NATURAL GAS SCENARIO IN INDIA

- Historically, India has relied on coal to power its electricity sector, liquid fuels as feed stock and oil for its transport sector. But for environmental reasons we need to focus on cleaner fuels.
- The development of Natural Gas industry in the country started in 1960s with discovery of gas fields in Assam and Gujarat. After discovery of South Basin fields by ONGC in 1970s, Natural Gas assumed importance. The Exploration activities in India were earlier carried out only by the National Oil Companies (ONGC & OIL) under nomination regime. Later private companies where allowed to enter into exploration through JV with NOCs under Pre-NELP regime. Subsequently, 100% foreign participation in exploration was allowed in the current NELP regime. Later discoveries were made in Gujarat, KG basin, Cauvery basin, Tripura, Assam etc. In 2004, liquefied Natural Gas was imported from Qatar and LNG terminal was set up at Dahej of 5 MMTPA capacity.
- Gas is one of the cleanest fuel with less carbon dioxide per joule delivered than either by coal or oil and far fewer pollutants than other hydrocarbon fuels.

Allocation and Supply of Natural Gas:

Natural gas available in India can broadly be classified into two categories, viz. (i) Domestic Natural Gas and (ii) Imported Re-gassified Liquefied Natural Gas (R-LNG). Keeping in view the shortage of natural gas in the country, domestic gas is allocated to various sectors based on the Policy Guidelines issued by the Government from time to time. In case of imported gas, the marketers are free to import LNG and sell the RLNG to customers. A statement showing sector-wise supplies of natural gas is given in table below.

(Figures are in MMSCMD)

Sector	**Domestic**	**R-LNG**	**Domestic + R-LNG**
Fertilizers	30.30	12.64567	**42.95**
Gas Based LPG plants for LPG extraction	1.83	1.09	**2.92**
Power	27.26	2.170355	**29.43**
CGD for CNG & Domestic PNG Purpose	7.25	8.2337	**15.48**
TTZ	0.98	0.07	**1.05**
Small consumers having allocation less than 50,000 SCMD	2.45	2.575	**5.03**
Steel	1.32	1.8244	**3.14**
Refineries	1.89	10.454	**12.35**

Petrochemicals	3.82	0.88	**4.70**
CGD for PNG to Industrial & Commercial	0.00	0	**0.00**
Others	1.52	1.16906	**2.69**
Internal consumption - pipeline system	1.40	0	**1.40**
Total	**80.02**	**41.11**	**121.13**

In order to enable early monetization of gas produced from small and isolated fields of National Oil Companies, the Ministry had issued guidelines on 16.1.2012 providing for allocation of gas from such fields by National Oil Companies (NOCs) through process of bidding. The limit of peak production of the field was kept as 0.1 MMSCMD for qualifying as small and isolated field. Based on the experience, the Ministry has revised the guidelines and issued fresh guidelines on 08.7.2013. In the new guidelines, the sectoral priority has been done away with and price bidding has been introduced for the purpose of selecting the customer. Further, the limit of peak production has been raised from 0.1 MMSCMD to 0.2 MMSCMD for the purpose of qualifying as a small and isolated field. The fresh guidelines are expected to lead to faster monetization with higher returns for NOCs. This initiative is likely to encourage NOCs in making investment in exploration.

Natural Gas Infrastructure in India:

Natural Gas Infrastructure consists of R-LNG terminals, Gas Pipelines and City Gas Distribution (CGD) networks.

(i) Natural Gas Pipelines:

At present, the country has a gas pipeline network length of 14,987 Km having capacity of 401 MMSCMD spread over 15 States & UTs. The details of major existing pipelines are as follows-

Sl. No.	Name of the Natural Gas Pipeline	Owner Entity	Length (KM)
1	Hazira-Vijaipur-Jagdishpur -GREP-Dahej-Vijaipur	GAIL(India) Limited	4222
2	Dahej-Vijaipur (DVPL)-Vijaipur-Dadri (GREP) Upgradation	GAIL(India) Limited	1280
3	Uran-Trombay	Oil and Natural Gas Corporation Limited	24
4	Dahej-Uran-Panvel-Dhabhol	GAIL(India) Limited	815
5	Agartala regional network	GAIL(India) Limited	55.4

6	Dukli-Maharajganj pipeline	GAIL(India) Limited	5.2
7	Mumbai regional network	GAIL(India) Limited	125
8	Assam regional network	GAIL(India) Limited	8
9	K.G. Basin network	GAIL(India) Limited	878
10	Gujarat regional network	GAIL(India) Limited	609
11	Cauvery Basin network	GAIL(India) Limited	241
12	EWPL (Kakinada-Hyderabad-Uran-Ahmedabad)	Reliance Gas Transportation Infrastructure Limited	1460
13	GSPL's High Pressure Gujarat Gas Grid network	Gujarat State Petronet Limited	2100
14	GSPL's Low Pressure Gujarat Gas Grid network	Gujarat State Petronet Limited	58
15	Hazira-Ankleshwar	Gujarat Gas Company Limited	73
16	Dadri-Panipat	Indian Oil Corporation Limited	132
17	AGCL's Assam regional network	Assam Gas Company Limited	105
18	Uran-Taloja	Deepak Fertilizer & Petrochemicals Corp. Ltd.	42
19	Dadri-Bawana-Nangal	GAIL(India) Limited	886
20	Chhainsa-Jhajjar-Hissar	GAIL(India) Limited	455
21	Dabhol-Bangalore	GAIL(India) Limited	1414
		Total:	**14987.6**

At present, there is a strong regional imbalance within the country with regard to access natural gas. Few states like Gujarat, Maharashtra and UP together consume more that 65% of the available gas, while a large number of states have no access to gas. This regional imbalance is mainly on account of lack of pipeline infrastructure in many states like West Bengal, Bihar, Jharkhand, Odisha and Chhattisgarh. In order to take the benefits associated with natural gas to

all states across the nation, it is essential that the pipeline network is expanded to all regions of the country Ministry is contemplating to development of a National Gas Grid having multiple points of injection and multiple points of withdrawal. The proposed gas grid would connect the gas sources to major demand centers such as industrial clusters, big cities etc.

(ii) R-LNG Terminals:

At present, Natural Gas demand far exceeds domestic supply and this shortage is likely to prevail in the near future. Additional demand is catered through imported R-LNG. However, the demand for RLNG is price sensitive.

During 2013-14, Kochi LNG terminal having 5 MMTPA capacity for regasification has been commissioned. With commissioning of Kochi Terminal, the total re-gasification capacity of four R-LNG terminals has increased to 22 MMTPA (79.2 MMSCMD). The capacity of these 4 R-LNG terminals is likely to be increased further to 32.5 MMTPA (117 MMSCMD) by 2016-17. The consumption of RLNG in the first six months of 2013-14 was 39 MMSCMD.

Existing Operational R-LNG Terminals Capacity

Location	Owner	Terminals Capacity (in MMTPA)		
		2014-15	2015-16	2016 – 17
Dahej	PLL	10	10	15
Hazira	Hazira LNG	5	5	7.5*
Kochi	PLL	5	5	5
Dhabol	GAIL	2	5	5
Total Existing Capacity (MMTPA)		**22**	**25**	**32.5**
Total (MMSCMD)		**79.2**	**90**	**117**

Besides the above terminals, regasification terminals of about 35.5- 36.5 MMTPA are being planned on the eastern and western coasts of India by differen entities. Development of these projects would depend on techno-commercial feasibility.

(iii) City Gas Distribution (CGD) Infrastructure:

The CGD sector comprises of Compressed Natural Gas (CNG) and Piped Natural Gas (PNG) customers. With increased availability of gas in the country, the CGD network has been enlarged to cover various cities supplying gas for domestic consumers, public transport, and commercial/ industrial entities. As on 31.12.2013, there are a total of 936 compressed natural gas (CNG) stations across the country and 24, 14,288 households with Piped Natural Gas (PNG) connectivity. The consumption of gas in the CGD network during 2013-14 was around 15.48

MMSCMD, of which 8.60 MMSCMD was used for CNG (transport) & PNG (domestic) and 6.88 MMSCMD was used for Industrial & Commercial PNG. At present, there are a number of entities operating in 47 geographical areas (GAs) and currently 18 GAs are under bidding process by PNGRB. The PNGRB has envisaged a rollout plan of CGD network development through competitive bidding in more than 300 possible GAs in a phased manner depending upon the availability of natural gas and pipeline connectivity.

In order to promote CNG (transport) and PNG (domestic) and for a developed CGD sector in the country, Ministry has taken a decision to meet 100% requirement (to the maximum extent possible) of CNG (transport) and PNG (domestic) of all CGD entities across the nation without any discrimination amongst entities. Guidelines in this regard have been issued in February, 2014. This decision has brought down the price of CNG (Transport) and PNG (domestic) across the nation and has led to increase in the consumption of natural gas, an environmentally friendly fuel, in the sector.

Further in order to bring transparency in pricing of CNG (transport) & PNG (domestic), the Ministry has issued instructions in February, 2014 to CGD entities to display the breakup of CNG price at CNG stations and to furnish the breakup of PNG (domestic) price in the invoice issued to the customers.

The Ministry is formulating guidelines relating to grant of rights to entities for sale of CNG as transportation fuel through CNG Stations. The intent of the envisaged guidelines is to promote setting up of several CNG stations in various cities/towns across the country, including along highways, and also to foster competition amongst eligible entities in the CNG segment, analogous to that in liquid transportation fuel (MS, HSD and ATF) segment. This would lead to faster rollout of large number of CNG stations across the nation.

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