

GAS Connect

NEWS, INSIGHTS & ANALYTICS

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Dear All,

Welcome to the new normal.

We have faced economic volatility in the past. However, what we are witnessing in the current pandemic is an unprecedented shock that is likely to have a long-term impact on our economy.

We believe that the announcement of the Indian Gas Exchange is timely. Access to abundant and affordable energy sources has the potential to help India rebound from the extended negative impact. With climate change issues adding to our woes, availability of adequate sustainable energy and its affordability is key. The pandemic has provided us with the unique opportunity to move into a new order where we can balance energy security, affordability and greater sustainable mix in our energy consumption.

The Indian Gas Exchange provides stimulus to the gas industry by providing multiple competing supply options to the customer. Our experience tells us that exchange markets help bring down prices and same will be the case for natural gas as the Gas Exchange facilitates competitive trade, boosting usage in a country that otherwise relies heavily on cheaper coal for its energy needs. It will safeguard India's energy security, enable competitive pricing and take the lead in forming a benchmark price that can benefit the country, in case of any future crisis. The legacy of IEX and learnings from the COVID-19 crisis, will enable IGX, in the coming years, to help our energy mix get closer to global levels by 2030.

We hope you find this issue of our newsletter informative.

With Regards,

Rajesh Kumar Mediratta
 Director, IGX

SECTION-I

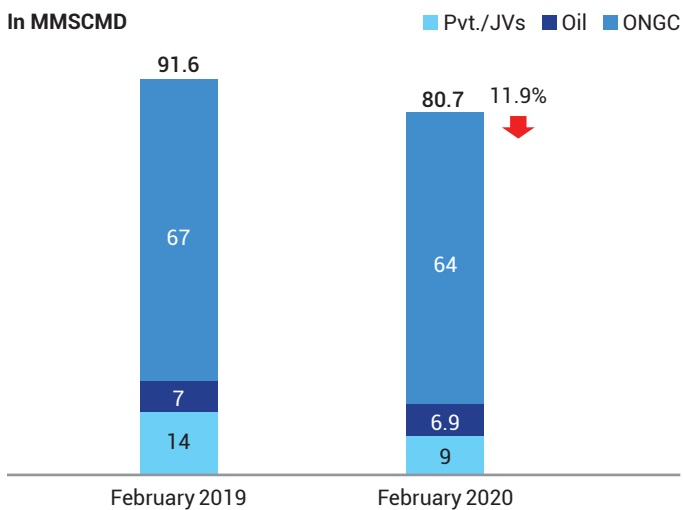
GLIMPSE OF NATURAL GAS PRODUCTION, AVAILABILITY AND CONSUMPTION – FEBRUARY 2020

- ◆ Domestic gross production during the month at 80.7 MMSCMD, witnessed a decrease of 11.9% over the corresponding month of the previous year
- ◆ Total import of LNG was 119 MMSCMD (increase of 61.9% over the corresponding month of the previous year)
- ◆ Natural gas available for sale was 180.9 MMSCMD (increase of 23.9% over the corresponding month of the previous year)
- ◆ Total consumption was 159.68 MMSCMD

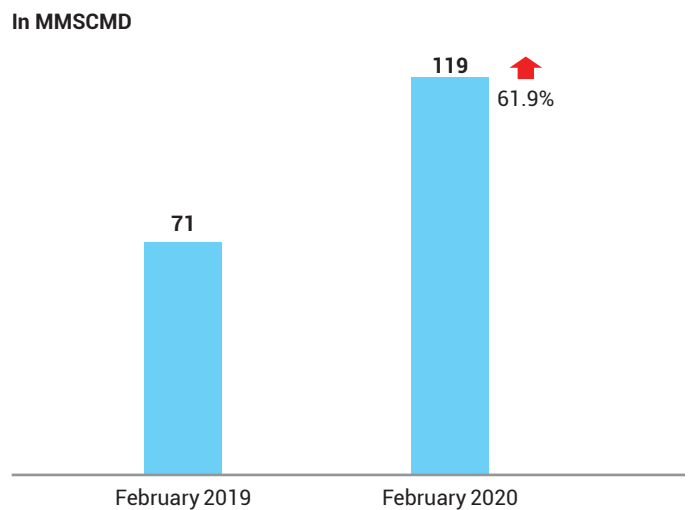
Major consumers (by sector) included:

- Fertilizers (30%)
- City Gas Distribution (CGD) (19%)
- Power (18%)
- Refinery (15%)
- Petrochemicals (6%)

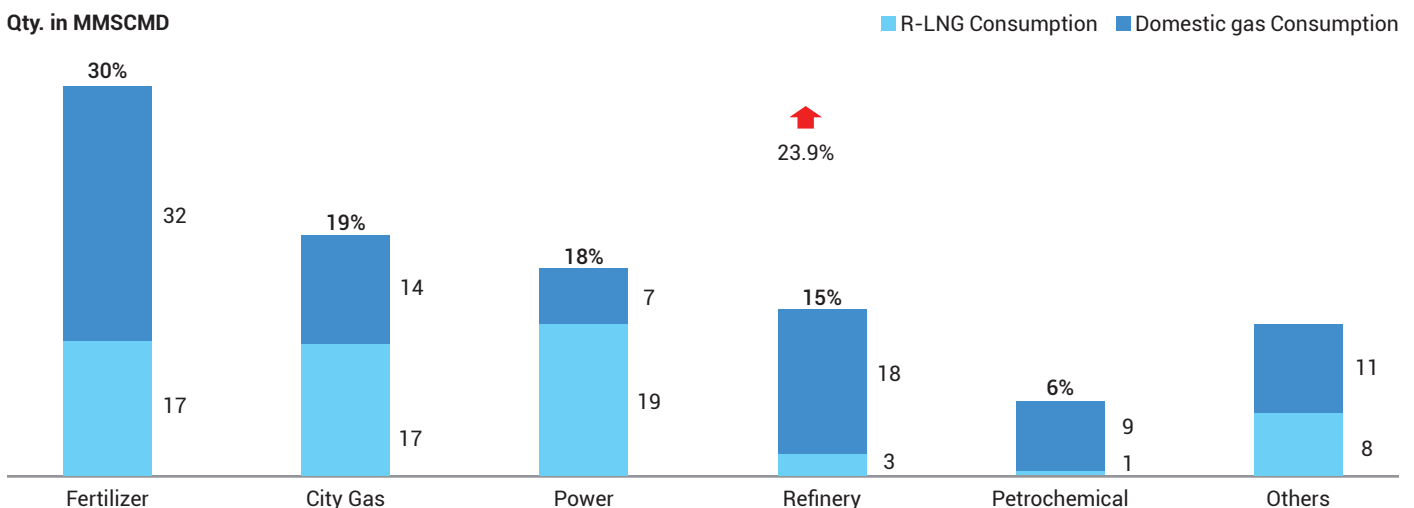
DOMESTIC NATURAL GAS GROSS PRODUCTION



LNG IMPORTS



SECTORAL CONSUMPTION OF NATURAL GAS



Source: PPAC, Ministry of Petroleum & Natural Gas

**The % growth is adjusted to reflect 28 days in February 2019 and 29 days in February 2020

SECTION-II

INDUSTRY AND REGULATORY UPDATES

GAS PRICE CEILING FOR THE PERIOD APRIL – SEPTEMBER 2020 MARCH 2020, PPAC

The Ministry of Petroleum and Natural Gas, Government of India, issued a notification for marketing, including pricing freedom for gas to be produced from discoveries in deep water, ultra-deep water, and high-pressure high-temperature areas. As per the notification, the gas price ceiling for the period April 1 - September 30, 2020 is US\$ 5.61/MMBTU on Gross Calorific Value (GCV) basis.

Prices of natural gas are set on April 1 and October 1 each year. Natural Gas is used to produce fertiliser, generate electricity and is converted to CNG for use in automobiles as fuel and cooking gas for households. The gas price ceiling was at an all time low since 2014. It was the second reduction in six months, the last reduction being in October 2019.

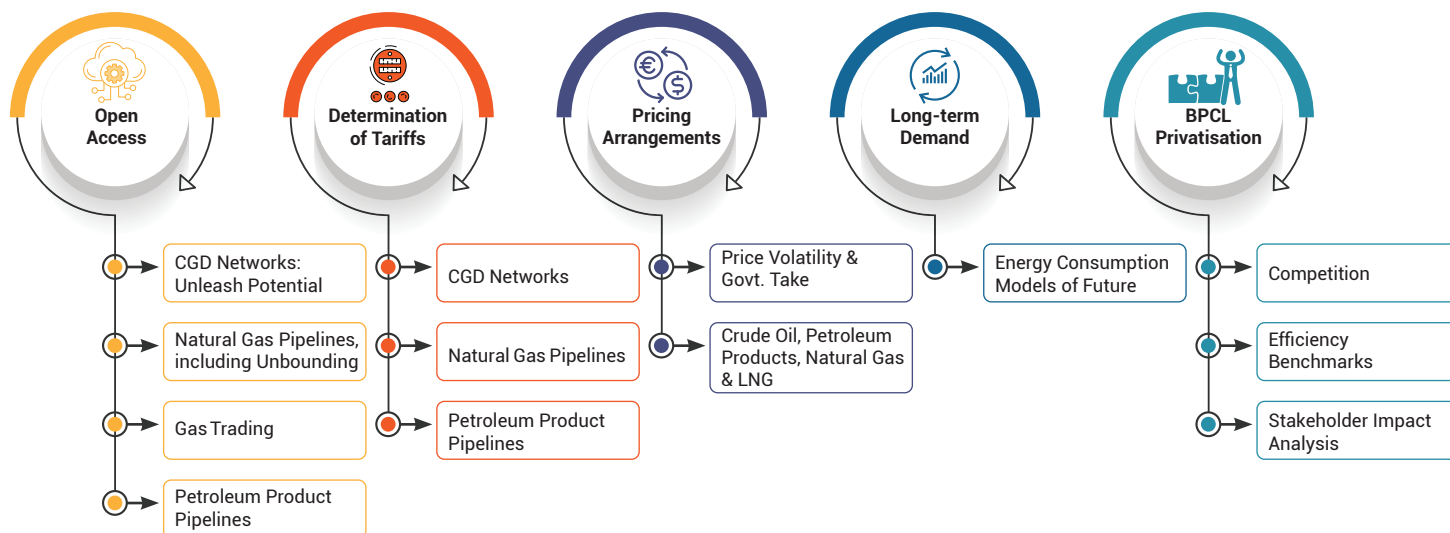
INNOVATION AND UPCOMING TRENDS IN INDIAN OIL & GAS SECTOR

IIFL Securities hosted a conference call with Vijay Duggal and Rajiv Bakhshi, independent oil & gas experts.

Key Summary Points from the Discussion:

- Implementation of open access helps development of the sector and benefits incumbents in both the medium and long term.
- PNGRB is expected to take a balanced view when finalising the open access tariff for third-party access volumes in matured CGD networks and petroleum-product pipelines. The Regulatory Board has assured that the tariffs will not be detrimental to incumbent entities.
- The long term energy growth story for India remains intact and focus shifts to newer business models and competition.
- The future of mobility with EVs will disrupt current revenue models for gas distribution companies. Business models must be reinvented in a timely manner.
- BPCL privatisation, as and when it materialises, will decisively alter the structure of the sector, thereby providing fillip to the emergence of a truly competitive market in the oil sector.

The Five Buckets – Emerging Trends



March 26, 2020, IIFL Concall

An excerpt from IIFL Securities' India – Gas Utilities Newsletter:

“The GoI, PNGRB and some industry players are keen to set up a Gas Exchange and some studies have already been completed on the operating model, the overseeing mechanism and settlement processes. Once operationalised, commodity trading would ensure transparent price discovery: and this would provide a fillip to growth in the gas market, thus making it more fungible. Later, even the pipeline capacity contracts can be traded on the Exchange which would help mitigate the impact of imbalance charges for consumers, without impacting the revenue stream of pipeline operators.”

MEDIA NEWS

CORONAVIRUS TO SQUEEZE LNG DEMAND AFTER 2019 RECORD

April 8, 2020, Reuters

- ◆ After rising 13% to 354.7 million tonnes last year, imports of LNG by consuming countries is set to be constrained by economic contraction in many leading markets.
- ◆ In the near term, the disruptive impact of the COVID-19 outbreak on the economies of importing countries will exert downward pressure on LNG demand in an already oversupplied market.
- ◆ Investments in future projects jumped despite the abundant supply, with 71 million tonnes of new production volumes approved.
- ◆ Asia remained the leading importing region, but its global market share dropped to 69% from 76%.

UNEXPECTED OPPORTUNITY FOR NATURAL GAS

April 10, 2020, Asia Times

- ◆ Three recent major events in the energy sector have opened the door to a greater role for LNG:
 - The abrupt end of the Saudi Arabia-Russia OPEC+1 pact, which has brought uncertainty
 - A mild winter throughout the markets of Europe and North America kept a lid on demand
 - The impact of Covid-19, which has affected the world economy in ways not seen for a century
- ◆ In India, gas prices are finally truly competitive with coal prices, meaning that not only is there potential for additional coal-to-gas switching but also support for a large number of intermittent renewables being added.
- ◆ This crisis provides an opportunity to extend the window that was gradually closing on natural gas' "transition fuel" period in some key markets.

OIL & GAS COMPANIES DEALING WITH THE RAGING PANDEMIC COVID-19

Companies seek tax cuts, end to price controls

April 7th 2020, Sanjeev Choudhary, ET Bureau

- ◆ Oil and gas producers want the government to cut and defer taxes on output and end all price controls on domestic natural gas to help companies deal with the twin shock of a global

supply glut and demand fall due to the Covid-19 pandemic.

- ◆ Companies have, separately and as part of industry body, made representations to the government, seeking relief on payment of cess, royalty and profit petroleum.
- ◆ Association of Oil and Gas Operators (AOGO) has separately written to the finance ministry, demanding deferment and reduction in cess, royalty, and profit petroleum. They also demanded unrestricted marketing for Oil and Gas.
- ◆ ONGC too has separately sought a waiver of cess, currently at 20% of the price, and full pricing and marketing freedom for domestic natural gas.

INDIA'S NATURAL GAS PRODUCTION FALLS 14% IN MARCH AS DEMAND DRIES UP

April 23, 2020, Bilal Abdi, The Economic Times

The ongoing Covid-19 pandemic has dented the demand of petroleum products in India and also reduced the demand for natural gas, forcing Exploration and Production (E&P) companies to scale down production in March 2020.

India's production of natural gas in March declined 14% to 2,411 Million Standard Cubic Meter (MMSCM), as compared to the corresponding month a year ago.

According to a report by the oil ministry, natural gas production by Indian E&P players had been impacted in March on account of decreased production in response to less off take by gas power plants, fertilizer plants, industrial customers as well as operational issues faced by E&P companies.

US TRADE BODY AWARDS GRANT TO ACCELERATE INDIA'S USE OF NATURAL GAS, IMPROVE ENERGY ACCESS

April 17, 2020, The Economic Times

A federal US trade body on Thursday, announced to award a grant to an Indian company to accelerate its use of natural gas and improve energy access to support economic growth.

Under the grant, the US Trade and Development Agency (USTDA) will fund a feasibility study to evaluate the development of a virtual pipeline that will distribute natural gas via truck, rail or ship to areas unserved by traditional gas pipeline infrastructure.

The grant, which was not specified, has been awarded to Arush Gas Technology Services LLP.

PNGRB LIKELY TO EXTEND DEADLINE BY AT LEAST 3 MONTHS FOR CITY GAS PLAYERS

April 18, 2020, Shine Jacob, Business Standard

In a move that may help at least 41 companies, which were part of the ninth and tenth rounds of city gas distribution (CGD) bids, the Petroleum and Natural Gas Regulatory Board (PNGRB) is likely to extend the deadline for completing the committed works by at least three months. This comes after several companies had approached the downstream regulator to invoke the force majeure clause.

A total of 136 geographical areas (GAs) were on offer in the

ninth and tenth rounds of CGD bids. Companies had committed around 42.3 million piped natural gas connections, 8,181 compressed natural gas stations and 174,000 km of steel pipeline network by 2029 under the two rounds. "The PNGRB is planning to extend the deadline. Over 50 per cent of the companies that were part of the ninth and tenth rounds have approached for invoking the force majeure clause," said a person in the know.

The deadlines are also likely to be extended for those companies, which were part of the seventh and the eighth rounds. Other reliefs for the industry will be based on policy initiatives taken by the government, the source said.

BCG REPORT

WHAT WILL COVID-19 MEAN FOR LNG?

March 2020, Alex Dewar, Juan Vazquez, and Lluís Bor, Boston Consulting Group

Global gas companies face fresh challenges due to two seismic events: the COVID-19 pandemic and the global oil price shocks. Together, these developments are set to deepen and lengthen the current imbalance between supply and demand in LNG markets, leading to a lower-for-longer price environment. As a result, up to 8% of global LNG demand could be at risk (more than 25 million tonnes per annum, or MTPA) in the near term, while the low-price environment could last another one to two years. Also, weakening demand will exacerbate the market imbalance.

How Companies can respond:

- ◆ New opportunities will emerge for natural-gas buyers. With a sustained lower LNG price, the case for investments that promote switching from coal to gas is now stronger.

- ◆ For LNG producers, the immediate priority in light of COVID-19 is to secure operational continuity. Beyond that, they should take quick steps to prepare for a longer and deeper supply glut. Measures that optimise LNG production and trading, particularly the use of new digital tools and capabilities, are also likely to prove among the most viable options for improving performance in the short term.
- ◆ While a low-price environment will provide a boost for LNG buyers, they also need to assess their near-term exposure while identifying ways to maximise value over the long term. They should start by reviewing their existing commercial exposure, engaging with suppliers to create as much near-term flexibility as possible, so they can manage their own potential demand shocks.

SECTION-III

IGX UPDATE

IGX WEBINAR

IGX has launched a series of informative webinars, the first of which was held on April 8, 2020.

The Webinar received an overwhelming response with 250+ registrations and 170 attendees from corporates such as PLL, GAIL, Caparo, Essar, GMR, GSPC, GSPL, H Energy, IOCL, IRM, KEI, Kreate, Manikaran, Nayara, NTPC, Petronas, Torrent, Trafigura, PWC, and Sabarmati.

Deepak Mehta, Head, Business Development, IGX, took attendees through various aspects of the IGX platform. The following topics were discussed:

- ◆ Areas of operation and proposed products
- ◆ Price discovery mechanism
- ◆ Delivery and settlement mechanism
- ◆ Risk management
- ◆ Membership structure and onboarding

The second webinar was held on April 29, 2020. Also, a second mock trading session was held on April 8, 2020.

IGX WELCOMES ON-BOARD NEW MEMBERS



SECTION-IV

IGX FEATURES SHOWCASE: WHY THE DOUBLE-SIDED UNIFORM PRICE CLOSED AUCTION IS AN EFFECTIVE PRICE DISCOVERY MECHANISM FOR GAS TRADING?

The Government of India has set a policy target of increasing the share of natural gas in India's energy basket from current 6.5% to 15% by 2030. To achieve this goal, gas trading in India will require a vibrant market-based pricing mechanism that can provide flexibility, transparency, and competitive price discovery. In turn, this will drive competition across the value chain, leading to innovative business models and efficient cost-structures.

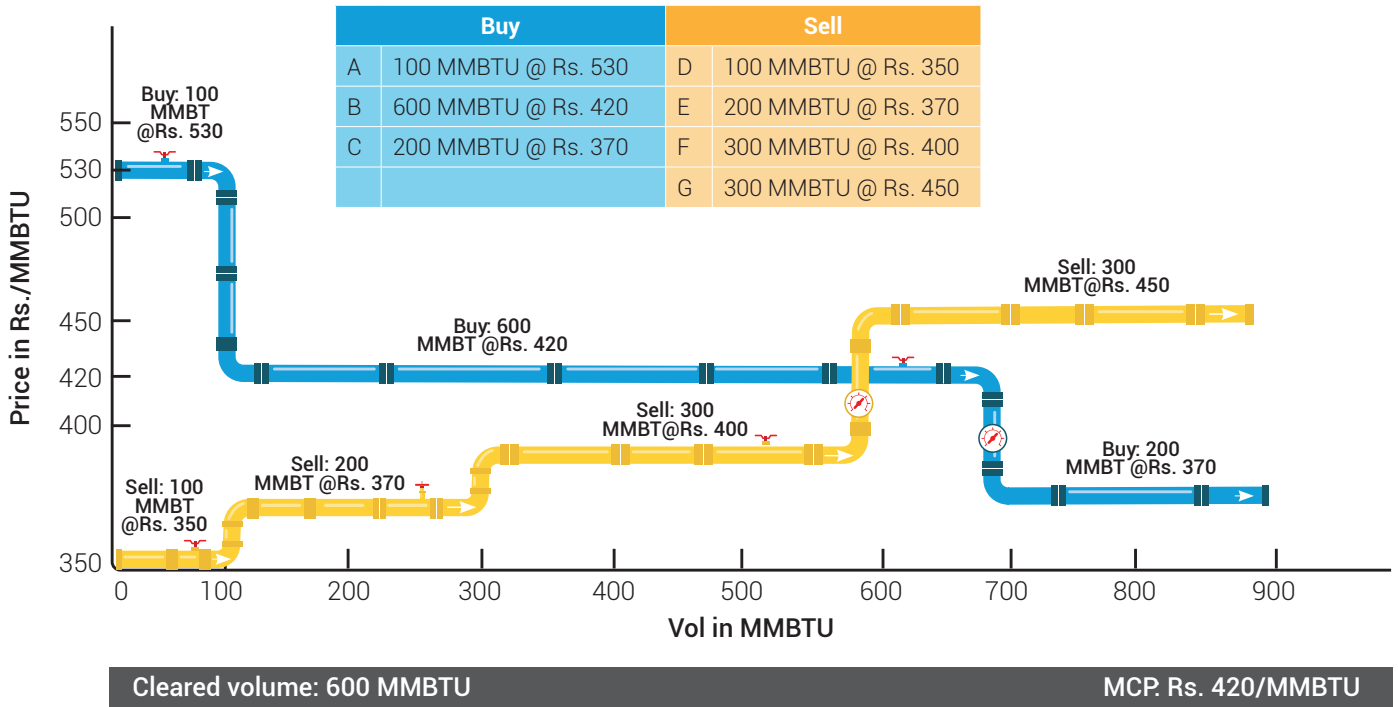
In view of this, IGX has adopted a closed, uniform price, double-sided auction approach for price discovery. In designing any energy auction, the primary goal is to maximise social welfare through a price discovery mechanism, which enables the lowest cost dispatch that balances supply and demand. A double-sided auction provides an open, transparent, and competitive process. It also addresses the traditional concerns of regulators by preventing collusive, predatory, and entry-detering behaviour. The classic economic principle states that social surplus i.e. social welfare is the largest at equilibrium quantity and price than it would be at any other quantity. To explain, social surplus is the sum of consumers' surplus and producers' surplus, which leads to overall economic efficiency in the system.

This makes the double-sided closed auction a very sophisticated way to trade and explore the market. The method allows both buy bids and sell offers to be submitted at the same time without disclosure of the identity of the bidder, price and quantity of

bids to each other. This ensures true competition by keeping pressure on both the parties to give their best bids (thereby reflecting sellers' marginal costs or buyers' marginal willingness to pay). This method also guarantees that all parties pay or receive a uniform price, which is either the same or better than their price bids and also ensures maximum market liquidity by concentrating orders within market hours. Major advantage of such mechanism is that the buyers and sellers need not be too strategic. The buyer will place bid at its highest possible limit price and seller will bid at lowest possible price and if cleared price is more than sellers' price bid and lower than buyers' bid, both will be cleared and both will pay/receive the cleared price. Therefore, this mechanism simplifies bidding strategies for all market participants.

IGX will aggregate all offers from sellers and bids from buyers and clear the market on the basis of this supply-demand equilibrium concept (Ref. figure below). The intersection point of the supply and demand curves i.e. equilibrium, will determine the Market Clearing Price and Market Clearing Volume. At the equilibrium point, the following bids will be cleared:

- ◆ **Buy Bid:** where the bid price is higher than or equal to the Market Clearing Price, and
- ◆ **Sell Bid:** where the offer price is lower than or equal to the Market Clearing Price



Indian Energy Exchange, the parent company of IGX, offers a successful precedent of this price discovery mechanism. The company uses this methodology for clearing transactions in the Day-Ahead Market, which comprises of more than 90% of the total electricity trading. The same methodology was recommended and approved for two more market segments, namely Renewable Energy Certificates (REC) and Energy Saving

Certificates (ESCCerts). This method is also deployed by almost all power exchanges globally, for example – NordPool and EPEX Spot.

Therefore, using a double-sided auction approach brings in liquidity, transparency, and competitive price discovery, making it an effective price discovery mechanism for gas trading.

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



In keeping with the Govt'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 31st May.


Be a part of India's gas based economy.

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