

GAS

Development of a Gas Hub: Learnings for India



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As the share of natural gas in India's energy consumption increases, there is an emerging need for an efficient gas market, transparent pricing benchmark and its own gas trading platform. But, is India ready and really on the track to fulfil this need and ambition?

Energy portfolio choices for countries have traditionally been driven by factors such as availability of resources, reliability of supply, ease of access and economics of the choice. Lately, a key driving factor has become the need for cleaner energy due to climate change and air quality concerns. Being the cleanest-burning hydrocarbon and an efficient and reliable partner to renewable energy sources, natural gas is increasingly becoming a choice of fuel promoted by countries across Asia and Europe like China, Korea, Taiwan, Bangladesh, United Kingdom and Netherlands, to name a few. These countries are adopting enabling policies for natural gas to play a bigger role in powering their economies.

The Indian Government has set an ambitious target of growing its economy to \$5 trillion by 2024-25. This translates to an 8% y-o-y growth and poses the challenge to provide much more energy with lesser emissions as India is also tackling the menace of air pollution on priority. According to a WHO study, India has 14 out of the 15 most polluted cities in the world.

The National Clean Air Programme by Ministry of Environment and Forest has recommended various initiatives for displacement of polluting fuels by natural gas in industrial, power and transportation sectors.

The Government of India has set a goal of increasing the share of natural gas in the overall energy mix from 6.5% to 15% by 2030. To achieve this ambitious target, the Government has undertaken various measures for expanding natural gas access. The Petroleum and Natural Gas Regulatory Board (PNGRB) has recently awarded licenses for building and operating city gas distribution (CGD) networks in 136 geographical areas (GA) and thereby expanding coverage to 52% area and 70% of the country's population under 228 GAs.

The gas market in India is currently fragmented with multiple pricing regimes and is dominated by state owned companies, who act as both the gas supplier as well as infrastructure provider. To achieve the goal of 15%, development of an efficient gas market is paramount and there is an emerging need for a transparent gas pricing mechanism and a gas trading platform. But, is India ready and really on the track to fulfil this need and ambition?

Historically, each market globally has gone through

a process of discovery and evolution in developing a competitive gas market. The market evolution process may take 20 to 30 years and each market will evolve at a different pace and scale depending on its policy and regulatory environment.

In the nascent stage of regulatory evolution, the Governments possess complete control of the gas chain either directly or through state owned companies.

The second stage comprises a negotiated gas market controlled by a regulator, whose pursuit usually is also to overcome investment shortfall. Countries like India, Malaysia, China and Mexico are currently in this phase.

The next stage is of an early wholesale market where we see emergence of more players and standardised rules and contracts like in Australia, Singapore, Norway and Brazil.

A fully developed liquid market with unbundled, transparent and open access for all market participants is the final stage of the regulatory lifecycle. Countries like UK, USA, The Netherlands and Canada fall in this stage and have created a liquid market relying on efficient reference pricing.

It is important for us to focus on “where in the evolution process do we sit” and “what do we need to do to grow from here”.

There is much that India can learn and co-opt from international markets, especially the UK which was similar to the Indian market structure. In 1982, UK passed its Oil and Gas Enterprise Act and four years later an independent regulator was created. British Gas was gradually privatised, and it lost its monopoly over supply and transport of natural gas within the country. Today, the UK gas market, one of the most liquid in the world, is the benchmark for most of the gas traded across Europe. There are other examples of liberalization of gas markets globally, which happened on the back of regulatory reforms, promoted by entry of private players, leading to a deep liquid market. If India plans to develop a successful and efficient natural gas hub, it needs to address various regulatory, infrastructure and policy issues, drawing upon international experiences and expediting its journey towards a matured gas economy. Some of these are:

Unbundling: The experiences of developed gas

markets globally have demonstrated that for gas markets to be competitive, the natural monopoly elements in the entire chain need to be identified and separated out as distinct entities. Due to large capex involved, the gas transmission pipelines cannot be duplicated and the business tends to be monopolistic and hence needs to be separated from gas marketing activities. This will ensure non-discriminatory access to the pipeline network, preventing conflicts of interest and discourage vertically integrated companies from taking undue advantage of their monopolistic position. While accounting separation of transportation and marketing business helps in moving to stage-2 of the regulatory lifecycle, complete ownership unbundling is a must for moving to the next stage.

Policy: Fiscal measures such as inclusion of gas in GST are a minimum requirement for creating a Gas Hub. This is not only required to ensure that the end users are able to set off the GST rather than absorb it as a cost but more importantly in order to ensure that the trading is happening on gas price and not tax arbitrage between various states. Bringing the customs duty on LNG (currently 2.5%) at par with Crude (0%) will ensure competitiveness of gas resulting in higher demand.

Independent TSO: An independent gas Transmission System Operator (TSO) to administer gas pipeline access and ensure dissemination of accurate, reliable data pertaining to pipeline capacity availability, utilisation and physical flows on fair and non-discriminatory basis is one of the prerequisites to setup a gas trading hub in India. We can explore examples from other utility businesses in India such as the evolution of power markets as a case in point. The Electricity Act (2003) and subsequent reforms paved way for introduction of competition and development of market mechanism for trading power. The key steps in this journey which enabled setting up power trading exchanges included unbundling of generation, transmission and distribution, mandatory open access in transmission and distribution and setting up of an independent system operator (POSOCO).

Infrastructure: There is a constant dilemma in the gas sector over which should come first, demand or infrastructure. While investors remain sceptical about developing infrastructure in the absence of firm contracts, the government could act both as a

facilitator and a developer without getting influenced by the immediate demand. One-thirty-six new CGD licences across the country have been awarded recently and the time is right for the Government of India to develop a roadmap for constructing a nationwide gas grid providing connectivity to all these CGDs from multiple gas sources and potential new markets. Regulations for development of new pipelines should ensure that the developer gets an assured reasonable return on investment based on certain minimum level of utilisation.

Unified Tariff: Uniform pipeline tariff will rationalize the pipeline transportation costs for all segments of customers irrespective of their location and connectivity to pipeline. This would enable demand creation for natural gas in the country and would negate the overall impact of tariff on consumers in the longer run. Since the unified tariff will be computed on the basis of actual volumes, the capacity booking in pipelines should also be allowed on reasonable endeavours basis in order to improve the liquidity of gas trades.

Contract Standardization: Due to historic reasons, there are several forms of contracts that are prevailing in the market currently, varying from one gas source to another and one supplier to another. Standardisation of terms tends to lead to faster adoption and increased market liquidity. In the oil industry, while the market was transitioning through an era of administered prices during the 70's and 80's, a major step towards market transparency was taken in July 1986, when Shell UK introduced a 15-days standard Brent contract. Initially, it was only regional but in a short time-frame, became the reference tool in the London market place. The contract made it easier for anyone to buy or sell crude cargoes without getting involved in complicated legal aspects

of the commercial negotiation. This helped in Brent price index for the oil industry, creating more price transparency and is now not only used regionally but also as a benchmark for international trades.

Financial Instruments: Globally, the use of financial products, like hedging, paper trades or derivatives, has also proven to play an important role in the commoditization and liquidity of global oil and gas price benchmark. For example, the market crash of 1987 forced the oil companies to take distressed oil cargoes, thereby creating a need for a robust trade and hedging mechanism. Within one year from the crash, Brent futures contracts were listed on the Inter-Continental Exchange (ICE) that quickly attracted liquidity from both physical and non-physical players. Similarly, in the development of National Balancing Point (NBP) as a price benchmark for gas, the sellers who were initially reluctant subsequently found benefits of risk mitigation and hedging through price discovery on the forward price curve. For both NBP and Brent, the churn rate (which is the ratio of financial trade to physical trade) reached a threshold of '10' within 3-5 years from inception, representing high market liquidity. It is important to note that the current churn rate for NBP is around 25 that for Henry Hub (HH), the US gas price benchmark, is 90.

The success of a gas hub will eventually depend on political will, adoption by industry, and liquidity, following the industry maturation cycle from deregulation to indexation to forward markets. We may have challenges in setting up a liberalised gas market and a trading hub but all markets which are liberalised today have gone through similar stages of evolution. And we have examples from other parts of the world that can be used to expedite our journey towards developing a deep and matured liquid gas market in India.

