Key Learnings on Gas Price & it's Mechanism for India with Regulatory Aspects

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Project on Gas Pricing in India

Market Price Regulation in India

Coverage is Inclusive of Wellhead , Wholesale and / or Retail Prices

Query: Which market prices are regulated (wellhead , wholesale and/ or retail)

Response:

All the market prices for gas in India are regulated i.e. wellhead, wholesale and retail. It is pertinent to note that the proposed formula by Rangarajan Committee has not been implemented as the rationale behind same is not very well accepted by the stake holders. The gas pricing mechanism in India which still is under implementation follows typically two regimes namely:

- **Administered Pricing Mechanism (APM)**
- **Non-APM or Free market gas**

The price of APM gas is set by the Government principally on a cost-plus basis. As regards non-APM/free-market gas, this could also be broadly divided into two categories, namely, (i) imported Liquefied Natural Gas (LNG), and (ii) domestically produced gas from New Exploration Licensing Policy (NELP) and pre-NELP fields.

Query: Which consuming sectors do have regulated prices (power generation, industry , residential and commercial , feedstock, others?)

Response:

All the consuming sectors in India have regulated gas prices which are being supplied through APM mechanism. This was done keeping in view of scarcity of natural gas in the country, priority for the commercial utilization of domestic gas was decided by Government of India, to make its most optimal use. The priority for utilization of gas produced from fields under APM i.e. gas produced by NOCs- ONGC and Oil India, for the fields awarded on nomination basis prior to the PSC regime and for the natural gas produced by NELP contractors including RIL's KG D6 field was decided by GoI. The guidelines for the gas sold from NELP fields were issued by Empowered Group of Ministers (EGoM) in May 2008. APM gas is mainly allocated to existing power and fertilizer plants. The order of priority has been laid down to give first priority to the existing plants to ensure utilization of capacities already created and to obtain faster monetization of natural gas.

The second preference is given to energy-intensive industries and the third preference to plants in easing bottlenecks and expansion. The order of priority is shown in Exhibit 01 for existing units and in Exhibit 02 for green-field units.

Exhibit 01: Order of Priority Consumers with Existing Units

TABULAR

Order of Priority	Consuming Sectors
First	A
Second	B
Third	Power Plants
Fourth	C
Fifth	D

Source: enincon research

Exhibit 02: Order of Priority Consumers with Green Field Units

TABULAR

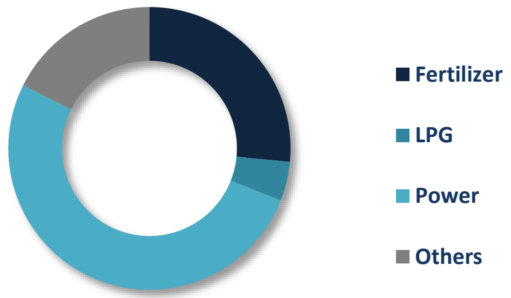
Order of Priority	Consuming Sectors
First	A
Second	B
Third	C
Fourth	D
Fifth	Power Plants

Source: enincon research

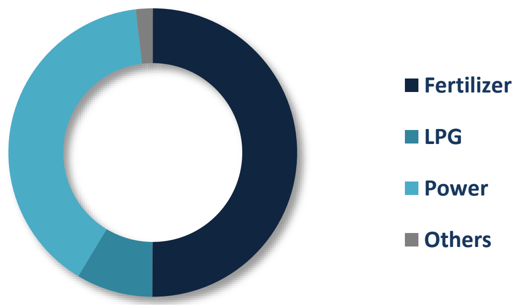
Exhibit 03: Allocation of Gas from Krishna Godavari (KG)-D6 Basin in MMSCMD to Different Consuming Sectors

ILLUSTRATIVE

Earlier Allocation from KG - D6 Basin in MMSCMD



Current Allocation from KG - D6 Basin in MMSCMD



Source: enincon research

Gas Regulatory Structure & Pricing in India

Coverage is Inclusive of Basis of Regulation and Structure in India

Query: Who is the regulator (Ministry, Local Government, Government Agency, Independent Energy Regulator, Competition Regulator, Courts or others)?

Response:

Ministry of Petroleum and Natural Gas (MoPNG) is the apex regulatory body representing Government of India that regulates and oversees exploration, exploitation and utilization of petroleum resources, including natural gas. Also, there are other two regulatory bodies under MoPNG namely:

- Directorate General of Hydrocarbons (DGH) – Regulates Upstream Hydrocarbon Sector
- Petroleum and Natural Gas Regulatory Board (PNGRB) – Regulates Downstream Hydrocarbon Sector

Query: What is the basis for regulation (Cost of service, including production, transportation, distribution storage etc; local or international market price; price of competing fuels, social affordability, including for electricity that is generated from natural gas; and others)

Response:

There are broadly two pricing regimes for gas in the country currently – one for the gas priced under the Administered Pricing Mechanism (APM), and the other for the non-APM or free-market gas. The price of APM gas is set by the Government principally on a cost-plus basis. As regards non-APM/free-market gas, this could also be broadly divided into two categories, namely, (i) imported Liquefied Natural Gas (LNG), and (ii) domestically produced gas from New Exploration Licensing Policy (NELP) and pre-NELP fields.
Further, the basis of regulation on gas pricing in India can be understood from below explanation:-

Cost Recovery: The contractor bids the Cost Recovery Factor – i.e. the percentage of revenues which he is entitled to take in a year to recover his exploration, development and production costs. This percentage can be up to 100 percent. The higher the cost recovery factor that the contractor bids, the earlier the costs can be recovered; however, in such a situation, his fiscal package will be relatively unattractive as part of the bid evaluation.

Local Market Price: The sale price must at all times be on the basis of similar arms - length sales in the market.

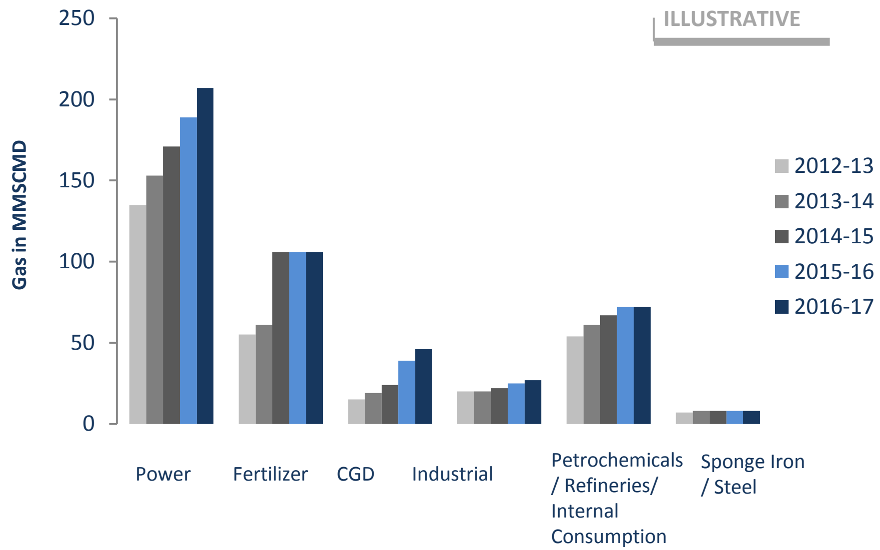
Social Affordability: The fertilizer and power plants are heavily subsidized by the Government and, if the same is not done then that will be the direct pass through to the end consumers.

Also, Gas pricing mechanism in India is presently driven by sectoral prioritization, administered gas allocation and pricing, apart from huge supply-side constraints. While short-term demand changes in international demand due to weather-related causes are quite frequent, the Indian gas market has not seen such volatility in demand in the short-term. This is mainly due to the fact that gas consumption is concentrated in the fertilizer, power and LPG sectors. Other factors resulting in short-term volatility, like business cycles and supply interruptions are also not relevant here. However, all these factors impact international gas price in the spot market and may impact profitability of Indian industry substantially.

The latest natural gas pricing guidelines which was supposedly applicable from April 01, 2014 but was deferred by firstly the Election commission of India in the event of General elections in the country and secondly by the new Government to find a judicious way of pricing of gas against the universal opposition of Rangarajan Committee recommendations for pricing is depicted as below:

The Government has issued the Notification regarding Domestic Natural Gas Pricing Guidelines, 2014 on 10.01.2014. These Guidelines are hosted on website of the Ministry and would have been published in the Gazette of India. Salient features of the Domestic Natural Gas Pricing Guidelines, 2014 are:

Exhibit 04: Sector Wise Demand of Gas During 12th FYP (From 2012-17) in India in MMSCMD



Source: enincon research

- These guidelines will be applicable to all natural gas produced domestically, irrespective of the source, whether conventional, shale, CBM etc. These guidelines shall apply from 1st April 2014.

- These guidelines shall not be applicable where prices have been fixed contractually for a certain period of time, till the end of such period. These guidelines shall also not be applicable where the production sharing contract provides a specific formula for natural gas price indexation / fixation. Further, the pricing of natural gas from small / isolated fields in the nomination blocks of NOCs will be governed by the extant policy in respect of these blocks issued on 8th July, 2013.
- The prices determined under these guidelines shall be applicable to all consuming sectors uniformly. These guidelines shall also be applicable for natural gas produced by ONGC/OIL from their nominated fields.

The pricing of natural gas produced domestically shall be based on the following methodology:

First, the netback price of all Indian imports at the wellhead of the exporting countries will be estimated. Since there may be several sources of gas imports, the weighted average of such netback of import prices at the wellheads would represent the average global price for Indian LNG imports.

Secondly, weighted average of prices prevailing at trading points of transactions – i.e., the hubs or balancing points of the major global markets will be estimated. For this, (a) the hub price (at the Henry Hub) in the US (for North America), (b) the price at the National Balancing Point of the UK (for Europe) and (c) the netback wellhead price at the sources of supply for Japan will be taken as the average price for producers at their supply points across continents.

Finally, the simple average of the prices arrived at through the aforementioned two methods will be determined as the price for domestically produced natural gas in India.

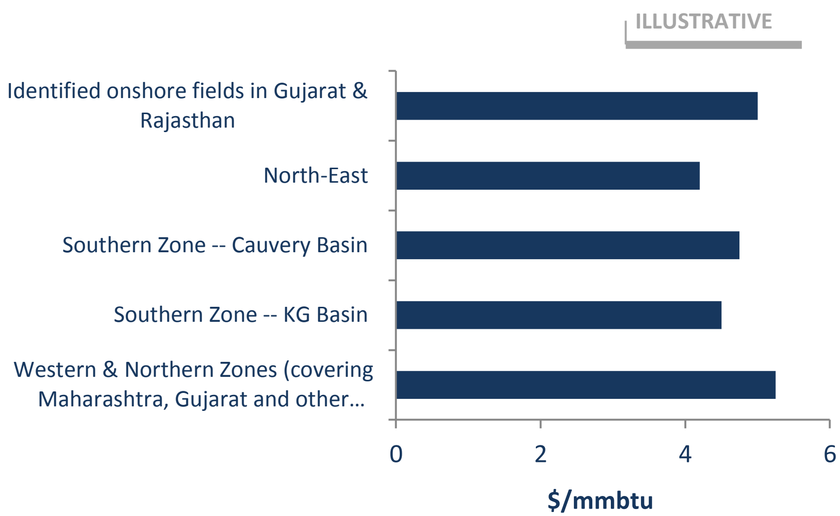
Domestic Gas prices shall be notified in advance on a quarterly basis using the data for four quarters, with a lag of one quarter. In respect of D1 and D3 gas discoveries of Block KG-DWN-98/3, these guidelines shall be applicable subject to submission of bank guarantees in the manner to be notified separately.

Query: Please indicate the latest available price level for the main large consumers (power generation , feed stock , local , distributors etc) and specify date of the quote.

Response:

In India, as mentioned in previous section also, the gas pricing is done under four major pricing regimes for domestic gas in the country – gas priced under Administrative Pricing Mechanism (APM), Pre-NELP, non-APM and NELP (New Exploration Licensing Policy). The price of APM & non-APM gas is fixed by the Government. As regards NELP & pre-NELP gas, its pricing is governed in terms of the Production Sharing Contract (PSC) signed between the Government & the Contractor. As far as imported gas is concerned, the price of LNG imported under term contracts is governed by the Sale & Purchase Agreement (SPA) between the LNG seller and the buyer; the spot cargoes are purchased on mutually agreeable commercial terms.

Exhibit 05: Price Applicable to Customers Not Entitled for APM Gas which is Market Driven and Applicable from 1.7.2010 (In $/ mmbtu)



Source: enincon research

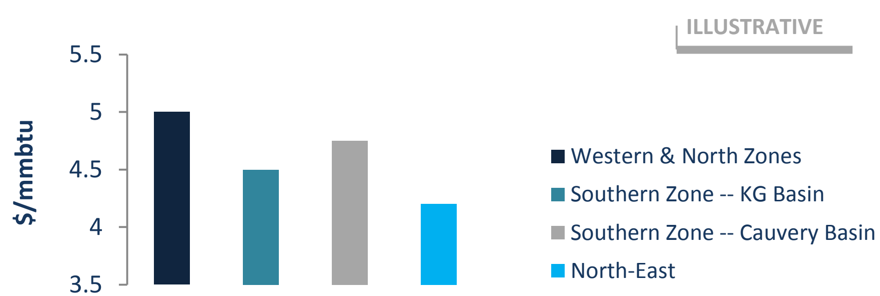
The prices are indicated in the set of following figures along with the dates from which they are applicable:

All the consuming sectors have to bear the prices under these mechanisms only as per the priority for allocations as set by Government of India.

Also, the gas produced from existing fields of the nominated blocks of NOCs, viz., OIL & ONGC, is being supplied predominantly to fertilizer plants, power plants, court-mandated customers, and customers having a requirement of less than 50,000 standard cubic metres per day at APM rates.

The Government fixed APM gas price in the country, with effect from 1.6.2010, is $ 4.2/mmbtu (inclusive of royalty), excepting in the Northeast, where the APM price is $ 2.52/mmbtu, which is X% of the APM price elsewhere, the balance Y% being paid to NOCs as subsidy from the Government Budget.

Exhibit 06: Price Applicable to Customers as Sold by NoCs for Non-APM Gas and Applicable from 1.7.2010 (in $/ mmbtu)



Source: enincon research

Query: With reference to the upstream part of the value chain (production and/or import), please outline the main criteria that are used for regulation, including as available:

- Criteria for Capital Valuation
- Rates of return and their main component
- Depreciation rates
- Operational Expenditures
- Use of benchmarking techniques
- Exploration cost and their evaluation criteria
- Depletion fees, royalties or user costs
- Social or environmental fees and subsidies
- Reference to Competing Fuels
- Reference to International Gas Prices

Response:

The criteria used for regulation for the upstream part of the Gas value chain in India can be classified under two important heads:-

For Domestic Gas Production

For Gas Imports

We would cover the domestic and gas imports section separately indicating the main criteria used for regulation. Considering the domestic gas production section first we would detail out the major criteria which are utilized to regulate the upstream sector.

Domestic Gas Production Sector of India:

The domestic gas upstream value chain's applicable criteria as per the listed pointers are depicted in Exhibit 07.

Exhibit 07: Main Criteria Used for Regulation in Case of Domestic Gas in India

TABULAR

Main Criteria Used for Regulation of Domestic Gas	Criteria's Applicability	Remarks
Criteria for Capital Valuation		A
Rates of Return & their Main Components		Not applicable in India
Depreciation Rates		B
Operational Expenditures		Yes , it is applicable and forms the part of cost of production
Use of Benchmarking Techniques		C
Exploration Cost & Their Evaluation Criteria		D
Depletion Fees, Royalties or User Costs		E
Social or Environmental Fees & Subsidies		F
Reference to Competing Fuel		G
Reference to International Gas Prices		H

Applicable Partially Applicable Partially Applicable

Source: enincon research

Exhibit 08: Main Criteria Used for Regulation in Case of Imported Gas in India

TABULAR

Main Criteria Used for Regulation of Domestic Gas	Criteria's Applicability	Remarks
Criteria for Capital Valuation		A
Rates of Return & their Main Components		B
Depreciation Rates		Yes , it is applicable and forms the part of cost of production
Operational Expenditures		C
Use of Benchmarking Techniques		D
Exploration Cost & Their Evaluation Criteria		E
Depletion Fees, Royalties or User Costs		F
Social or Environmental Fees & Subsidies		G
Reference to Competing Fuel		H
Reference to International Gas Prices		I

Applicable Partially Applicable Partially Applicable

Source: enincon research