

GAS Connect

NEWS, INSIGHTS & ANALYTICS

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SECTION-I

FROM THE CEO'S DESK

Dear All,

We are pleased to present to you the first edition of 'GAS Connect' a monthly newsletter that offers insight into the gas industry along with regulatory and IGX update.

The energy sector globally as well as in India, is undergoing a transformation. We are witnessing an accelerated shift towards cleaner and sustainable sources with increased emphasis on renewables and natural gas. Countries across the globe are foraying into active research to commercialise new sustainable technologies.

To decarbonise the economy, the Government has set an ambitious target of increasing the share of gas in the energy mix from the current 6% to 15% by 2030. Technology-enabled energy marketplaces are uniquely positioned to facilitate this transition.

As a wholly owned subsidiary of the Indian Energy Exchange (IEX), the Indian Gas Exchange (IGX) is poised to architect India as a gas-based economy. The Exchange is equipped with cutting-edge technology in partnership with GMEX, United Kingdom and is backed by leadership and proven experience and expertise of IEX in establishing and operating a very vibrant and competitive electricity marketplace in India. The Gas Exchange will facilitate trade in physical delivery of gas from designated hubs through world class products and enable competitive price discovery, thereby spur investments in the gas value chain.

We hope you find this initiative meaningful and look forward to staying connected with you.

Regards

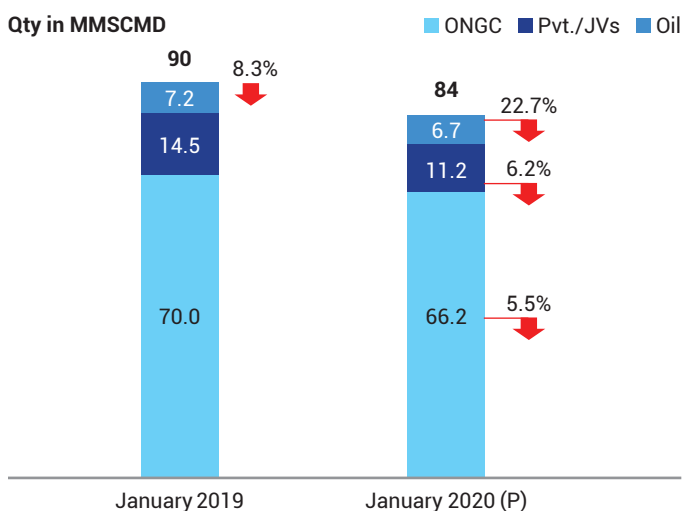
Rajiv Srivastava
 MD & CEO, IEX

SECTION-II

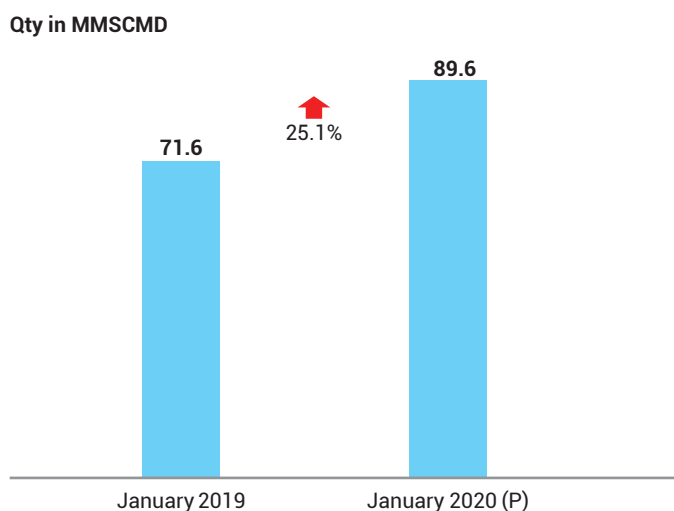
GLIMPSE OF NATURAL GAS PRODUCTION, AVAILABILITY AND CONSUMPTION – JANUARY 2020

- ◆ Domestic gross production for the month of January 2020, was 84 MMSCMD (A decrease of 8.3% over the corresponding month of the previous year)
- ◆ Total imports of LNG during the month of January 2020, were 90 MMSCMD (An increase of 25.1% over the corresponding month of the previous year)
- ◆ Natural gas available for sale during January 2020, was 155 MMSCMD (An increase of 7.0% over the corresponding month of the previous year)
- ◆ Total consumption during January 2020, was 153 MMSCMD. Major consumers were fertilizer (31%), City Gas Distribution (CGD) (20%), power (17%), refinery (14%), and petrochemicals (6%)

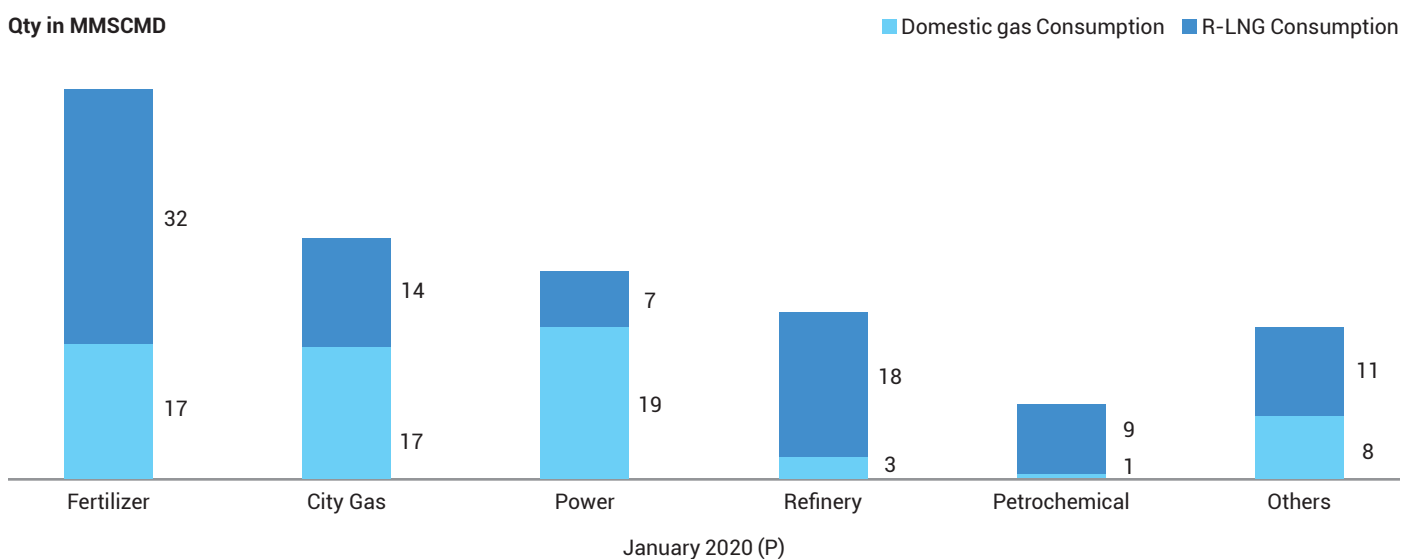
DOMESTIC NATURAL GAS GROSS PRODUCTION



TOTAL LNG IMPORTS



SECTORAL CONSUMPTION OF NATURAL GAS



Source: ppac.gov

SECTION-III

INDUSTRY AND REGULATORY UPDATE

INDIA 2020 - ENERGY POLICY REVIEW

International Energy Agency

IEA recently published 'India 2020 - Energy Policy Review.' From a Natural Gas perspective, IEA welcomed GOI's aim to increase the share of natural gas in the country's energy mix to 15% by 2030 from 6%, as this will allow India to improve environmental sustainability and flexibility of its energy system. They commended government's commitment towards further liberalising India's natural gas market and recommended strengthening regulatory supervision of upstream, midstream and downstream activities as part of the overall market reforms as it will bring greater efficiency and drive up demand for gas and investment in gas transport infrastructure.

A liquid and well-functioning domestic gas market, according to them, would be a strong pillar for India's security of gas supply.

Key recommendations of IEA

Government of India should:

- ◆ Establish permanent energy policy co-ordination in the central government, with an overarching national energy policy framework to support the development of a secure, sustainable and affordable energy system.
- ◆ Continue to encourage investment in India's energy sector by:
 - Ensuring full non-discriminatory access to energy transport networks
 - Working with the states to implement power sector and tariff policy reforms, with a focus on smooth integration of variable renewable energy and power system flexibility
 - Moving from government allocation of energy supplies to allocation by market pricing
 - Further rationalising subsidies and cross-subsidies.
- ◆ Improve the collection, consistency, transparency and availability of energy data across the energy system at central and state government levels.
- ◆ Adopt a coordinated cross-government strategy for Energy Research, Development & Deployment, which enables impact-oriented measurement and dissemination of results.
- ◆ Ensure India's international energy collaboration continues to be strong and mutually beneficial, highlighting the country's energy successes and supporting continued opportunities to learn from international best practices.

LIST OF GEOGRAPHICAL AREAS (GAS) FOR UPCOMING 11TH CGD BIDDING ROUND

PNGRB, in order to further the City Gas Distribution network, is in the process of finalising the geographical areas for the upcoming 11th CGB Bidding Round. A tentative list has been prepared as follows:

Sl. No .	Geographical Area	State/UT
1	South Andaman District	Andaman & Nicobar Islands
2	Kurnool, Jogulamba Gadwal, Wanaparthy and Prakasam Districts	Andhra Pradesh and Telangana
3	Guntur, Nagarkurnool, Mahabubnagar, Narayanpet and Yadgir Districts	Andhra Pradesh, Karnataka and Telangana
4	Baska, Barpeta, Bongaigaon, Chirang and Nalbari districts	Assam
5	Darbhanga, Madhubani and Supaul districts	Bihar
6	Gopalganj, Siwan and Deoria districts	Bihar & Uttar Pradesh
7	Baloda Bazar, Gariyaband and Raipur districts	Chhatisgarh
8	Gumla, Latehar, Lohardaga and Simdegia districts	Jharkhand
9	Jammu, Reasi, Samba, Kathua and Pathankot districts	Jammu & Kashmir and Punjab
10	Chikkballapur district	Karnataka
11	Idduki, Kottayam and Pattanamtitta districts	Kerala
12	Agar Malwa, Neemuch, Mandasur and Jhalawar districts	Madhya Pradesh and Rajasthan
13	Burhanpur, Khandwa, Khargone and Harda districts	Madhya Pradesh
14	Betul, Chhindwara and Seoni districts	Madhya Pradesh
15	Damoh, Jabalpur, Katni and Mandla districts	Madhya Pradesh
16	Hoshangabad, Narsinghpur, Sagar and Vidisha districts	Madhya Pradesh
17	Buldana and Parbhani districts	Madhya Pradesh and Maharashtra
18	Beed, Jalgaon and Jalna districts	Maharashtra
19	Akola, Hingoli and Washim districts	Maharashtra
20	Amravati and Yavatmal districts	Maharashtra
21	Chandrapur and Wardha districts	Maharashtra
22	Nagpur district	Maharashtra
23	Alirajpur, Nandurbar and Barwani districts	Maharashtra
24	Koraput and Malkangiri districts	Odisha
25	Gajapati, Kalahandi and Rayagada districts	Odisha
26	Yanam district	Puducherry
27	Tarn Taran district	Punjab
28	Fazilka (except area already authorised), Ganganagar and Hanumangarh districts	Punjab & Rajasthan
29	Bikaner and Churu districts	Rajasthan
30	Jhunjhunu, Sikar and Nagar districts	Rajasthan
31	Dausa, Karauli, Sawai Madhopur and Tonk districts	Rajasthan
32	Dharmपुरi, Krishnagiri, Tiruvannamalai and Villupuram districts	Tamil Nadu
33	Ariyalur and Perambalur districts	Tamil Nadu
34	Namakkal and Tiruchirapalli districts	Tamil Nadu
35	Pudukottai, Sivaganga and Thanjavur districts	Tamil Nadu
36	Madurai, Theni and Virudhnagar districts	Tamil Nadu
37	Kanyakumari, Thoothukudi and Tirunelveli districts	Tamil Nadu
38	Dindigul and Karur districts	Tamil Nadu
39	Nilgiris and Erode districts	Tripura
40	South Tripura district	Tripura
41	Amroha & Sambhal districts	Uttar Pradesh
42	Kasganj district	Uttar Pradesh
43	Purulia and Bankura districts	West Bengal
44	East Mednipore, West Mednipore and Jhargram districts	West Bengal

MEDIA NEWS

GAS PRICE CUTS ON THE WAY

Infraline, 09 March 2020

The slump in global gas pricing is likely to result in domestic natural gas price decline more than 20% from April 1, which is expected to boost demand and increase consumption, including that of city gas. The prices are expected to fall to about \$ 2.5 per MMBTU for a period of six months from \$ 3.23 per MMBTU.

The price of gas from difficult fields is also likely to be cut to \$ 5.5 per MMBTU from \$ 8.43 MMBTU. Analysts said data indicated the gas price at US Benchmark Henry Hub has fallen below \$2 per MMBTU the lowest since 2016.

RISING US LNG SUPPLY TO MAKE NATURAL GAS AFFORDABLE FOR INDIA

ET Bureau, March 04, 2020

The chief of the US energy regulator said that rising US LNG supply and the efficiency of its producers and transporters will make natural gas affordable for India.

"Law of supply and demand, more US gas contributing to the global supply, I'm optimistic will bring down the cost of gas globally. The efficiency of the US industry when it comes to production, transportation, I'm hopeful that the cost of gas will come down to where it will be affordable for India," said Neil Chatterjee, Chairman of the Federal Energy Regulatory Commission, who is on a visit to India, meeting his counterparts and other energy officials.

The shale revolution of the past decade has resulted in massive cheap supplies of natural gas in the US, reshaped the global industry and made the US world's top producer and a key exporter of the fuel.

India has some contracts for US LNG but high transportation costs make it expensive for Indian customers. India currently imports about half of the gas it currently uses. The imports are expected to rise as the government aims to expand the share of natural gas in the primary energy mix to 15 per cent by 2030 from the current 6 per cent.

INDIA'S RS. 50,000 CRORE CITY GAS INVESTMENT PLAN GAINS VIABILITY ON LOW LNG PRICES

ET EnergyWorld, March 04, 2020

The viability of India's Rs. 50,000 crore capital expenditure plan for city gas distribution (CGD) over the next four years has improved with the price of liquefied natural gas (LNG) expected to be subdued during the period.

LNG accounts for nearly half of CGD consumption volume and a lower price augurs well for both volumes and operating margins of distributors, and project returns. Spot prices of LNG have more than halved on-year to a decadal low of less than \$3 per million metric British thermal units (mmBtu) in February 2020 because of oversupply and the Coronavirus outbreak.

This has sharply improved the competitiveness of piped natural gas (PNG) compared with furnace oil, liquefied petroleum gas (LPG) and gasoline, prices of which are typically linked to crude oil.

Global LNG prices are seen softer over the medium-term because supply is on course to exceed demand growth, with a liquefaction capacity of about 180 million tonne – equal to 40 per cent of current world capacity – set to be commissioned over the next 4-5 years. Domestically, regasification capacity, too, is expected to witness robust growth, outpacing LNG demand.

GAIL DECKED UP FOR NATURAL GAS TRANSPORTATION

PTI, Feb 07, 2020

GAIL has about 11,000 km long gas pipeline network and is developing about 3,500 km long pipelines projects in the country. Several meetings have been held in the ministry on splitting GAIL by spinning off its marketing business into a separate company and selling it to a state-owned firm.

The government has a 54.89 per cent stake in GAIL India. Oil minister Dharmendra Pradhan stated that the government has been taking steps to make India a gas-based economy. As part of this plan, it has even provided budgetary support of Rs 5,176 crore, or 40 per cent of the project cost, for laying of a gas pipeline from Jagdishpur in Uttar Pradesh to West Bengal, Jharkhand and Odisha.

The policy and the provisions of the Petroleum and Natural Gas Regulatory Board (PNGRB) Act, 2006 provide for all entities authorised to lay pipelines including GAIL to provide mandatory open access to their gas pipeline infrastructure on common carrier principle on a non-discriminatory basis. This open access to third parties should be given at transportation rates determined by PNGRB.

Sources said refiners Indian Oil Corp (IOC) and Bharat Petroleum Corp Ltd (BPCL) have shown interest in acquiring GAIL to expand their gas marketing business.

In the long run and with the maturing of gas markets, it is envisaged in the policy that the authorised entities will have

transportation of natural gas as their sole business activity and will not have any business interest in the gas marketing or city or local gas distribution networks," Pradhan said.

PNGRB PLANS TO WAIVE CONDITION TO TIE UP SUPPLIES FOR 5 YEARS FOR CGDS

Sanjeev Choudhary, ET Bureau – 20 Feb 2020

As per market news, PNGRB is planning to waive a key condition for city gas distributors of signing natural gas purchase pacts within 180 days from the award of licence in response to companies' reluctance to go for such deals amid a global supply glut that has led to a sharp decline in prices and amplified volatility.

US shale revolution and the construction of several gas export facilities across the globe over the past few years have made supplies plentiful and cheaper, prompting the Petroleum and Natural Gas Regulatory Board to revisit this condition. "Forcing them to tie up gas for five years at the beginning of the licence period won't be in the commercial interest of city gas licence holders. They should have flexibility in sourcing gas," said a person familiar with PNGRB's plans.

The removal of such restriction will enable city gas distributors to better respond to market situations and serve consumers better, speaking on condition of anonymity. The proposed move would help several companies that won licences in the ninth and tenth rounds of city gas auction held in the past two years.

PNGRB PLANS TO ALLOW LENDERS TO REPLACE DEFAULTING CITY GAS COMPANIES

Sanjeev Choudhary, ET Bureau, 28 Feb 2020

The Lenders will have a right to replace a defaulting city gas licensee with a new entity in consultation with the downstream regulator, as per a draft proposal by the Petroleum and Natural Gas Regulatory Board (PNGRB).

The proposed amendment is aimed at addressing a key regulatory concern of lenders that was holding back financial closure for many city gas licence areas. The regulator, which has distributed 136 licences in the past two years and aims to award licences for another 50 districts this year, expects the proposed changes to help expedite financial closure for current and future licensees and speed up work programme.

The current rules bar transfer of 50% or more stake in a license area to any new party in the first five years of the license or till the completion of the promised work programme, giving rise to

concerns that lenders may be stuck if a licensee defaulted on servicing loans in early years.

The new regulatory proposal would permit lenders to get a new entity to take over the licence and the liabilities that came with it.

NATIONAL CONCLAVE ON EMERGING OPPORTUNITIES IN NATURAL GAS SECTOR HELD IN NEW DELHI

Press Information Bureau - Government of India – 23 Jan 2020

Minister of Petroleum and Natural Gas Shri Dhamendra Pradhan has called upon all the stakeholders to contribute positively in transforming India into a gas-based economy. Presiding over the national conclave on emerging opportunities in the natural gas sector, he said that the present share of gas in the energy basket of the country is 6.2% and the target is to take it to 15% by 2030. He said that the world average is 24% while within the country, Gujarat has a 26% share of gas-based energy.

Describing the natural gas as the next generation fossil fuel that is comparatively cheaper and less polluting, Shri Pradhan said that the Government has taken a number of initiatives to give thrust to gas-based economy. He said that domestic gas production is likely to increase in the current financial year to 34.55 billion cubic metre. Pricing and LNG marketing freedoms have been given to gas producers, LNG terminal capacity is being augmented and the national gas grid is being developed. Shri Pradhan said that this is the first time that Government of India is providing Rs.10,500 crore worth of viability gap funding for laying pipeline in Eastern and North-Eastern India. He said gas pipeline network will be ready from Kutch to Kohima and Kashmir to Kochi. Shri Pradhan said that 4 lakh crore rupee worth of investment is likely to be made in such projects which is a challenge as well as an opportunity. He said that the sources of import have been diversified and the Government is holding discussions with gas-exporting countries for getting more gas on favourable terms. He said that CBG is a great initiative that has the potential to generate wealth from waste, provide employment, protect the environment, and give a boost to the economy.

Calling upon the States to fully cooperate and support the gas infrastructure activities and projects, he said Ministry of Petroleum and Natural Gas has prepared a draft Policy of City Gas Distribution (CGD), which may be adopted by States to facilitate such activities.

SECTION-IV

IGX UPDATE

MEMBER ADVISORY COMMITTEE

The Member Advisory Committee (MAC) - IGX comprises of over 25 major stakeholders of gas sector like GAIL, BPCL, Shell, PLL, PIL, H-Energy, NFL, GSFC, GSPCL, MGL, IGL, Think gas, Trafigura, Torrent Gas, Adani Gas, Reliance Industries, National Fertilizers Ltd, Manikaran Power, Saint Gobain etc.

The first MAC meeting to discuss the creation of a liquid and vibrant market for natural gas trading was held on 20th Feb 2020, in New Delhi. The discussions revolved around the issues and challenges in the existing gas market and how to help develop an efficient and transparent gas market in India.

“We would like to offer our heartiest congratulations to IEX on the launch of its exclusive Gas trading exchange in India. It is an important step for the industry when it comes to standardising price discovery. Going forward, we hope to see the introduction of gas futures contracts based on IGX prices.”

- Darshan Hiranandani
MD and CEO, H Energy



“The launch of a new Gas Market Platform is indeed an important milestone for the Gas industry. We certainly welcome the idea of trading in INR. It is especially great to see that gas price will be discovered based on local demand and supply, rather than being indexed to any external benchmark.”

- Suresh P Manglani
CEO, Adani Gas



“The launch of IGX speaks to the growing maturity of the Natural Gas industry in India. We hope to see IGX minimise the number of hubs to prevent liquidity fragmentation. We could foresee this development bringing greater transparency and efficiency in Gas trading, thereby boosting demand for Gas. Overall, the conceptualise and launch of IGX is a commendable step by IEX.”

- Akhil Mehrotra
CEO, Pipeline Infrastructure Ltd (PIL)



GLIMPSES FROM MEMBER ADVISORY COMMITTEE MEETING



FOKIA AND IGX WORKSHOP IN GUJARAT

The Federation of Kutch Industries Association (FOKIA), IEX and IGX collaborated to organise a workshop on 'sourcing power and gas through tech-enabled exchanges.' The discussion also focused on how the electricity cost in the industry can be brought down besides weighing options on how to deal with day-to-day power problems in the industry. The workshop also discussed how the gas prices for industrial use remains in control.

WORKSHOPS ON DEVELOPING GAS TRADING PLATFORM IN GUJARAT

IGX organised a half-day workshop on Developing a Gas Trading Platform on 2nd March at Ahmedabad and 3rd March 2020 at Vadodara.

A forum of 50 participants at Ahmedabad and close to 65 participants at Vadodara, comprising mainly CGD companies and major industries like fertiliser, glass, ceramics, power, steel and chemicals sectors was addressed.

The platform features multiple buyers and sellers to trade in spot and forward contracts at designated physical hubs, which in turn would enable efficient and competitive discovery of gas prices while maintaining market integrity.



Deepak Mehta, Head BD, IGX, addressed the participants on the IGX model and its product offering



A sneak peek of the workshop, brimming with ideas to shape a greener future of India

WORKSHOP WITH IEX MEMBERS, MARCH 2020, NEW DELHI

IGX organised a half-day workshop for existing IEX trader members on 16th and 17th March 2020, in New Delhi.

Over two days, several trader members from associations such as Manikaran, GMR, Tata Power, PTC, Kreate Energy India Pvt. Ltd. Shree Cement Ltd. etc. were addressed by our Business Development Head (IGX), Mr. Deepak Mehta.

The discussions revolved around overall gas markets and the natural gas sector in the Indian context, the possibilities of trading natural gas, the market model offered by IGX, the products offered and risk management.

IGX SUCCESSFULLY CONDUCTS FIRST MOCK TRADING SESSION ON 20TH MARCH 2020

IGX conducted first mock trading session in natural gas. The mock session was attended by 15 participants including major players like GAIL, Petronet LNG, Adani Gas, GMR, as well as key traders. The session gave the participants an opportunity to experience IGX's technology platform which is automated end-to-end. The mock session saw trade in all the six contracts, ranging from day ahead to month-ahead, culminating into transparent and competitive price discovery.

IGX WELCOMES ON-BOARD NEW MEMBERS – MANIKARAN AND GMR

Team IGX is ensuring continuous interaction with key players and working pro-actively to bring on-board members and clients. IGX has successfully enrolled Manikaran and GMR, as well as 9 other clients in March 2020.

SECTION-V

BOOSTING GAS CONSUMPTION IN INDIA THROUGH A MARKET-DRIVEN APPROACH

- Rajesh Kumar Mediratta, Director, Indian Gas Exchange

India is on the cusp of energy transformation and moving rapidly towards greener, cleaner, affordable, and sustainable forms of energy. Across the globe, natural gas is gaining popularity as a critical component of a sustainable energy future; given that it helps reduce air pollution and has a lower GHG emission as compared to coal and oil. The global Natural Gas market is expected to be valued at 64.36 million by the end of 2024, growing at a CAGR of 4.41% during 2020-2024, according to the Global Natural Gas Market 2020 report by Marketwatch. The latest report released by an international agency, IEA, shows that the electricity produced by natural gas worldwide was more than that of coal for the first time ever, while wind-powered electricity nearly caught up with coal-fired electricity.

In India, the share of Gas in the overall energy mix has been growing steadily to reach 6% as of today. Despite strong latent demand for Natural gas in India, challenges in infrastructure and lack of a regulatory framework have constrained the country's gas consumption over the past decade, at 150 MMSCMD. The proactive steps taken by the Ministry of Petroleum and Natural Gas to foster infrastructure development are expected to boost gas consumption in the country.

Some of the key developments were undertaken by PNGRB over the last few years, such as:

- ◆ Regulated gas pricing to promote gas economy
- ◆ Change in priority allocation
- ◆ Changes in pipeline tariffs in 2018 to attract more investments
- ◆ Focus on last-mile connectivity
- ◆ Directives from the judiciary and NGT to move to cleaner fuels; and
- ◆ Facilitating market development will facilitate growth in the gas sector.

There was an emphatic focus on the gas and renewable energy in Union Budget 2020. Provisions to expand the national gas grid from 16,200 km to 27,000 km and the introduction of reforms for transparent price discovery of natural gas will aid expansion of this sector. With the first step taken towards

connecting the north-east via natural gas pipelines, India may soon make its mark on the global front.

The Government of India has set a policy target of increasing the share of natural gas in India's energy basket from the current 6.5% to 15% by 2030. To undertake such an increase in the share of natural gas in India, an investment boost in the overall gas economy value chain is imperative – including domestic production, re-gasification of imported LNG, transportation (pipelines) and end-use consumption (industrial, commercial and residential applications). The required investments call for a market-based mechanism for gas pricing and allocation that can generate effective price and provide signals to the market. A market-based mechanism is possible through a transparent and neutral natural gas trading platform like Indian Gas Exchange. Additionally, IGX will also drive competition across the value chain, leading to innovative business models and efficient cost-structures, thus supporting the overall ambition of access to affordable gas. India is making energy security a priority and a liquid and well-functioning domestic gas market, as also suggested by IEA (International Energy Agency), would be a strong pillar for India's security of gas supply.

The success of the Indian Energy Exchange (IEX) serves as an excellent case study for how the exchange markets approach could help bolster the energy market in India. Over the years, the power exchange market has enabled reinforcement and augmentation of power generation and transmission capacity in India and efficient price discovery, therefore increasing the accessibility and transparency of the power market in India while also enhancing the speed and efficiency of trade execution.

The gas industry also requires the right regulatory framework to achieve the balance between safeguarding the interests of pipeline operators, pricing expectations, and delivery and billing mechanisms. Measures such as an open access policy, a credible system operator, mechanisms to decouple transport from the selling of gas, and conducive taxation policies can help to a large extent.

An effective gas trading platform along with regulatory enablement will help bolster the path towards optimising the energy mix through the adoption of natural gas on a pan India basis.

Inviting Membership for India's First Nationwide Online Gas Trading Platform



In keeping with the GoI's vision of increasing the natural gas share in energy mix from 6% to 15% by 2030, IEX is poised to set up IGX – the first nationwide gas trading platform powered with advanced technology.

Advantages for Members

- Transparent price discovery
- Flexibility to trade 24X7
- Delivery facilitation
- Ease of transaction through online platform
- Competitive prices with participation from multiple buyers & sellers

Introductory Offer valid till 30th April.
Be a part of India's gas based economy.

Call +91-7290097658; email: membership@igxindia.com

www.igxindia.com



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