

# India's Energy Diplomacy in Liquefied Natural Gas (LNG)

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India is the second largest country by population with 1.21 billion people (Census, 2011) and third largest economy in the world. Indian economy is proliferating with an average growth rate of approximately 7% in the last two decades. Energy is the critical input for economic activities, and to achieve sustainable growth we need a greater share of green/clean energy in the energy mix. India's energy mix (shown in Figure-1) is dominated by polluting coal (56.26%) & Oil (29.47%) whereas; natural gas contributes only 6.12%. Natural gas is cleanest fossil fuel and is being considered as a transition fuel between coal/oil & renewable. Hence, Government of India has set the target for making India a Gas Based Economy by increasing the share of natural gas in India's energy mix from the current 6.12% to 15% by 2025.

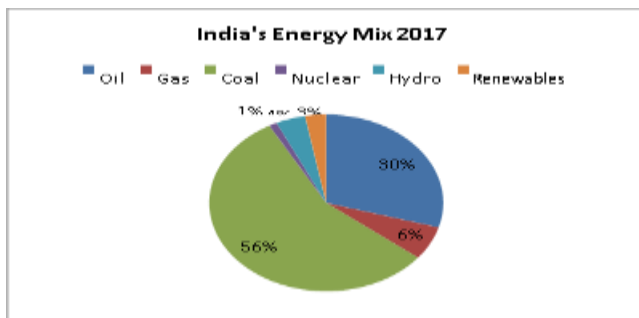


Figure-1: India's Energy Mix (Source: BP Statistics, June 2018)

As per "PNGRB's Vision 2030" document, demand supply gap (shown in Figure-2) for the natural gas market in India necessitate import of natural gas from the international market. "Energy diplomacy of India is playing a significant role to ensure sustainable, affordable and continuous import of natural gas from exporting countries". There are two options to import natural gas, firstly, in the form of LNG through LNG import terminals and secondly, through trans-national natural gas pipelines. Considering current geopolitical challenges in trans-national pipeline projects, the only feasible option available is importing through LNG terminals in India.

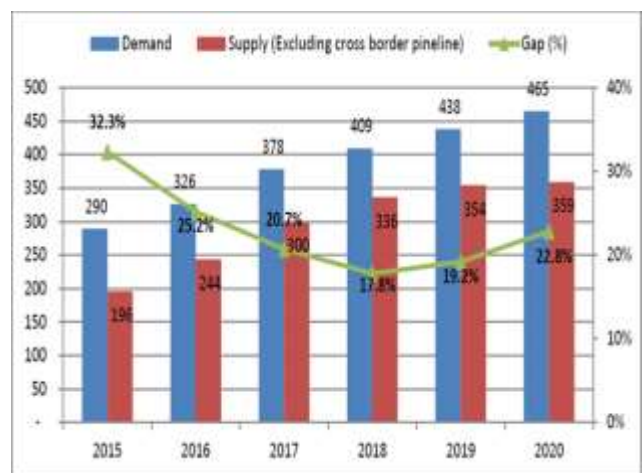
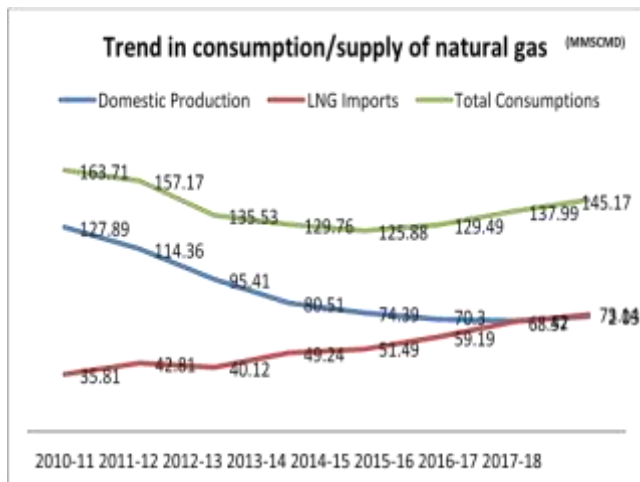


Figure-2: India's Demand-Supply gap of Natural Gas (Source: PNGRB, 2015)

## Trend in Natural Gas supply & consumption in India:

The production of domestic natural gas in India has decreased from 113.42 MMSCMD during 2009-010 to 69.42 MMSCMD during



2016-17 (PPAC, 2017) due to a drastic decrease in production level of KG basin. Total supply and consumption are being supported by imported LNG. Authors have tabulated the historical trend of consumption/supply of natural gas in the country as shown in Figure-3.

Figure-3: Trend in consumption/supply of natural gas (Source: PPAC)

The trend in consumption and supply of natural gas in India has shown that LNG is playing a significant role in total consumption and meeting demand-supply gap. Percentage contribution of LNG in India's total natural gas consumption is shown in Figure-4.

The increasing role of LNG in India's natural gas consumption has shown that India's dependence on LNG is crucial. Hence, to ensure the sustainable, affordable and long-term relationships with LNG exporting countries India's energy diplomacy need to play a significant role.

## Energy Diplomacy in re-negotiating long term LNG contracts:

The import of LNG in India had started in the year 2004 when the first Phase of Petronet LNG Ltd.'s (PLL) Dahej terminal commenced its operation with 5 MMTPA capacity. PLL is promoted by four Indian PSUs, GAIL, ONGC, IOCL & BPCL. It is the first company started LNG business in India by signing long term Master Sales & Purchase Agreement (MSPA) with RasGas, Qatar. India's Major long-term contracts (20 Years) for importing LNG are as follows:

1. PLL with RasGas, Qatar for 7.5 MMTPA.
2. PLL with Exxon Mobil's Gorgon Venture in Australia for 1.44 MMTPA.
3. GAIL with Gazprom, Russia for 2.5 MMTPA.

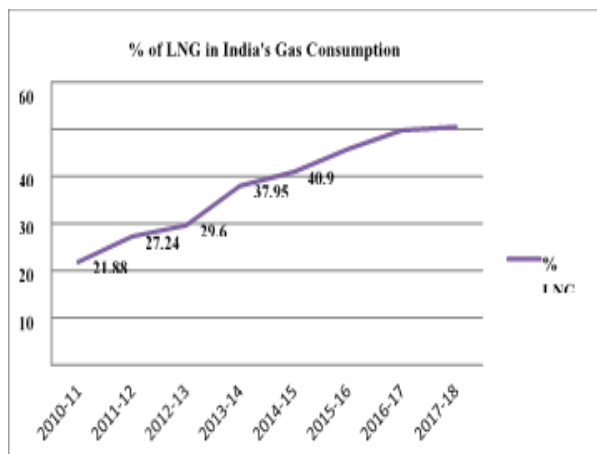


Figure-4: Role of LNG in India's Gas Consumption (Source: PPAC)

Recently, Energy Diplomacy of India through representation from the Ministry of Petroleum and Natural Gas to Qatar, Australia and Russia have helped to re-negotiate the commercial terms and pricing formula of the above long-term contracts.

This energy diplomacy has helped India to save billions of dollars and played a crucial role in securing sustainable energy relation with LNG exporting countries. The details of contracts & savings under re-negotiation are as follows,

**A. PLL with RasGas, Qatar for 7.5 MMTPA:**

Long term LNG price formula was,  $LNG\ Price = 12.66\ \% * JCCt$

Where,

JCC: Price of Japan's Japan Customs-cleared Crude. JCCt: Last 60 months' average price of JCC.

Under diplomatic success, re-negotiation of above formula has been done in 2016 as follows,

Revised  $LNG\ Price = 12.66\ \% * Brent + 0.6$

Whereas,

Brent is 3 months' average Price of Brent Crude.

Due to this revised formula & re-negotiated commercial terms India would save billions of dollars as follow,

- Saving of around Rs. 4000 Corers per year for remaining contracts period.
- Payable Take or Pay (ToP) obligation of Rs 12000 Corers were waived off

Extracts of Interview of CEO, PLL with Business Line on 5<sup>th</sup> January 2016 is as follows,

“From January 1, 2016 we are getting daily advantage of \$5 per mmBtu,” from January 1, 2014, we started hitting the floor price. The advantage of low gas price was not available

to us and we were always paying more than what was the prevailing rate.

For example, if crude was at \$80 per barrel, the floor was at \$110 per barrel. The \$12.5 per mmBtu price that we were paying till December 31, 2015, was based on the crude price at \$96 per barrel, while it had fallen to \$40 per barrel. But, now we have removed such things and linked it as close as possible to the market pricing. Yes, there is always a premium in the long- term contract, while spot can keep fluctuating. Due to commercial reasons I cannot share the details of the formula with you"

**B. PLL with Exxon Mobil's Gorgon Venture in Australia for 1.44 MMTPA:**

Original formula as per 2009 contract is  $LNG\ Price = 14.5\ \% * JCC$  (FOB basis) Revised formula is  $LNG\ Price = 13.9\ \% * JCC$  (DES basis)

PLL has an agreement for purchase of 1.44 MMTPA of LNG from Mobil Australia Resources (part of ExxonMobil) for 20 years from Gorgon project in 2009. PLL began receiving supplies in January 2017 at a rate much higher than the spot, prompting the company to re-negotiate the deal. In 2017, price formula and commercial terms has been revised. As per revised commercial terms, PLL will take additional 1 MMTPA LNG at 12.5 % of the Brent crude price whereas the original supplies will come at a price 13.9 % of Brent, lower from 14.5 % earlier, and the transportation cost would shift to Exxon from PLL under Delivered Ex-Ship (DES) instead of Free on Board (FOB) trade terms.

Due to this revised formula & re-negotiated commercial terms India would save around Rs. 10,000 Corers for contract period.

### **C. GAIL with Gazprom, Russia for 2.5 MMTPA:**

India received its first LNG cargo from Gazprom on June 4, 2018 under a long-term deal of

2.5 MMTPA with Gazprom at PLL's Dahej terminal in Gujarat.

GAIL will buy 2.5mn mt/yr of LNG under a 20-year contract. The contracted volume has been lowered from 2.5mn mt to 0.5mn mt in the first year 2018-19, 0.75mn mt in 2019-20, 1.5mn mt in the third year 2020-21. GAIL will start importing the full 2.5mn/yr by the fourth year and make up for the initial volume reduction over the remaining length of the contract.

Original Formula, LNG Price=JCC (JCC were 9 months average)

Revised Formula, LNG Price=JCC (JCC is 3 months average)

In return of re-negotiated formula, the full term of the contracts has been extended by two years. The revised price and commercial terms would save around Rs. 9500 Cr (at crude oil at \$ 70/b) over the contract period (2018-2040).

### **D. LNG Infrastructure Development in Neighboring Countries:**

India's expertise in setting up LNG import terminals is going to help neighboring countries to develop LNG infrastructure. It may boost India's role in creating a new energy security architecture for its neighbors. PLL is planning to set up LNG terminals in Myanmar, Bangladesh, Sri Lanka and Mauritius. Also, PLL is exploring a similar opportunity in the Maldives. Prime Minister Jagnauth PM of Mauritius visited India in January 2017, and had energy-related talk with Hon'ble Minister, MoPNG for India to

set up LNG terminal in Mauritius. PLL has also begun preliminary studies to construct 2-3 (MMTPA) floating LNG unit in collaboration with Sojitz, Mitsubishi and a Sri Lankan state-owned company in the South-western part of Colombo, Sri Lanka with an approximate investment of \$250-\$300 million.

### **E. Conclusion:**

It would be crucial for India to maintain its energy diplomacy to secure LNG supply from international market and take-up our expertise to build proposed LNG terminals in Myanmar, Bangladesh, Sri Lanka and Mauritius.

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