

India Oil & Gas Summit
Transforming Bengal into a Gas based Economy
10th December 2021; Kolkata

In order to transform Bengal into a gas based economy, the Indian Chamber of Commerce (ICC) one of the leading national chambers of India organized India Oil & Gas Summit 2021 at Kolkata. Major Oil and Gas Companies having their presence in West Bengal namely GAIL(India) Limited, HPCL, Bengal Gas Limited, ONGC, Essar Oil and major natural gas prospective customers like MCPI Haldia, Prism Jhonson, among others, participated in this event. The Indian vision is to achieve a transition to a gas-based economy, for which the government is committed to increasing natural gas share in the primary energy mix from the current 6.7% to 15% by 2030. A total investment of approximately \$60 billion USD is planned in developing gas infrastructure in the country to meet the outlined targets. As a result, the West Bengal state's contribution to achieving the stated objectives is significant.

Speaking on this occasion, in the theme address Mr. Asim Prasad, Zonal Chief General Manager & OIC, GAIL (India) Limited (Kolkata Zonal Office) congratulated ICC for taking this initiative to organize the summit, stating that the issue is current and it is relevant for the state because it symbolizes a progressive vision for a sustainable future that includes support for the three pillars of sustainability: economy, environment, and society. The gas-based economy will serve as a springboard for bridging the gap between high polluting fossil fuels like coal and oil, which are already in use, and renewable, which is the ultimate goal for committing to "Net Zero," the outcome of the COP26 climate summit in Glasgow.

Mr. Prasad first outlined the current picture of the gas sector in India, stating that India's primary energy consumption is 32 Exa Joules in 2020, making it the third-largest after China and the United States. Fossil fuels dominate the energy mix, accounting for 89 percent of the total, compared to an average of roughly 83 percent worldwide. Currently, natural gas accounts for only 6.7 percent of India's primary energy basket, compared to a global average of 24.7 percent. In the current fiscal year, countries' daily natural gas consumption is expected to be around 165 MMSCMD, with 85 MMSCMD coming from imported liquefied natural gas. In other words, India is currently 51.6 percent reliant on imports. India's Natural Gas Supply Chain consists of approximately 20,239 kilometres of cross-country pipelines that connect the gas source to the gas market across 23 states and union territories. Another 14,930 kilometres of pipelines are under different stages of execution. Six LNG regasification plants are now operational in the country, with a nameplate capacity of 42.7 MTPA or 153 MMSCMD of natural gas. Another seven LNG terminals with a regas capacity of 34 MTPA, or 133.4 MMSCMD of natural gas will be built in the near future. The fastest-growing gas sector is the City Gas Distribution retailing, which includes consumers with daily gas requirements of upto 50,000 SCMD, in the household, transportation, industrial, and commercial segments. There are currently 228 Geographic areas serving 85 million people spanning 53 percent of the country's land area. Presently, the retail sector consumes roughly 31 MMSCMD of NG, accounting for 18.8% of the Indian gas market.

Moving forward, Mr Prasad explained six critical dimensions that are key to *"transforming Bengal into a gas-based economy"*.

1st : Natural Gas Access and investment in building pipeline infrastructure

- (i) GAIL is currently executing the prestigious Jagdishpur-Haldia-Bokaro-Dhamra Pipeline Project, the Barauni-Guwahati Pipeline Project, and the Dhamra-Haldi Pipeline Project to connect West Bengal to the national gas grid. Together these cross-country pipelines traverse **700⁺ kms across 15 districts** of West Bengal to provide pipeline access to a diverse segment of customers in the state. The access will ramp up latent gas demand in the state.
- (ii) GAIL's pipeline will connect to the retail customers spread across **06 GA's in 10 districts** of WB who will enjoy an uninterrupted supply of comingled gas to meet their natural gas demand, for which the City Gas Distribution entities, namely, IOAGPL, HPCL, and Bengal Gas, are currently executing their CGD projects in their authorized areas. These **10** districts where the CGD projects are being executed are Burdwan, Darjeeling, Jalpaiguri, Uttar Dinajpur, Howrah, Hoogly, Nadia, North 24 Paraganas, South 24 Parangana and Kolkatta. As per the authorization, within a span of the next 6 to 7 years, these three CGD entities will lay around **15000 inch-km** of steel grid, connecting over **38.5 lacs** domestic households for the continuous supply of Piped Natural Gas, and will install over **650** number of CNG stations in the state. Further, **03 new** GA's spread across **07 districts** covering **33,366 sq km** of land area of West Bengal are currently offered in the 11th bidding round. This will cater to the gas requirement of over **2.17 crore** of Bengals population residing in Purulia, Bankura, East Mednipore, West Mednipore, Jhargram, Alipurduar and Koch Bihar districts. Thus establishing the gas infrastructure in West Bengal will involve a direct investment of over **15,000 crores by 2030**. The investments in these critical infrastructures will provide NG access, in West Bengal, a vital component in transforming Bengal into a gas-based economy. At the same time, the objectives under the SDG-7 shall also be met.

2nd : Natural Gas Availability

- (i) GAIL's trunk pipeline in West Bengal will be the gas source for imported LNG, flowing from the upcoming Dhamra Terminal currently under construction or any operating terminal in Western India and the domestic Gas produced in West Bengal or elsewhere in India but connected to the national gas grid.
- (ii) WB is endowed with **10 %** proven reserves of Coal in India with CBM gas which will benefit the state when commercially produced. The current production of CBM gas in the state is **approx.. 0.8-0.90 MMSCMD**. The local CBM gas is being supplied to customers in the Durgapur area. Further, 01 CBM block in the Bengal-Purnea Basin covering 197 sq kms of land area in West Bengal has been offered under the current CBM bidding round. ONGC has also reported gas discoveries in Ashoknagar, in the North 24 Parganas district, in the Bengal Basin. The estimated capacity of the block is reported to be **one lakh cubic meters per day**.
These only manifest that the state shall have sufficient gas availability while embarking on its journey towards transforming Bengal into a gas-based economy.

3rd : Natural Gas Appetite, Affordability

The current natural gas consumption in the state is around **2.87 MMSCMD** comprising RLNG, domestic gas, and CBM, with RLNG having upto **80 % share**. Coal, Naptha, Furnace Oil, Pet Coke, LPG, and Propane are predominantly used commercially in WB. However, RLNG is competitively priced

on an energy equivalent basis compared to liquid fuels at current price levels. Further, the Natural Gas demand from prospective bulk and retail customers in the state is as promising as the rest of the country. The prospective customers can approach GAIL's Kolkata ZO, with their gas requirement, which will be examined before offering market-priced gas to meet their gas requirement. *However, the price-sensitive demand for Natural Gas shall significantly determine Bengal's transformation to a gas-based economy.*

4th : Market perception about Natural Gas, perceived benefits

Natural Gas is the cleanest burning fastest-growing hydrogen-rich fossil fuel available to humankind. Its consumption compounded annual growth rate in India is **2.8 %** against the world CAGR of **1.8 %** in the **last seven years**. Natural Gas offers several benefits over other commercially available fuels predominantly used, like reducing greenhouse gas emissions to the extent of over 70 %, no particulate matter on combustion, continuous supply, no onsite storage, no handling, higher efficiency, and reduced maintenance etc. These benefits offer a **7 to 10 %** latent cost advantage to Natural Gas compared to other fossil fuels, which many customers don't factor in while calculating their energy cost. I firmly believe that the prospective Gas market in West Bengal shall echo the same perception as has been done by gas customers in India and the rest of the world. *Therefore the market perception of Natural Gas is vital to transform Bengal into a gas-based economy.*

5th : Statutory Permission, ROU, Stakeholders engagement

The transmission and distribution of Natural Gas require laying pipelines buried underground. This involves acquiring the ROU, permanent land, and statutory permissions for obstacle crossings from different authorities and departments. The common obstacle crossings are water bodies like canals, roads like national highways, state highways, railway crossings, forest permission etc. Timely acquisition of ROU and permanent land, grant of obstacle crossing permission are critical as any delay can potentially contribute to time and cost overrun that adversely impacts project capital cost and transportation tariff. Likewise, establishing the CGD network within municipal city limits requires permission from the municipal corporation and different utility service providers. As such, continuous engagement with various stakeholders in the external environment like landowners, respective statutory authorities, and other decision-making stakeholders is vital. *Therefore timely availability of Statutory Permission, ROU, and continuous engagement with Stakeholders, is significant to transform Bengal into a gas-based economy.*

Mr Prasad said that it is anticipated that once the gas infrastructure is built and made operational, the state's gas consumption will ramp up to over 10 MMSCMD by 2030, the year to achieve the stated targets under the SDG's committed in 2015 Paris agreement. Some of the benefits which natural gas will offer to the state are:

- (i) *Revenue from the sale of gas in the state:- At the current sale price of RLNG and VAT rate in West Bengal, for the sale of every 1 MMSCMD of gas to be used **as feed**, the annual revenue will be approx.. **Rs 225 Crore**, and for every 1 MMSCMD of gas to be used **as fuel** it will approx. **70 crores***
- (ii) *Generation of Direct and Indirect Employment*
- (iii) *Rapid industrialization in West Bengal, involving industries and ancillary units that support the gas sector*
- (iv) *Improvement in ambient air quality standards, well being etc.*

Nevertheless, a collective effort by all decision-makers and influential stakeholders will be vital for transforming Bengal into a gas-based economy supporting all three pillars of sustainability.

Later in the session Mr. AC Mishra, Executive VP and Plant Head, MCPI Pvt. Ltd stated that they are grateful to the Indian Chamber of Commerce for this session since this is a significant topic and they are all working to reduce our carbon footprints. There is a need for enough supply and infrastructure throughout India, particularly in Bengal. The demand for gas is rising in tandem with the growth of GDP and per capita income. A proper natural gas infrastructure is needed to solve this challenge. The most straightforward approach is city gas distribution, which is followed by the majority of oil firms. Mr. Sanjoy Ghosh, GM (CGD), HPCL, Kolkatta was of the opinion that Government involvement is needed to develop a natural gas environment in the state to overcome barriers in building gas infrastructure.

In another session, moderated by Sh S Bairagi, CEO Bengal Gas Limited, the industry representatives deliberated on the initiatives that shall accelerate the speed of transformation of Bengal to gas-based economy and came out with the following suggestions:

- (i) *Incentives to entrepreneurs who intend to set up new industrial units on natural gas*
- (ii) *Ensure mandatory conversion of industrial units currently running on polluting fuel like pet coke and furnace oil to natural gas in a phase-wise manner once natural gas is made available*
- (iii) *Firm plan to convert the state government state transport fleet to CNG*
- (iv) *Promote Compressed Bio-Gas production in the state that will ensure the security of gas supply in the state, open a new revenue stream. GAIL has already finalised operational modalities for the supply of CBG comingled domestic gas at uniform base price across all CGD entities for CNG(Transport) and PNG(Domestic) segments of the CGD network.*
- (v) *Online Single Window clearance system, defining timelines for granting various permission and fixing standards, reasonable rates for various permissions required by CGD entities in the state*
- (vi) *Setup an enabling platform at state level for creating gas-based infrastructure in the retail segment*
- (vii) *Define the role of the various chamber of commerce, industrial associations to identify bottlenecks and barriers to promote gas-based transformation*
- (viii) *Outline a firm plan with defined milestones for gas-based transformation*

Lastly, the summit was fruitful in creating the focus on India's goal of increasing gas's part in the energy mix from 6% to 15% by 2030 critical to reducing hazardous emissions to arrest global warming.