator will manage the implementation of the domestic reserves and production obligation and the aggregate price. It will ensure a balanced growth of the domestic portfolio such that the target minimum aggregate price is achieved whilst not compromising the nation's primary objective for economic growth by ensuring the availability of adequate volumes of gas to the power sector.

In managing all gas demand and supply requirements within the domestic economy, the Strategic Aggregator will aggregate gas from gas asset holders for resale to the domestic projects. Conceptually, the Strategic Aggregator acts as a one stop intermediary point between the suppliers and the diverse demand sectors and will ensure that gas is supplied at the aggregated price. Through a Gas Management Model, the Strategic Aggregator plays the role of portfolio manager on behalf of all suppliers – the primary objective being to preserve a minimum aggregate price portfolio. When the aggregate price is higher than the minimum threshold, an agreed portion will be paid out to the suppliers whilst the balance will be retained as cushion in the event that the portfolio mix for unavoidable reasons falls below the target minimum threshold.

Conclusion

The National Domestic Gas Supply and Pricing Policy therefore aims to fully align the gas sector with the economic growth aspiration of the nation. This policy will be applied in conjunction with the Gas Pricing regulations and modifications thereto.