



# Indian Gas Exchange



Nov 2022



# Indian Gas Exchange – Key Milestones

## **Key Milestones:**

- **IGX reached break even in its 1st year of operation**
- **Domestic Gas sale with marketing & pricing freedom allowed by MoPNG on Exchange**

## Key Highlights: H1 FY23

Total Number of Trade

722

No. of Members

31

YoY Growth

648%

Total Volume

~101 Lakh MMBtu

Active Clients

120+

YoY growth in no. of trades

5.4 times



STRATEGIC PARTNERS



**In June 2020 IGX launched by then Honorable Minister Shri Dharmendra Pradhan Ji**



**In Dec 2022 IGX authorized by PNGRB and commenced operations as Gas Exchange**

# Gas Exchange: Market Model

## 6 Regional Gas Hubs

### Hubs & Delivery points

- 6 Gas Hubs with multiple Delivery Points
- 6 new Delivery Points for Domestic Gas

## 6 Contracts

Day-Ahead | Daily | Weekly | Weekday | Fortnightly | Monthly

6 consecutive monthly contracts are available on any trade date

## Price Discovery Mechanism

### Open Auction

Weekday, Weekly, Fortnightly & Monthly

### Continuous Matching

Day-Ahead, Daily

### For Ceiling Price Domestic Gas

### Open Auction

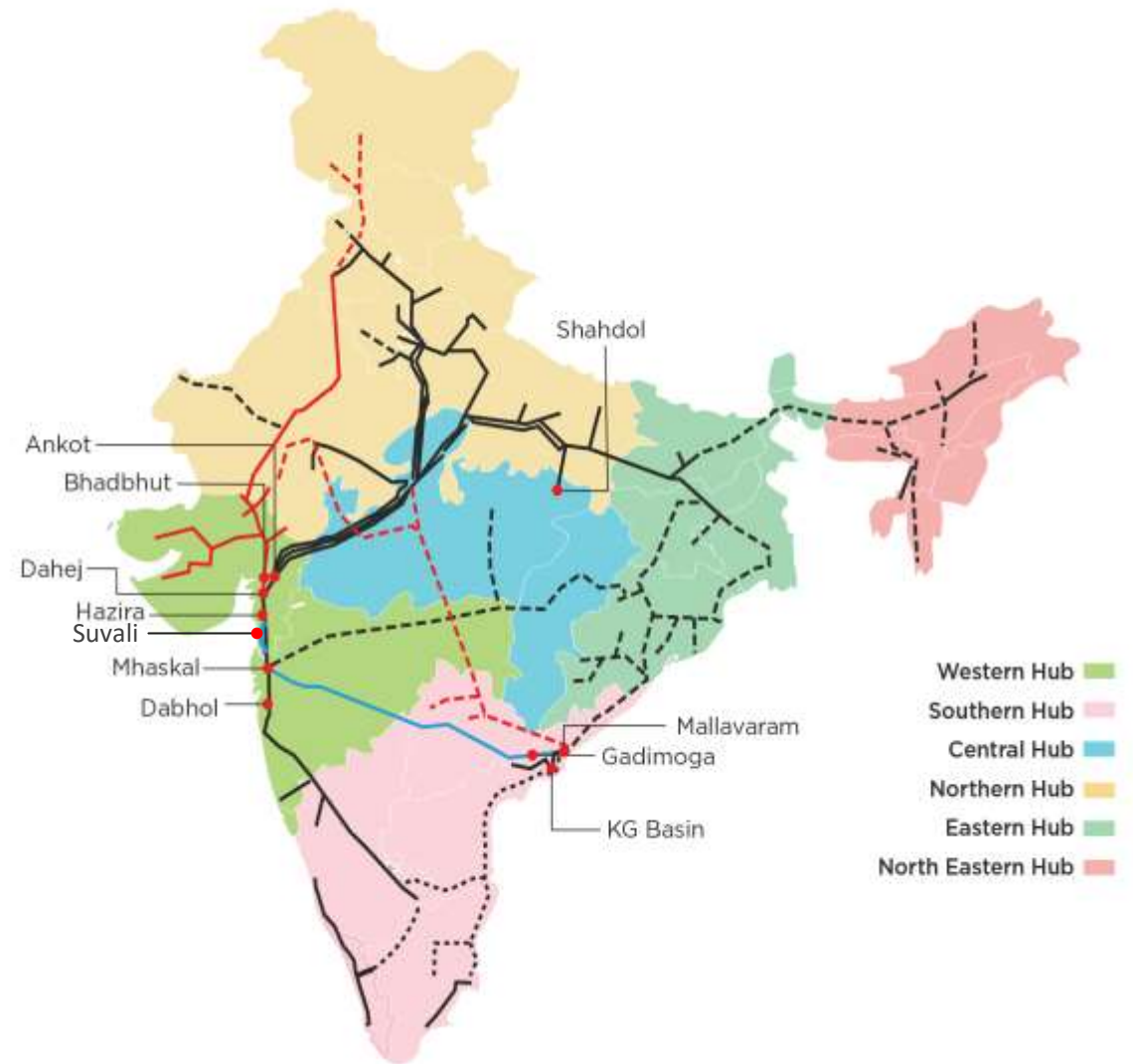
Day-Ahead, Daily Weekday, Weekly, Fortnightly & Monthly

**Ex-hub: Delivery by Buyer**

**Delivered : Delivery facilitation by Exchange**

## INR Contracts

**Minimum purchase 50 MMBtu /day**



## Market Model: Trading products and timetable

Exchange products	Trading hours	Tenor	Trading window (S)	Trading window (E)
Day-Ahead	10:00 am – 2:00 pm	1 Gas Day	D-1	D-1
Daily		1 Gas Day	D-9	D-4
Weekdays		5 Gas Days	D-11	D-4
Weekly		7 Gas Days	4 Weekly Contracts on any Trading Date up to D-4 days	
Fortnightly		13-16 Gas Days (1-15 & 16-EoM)	5 FN Contracts on any Trading Date (up to D-4)	
Monthly		Calendar Month	6 MN Contracts on any Trading Date (up to D-4)	

- Maximum 8 daily contracts will be available on any trade date
- Days are business days
- For Ex-hub participants trading window will end on D-1 for all contracts

**6 consecutive monthly contracts are available on any trade date**

# Market Model: Salient Features

<b>Physical</b>	All trades for firm delivery. Non-transferable.
<b>Automated Platform</b>	Facilitates - Trading, Delivery and financial settlement
<b>Lot Size</b>	<b>1 lot = 50 MMBTU</b> (per day)
<b>Partial selection</b>	Possible (Trade/Selected volume < Bid Quantity)
<b>Bid unit</b>	<b>INR/MMBTU</b>
<b>Price tick</b>	1 INR/MMBTU
<b>Price discovery/ Matching Methodology</b>	<b>Auction - Uniform price, Open, double-sided auction (Top 5 bids – buy/sell visible)</b> Bids collected during trading hours and then matched( WK / WD/ FN & MN ) <b>Continuous Trading – DA and DL</b>
<b>Types of delivery</b>	<ul style="list-style-type: none"> <li>• <b>Delivered:</b> Gas and transmission capacity together</li> <li>• <b>Ex-hub:</b> Gas only. Capacity will be organized by Buyer</li> </ul>
<b>Imbalance management</b>	<ul style="list-style-type: none"> <li>• Facilitated by the exchange for <b>Delivered transactions</b></li> <li>• Handled by Buyer/Shipper for <b>Ex-hub transactions</b></li> </ul>
<b>Margins</b>	<ul style="list-style-type: none"> <li>• Buyers to pay upfront cash margins for DA &amp; DL contracts;</li> <li>• Cash/ non-cash margins for WK, WD, FN &amp; MN contracts</li> </ul>

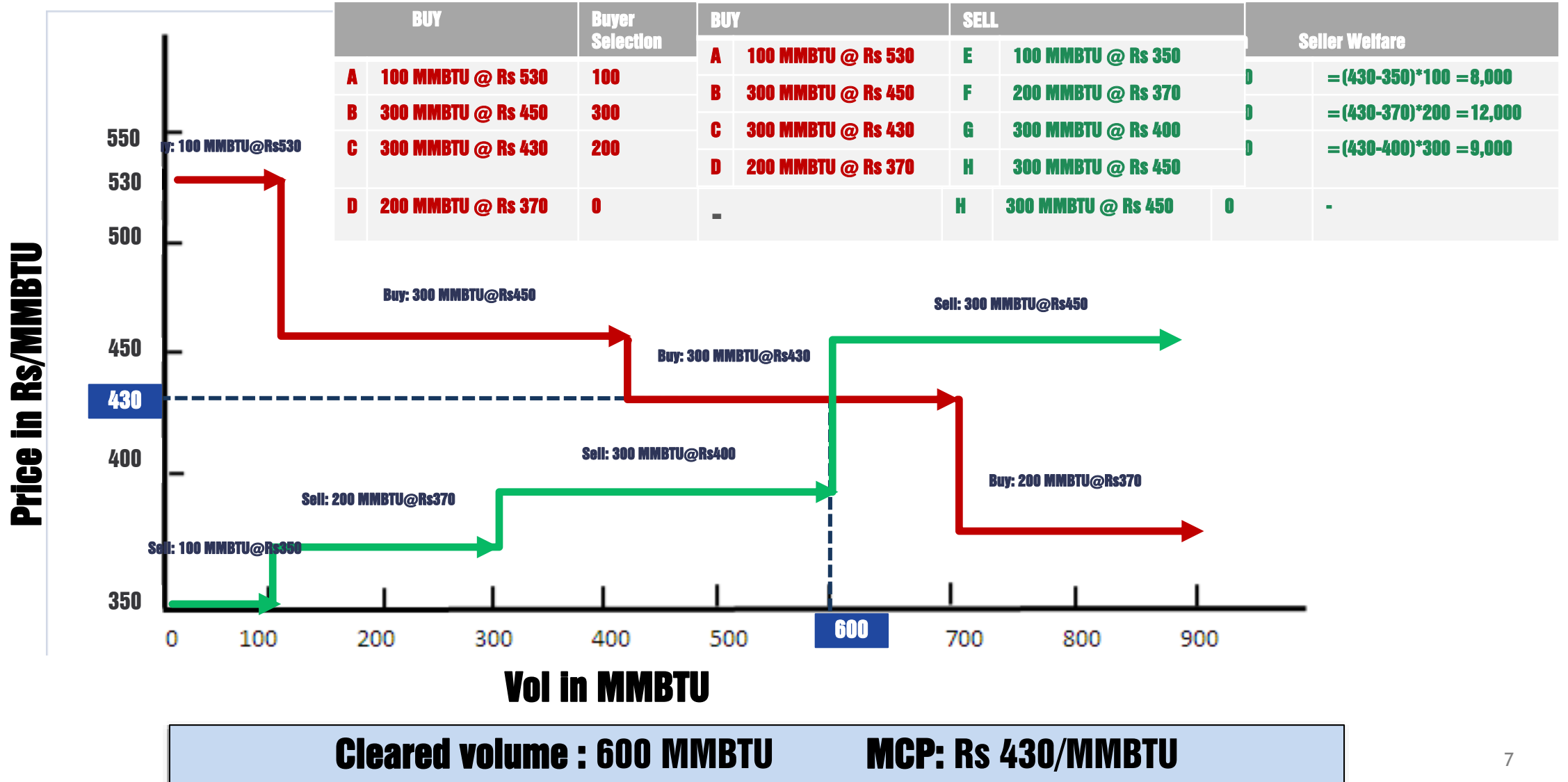
# Market Model: Risk Management

## Risk management

Contract Type	Weekly / Weekdays / Fortnightly / Monthly	Day Ahead (only Ex-Hub) and Daily Contracts
<b>Buyer Margin</b>	<p><b>Ex-Hub:-25% of Trade value by next bank working day of Trade Date (T), cash/noncash</b></p> <p><b>Delivered: 25% of Trade value (cash/noncash) + 102% of the estimated ship or pay Margin in cash by next bank working day of Trade Date (T),</b></p>	<p><b>Ex-Hub:-120% of Trade value (cash) on Trade Day (T)</b></p> <p><b>Delivered:-150% of Trade value (cash) on Trade Day (T)</b></p>
<b>Seller Margin</b>	<p><b>15% of Trade value by next bank working day of Trade Date (T), Cash/noncash</b></p>	<p><b>15% of Trade value on Trade Day (T), Cash/noncash</b></p>
<b>Pay-in from Buyer</b>	<p><b>Each day rolling on D-1 working day basis, Pay-In adjusted with Cash Margin</b></p>	<p><b>Pay-in adjusted with Cash Margin</b></p>
<b>Pay-out to Seller</b>	<p><b>Each Day rolling basis on D+2 working day ( ^ )</b></p>	<p><b>On D+2 working day ( ^ )</b></p>

*( ^ ) subject to proof of delivery being available*

# Uniform Price double sided auction mechanism



# Uniform Price Discovery Mechanism (Open Auction)

	Bid Price	Bid Quantity
Buyer A	P=Rs. 530/MMBtu	Q=100 MMBtu/day
Buyer B	P=Rs. 450/MMBtu	Q=300 MMBtu/day
Buyer C	P=Rs. 430/MMBtu	Q=300 MMBtu/day
Buyer D	P=Rs. 370/MMBtu	Q=200 MMBtu/day

Seller E	P=Rs. 350/MMBtu	Q=100 MMBtu/day
Seller F	P=Rs. 370/MMBtu	Q=200 MMBtu/day
Seller G	P=Rs. 430/MMBtu	Q=300 MMBtu/day
Seller H	P=Rs. 450/MMBtu	Q=300 MMBtu/day

Price	0	300	350	370	400	430	450	530	1000
Buyer A	100	100	100	100	100	100	100	100	0
Buyer B	300	300	300	300	300	300	300	0	0
Buyer C	300	300	300	300	300	300	0	0	0
Buyer D	200	200	200	200	0	0	0	0	0
$\Sigma$ Buy	900	900	900	900	700	700	400	100	0
Seller E	0	0	100	100	100	100	100	100	100
Seller F	0	0	0	200	200	200	200	200	200
Seller G	0	0	0	0	0	300	300	300	300
Seller H	0	0	0	0	0	0	300	300	300
$\Sigma$ Sell	0	0	100	300	300	600	900	900	900
Trade	0	0	100	300	300	600	400	100	0

Maximum tradable volume

Clearing Price = Rs. 430/MMBtu

Buyer A,B, C: Trade qty. selected 100, 300, 200 @ Rs. 430/MMBtu

Seller E, F, G: Trade qty. selected 100, 200, 300 @ Rs. 430/MMBtu



# Typical Trade Flow

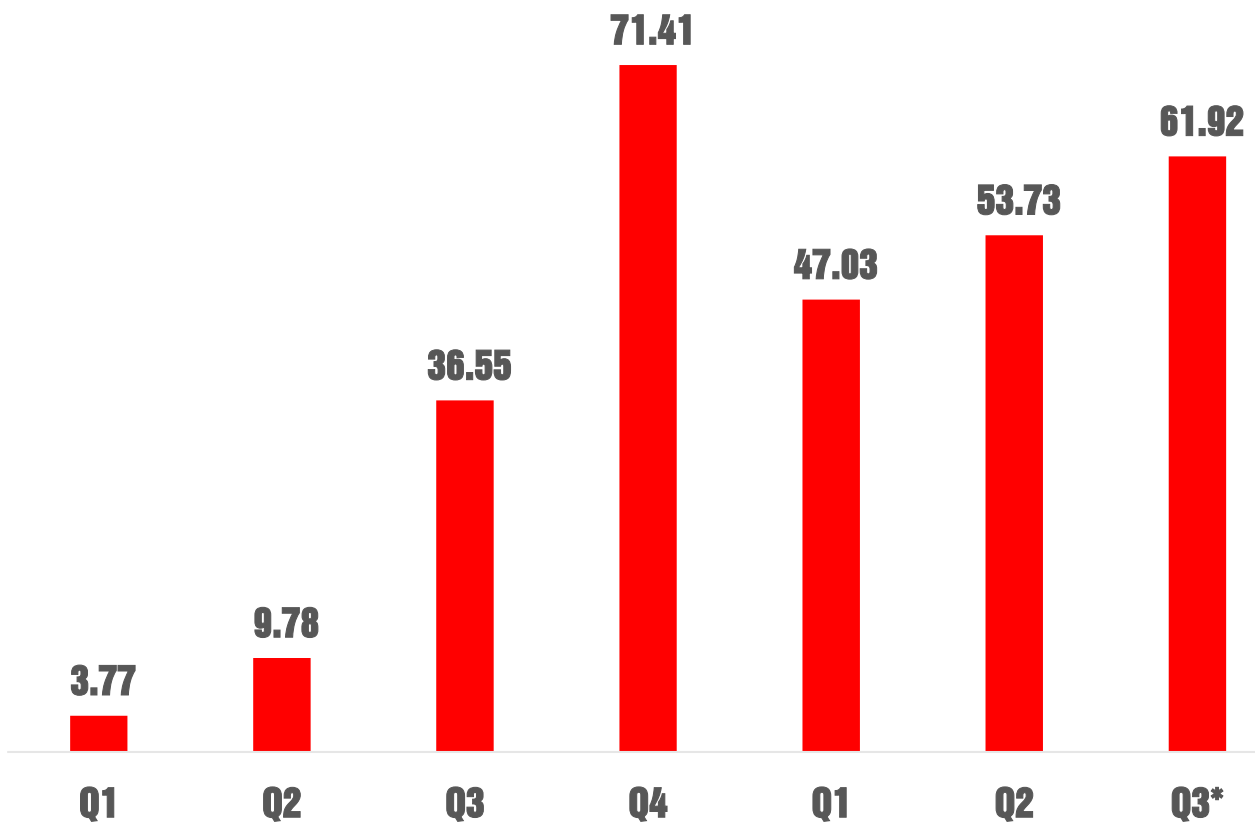
## Trade Flow



**IGX facilitates both Ex Hub and Delivered Transactions**

# Trade Highlights

Traded volume in Lakh MMBtu



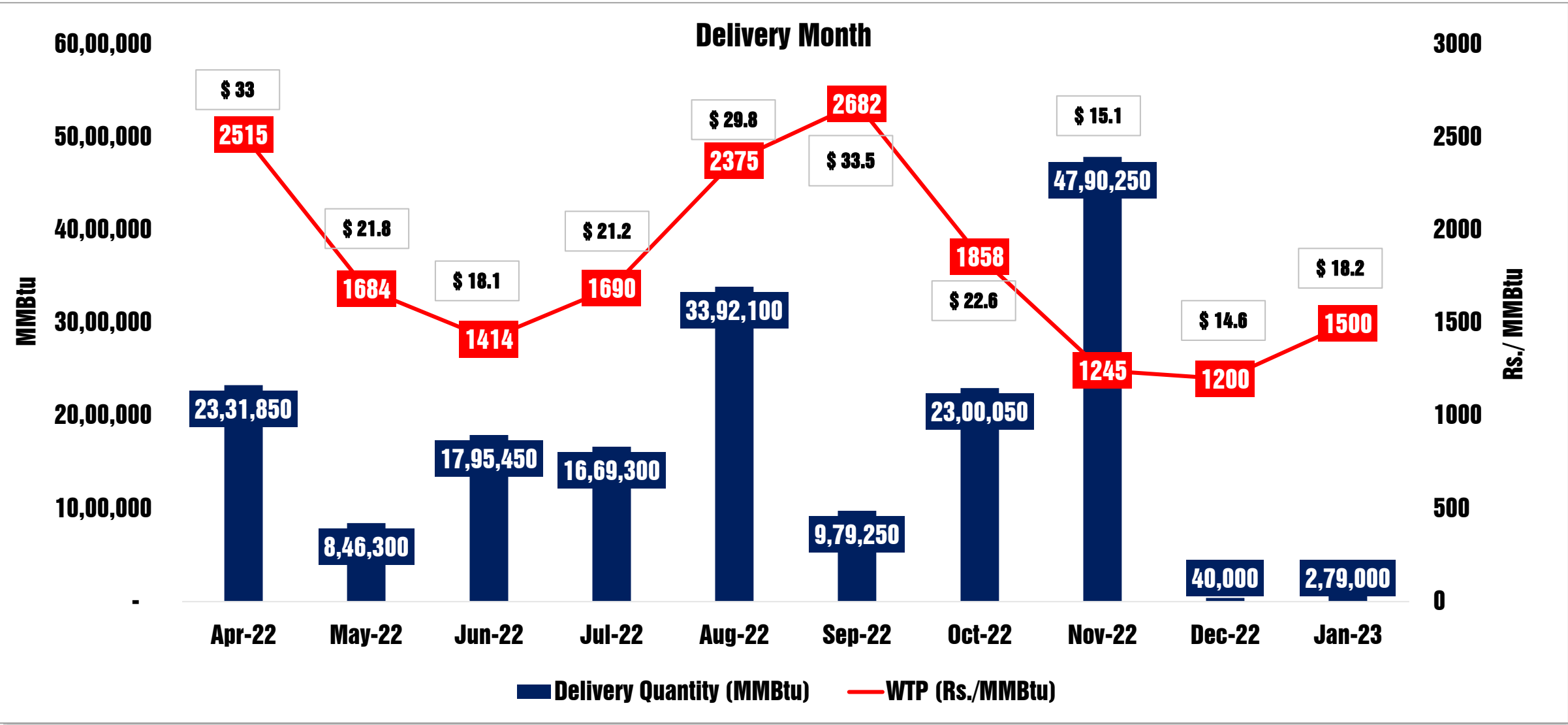
FY22

FY23

\*Data till 7<sup>th</sup> Nov'22

- ✓ **Total trade volume as a Gas Exchange:**
  - **282 Lakh MMBtu (712 MMSCM)**
- ✓ **Highest Single day trade:**
  - **22.5 Lakh MMBtu**
- ✓ **H1 FY23 Volume:**
  - **7.5x Increase YoY**
- ✓ **Most Liquid Hub in FY23\*:**
  - **Western Hub where active delivery points were – Dahej, Ankot, Mhaskal, Bhadbhut, Suvali.**
- ✓ **Major Domestic Gas Producers commenced trading**
  - **ONGC, RIL, Vedanta**

# Monthly Volume and Price

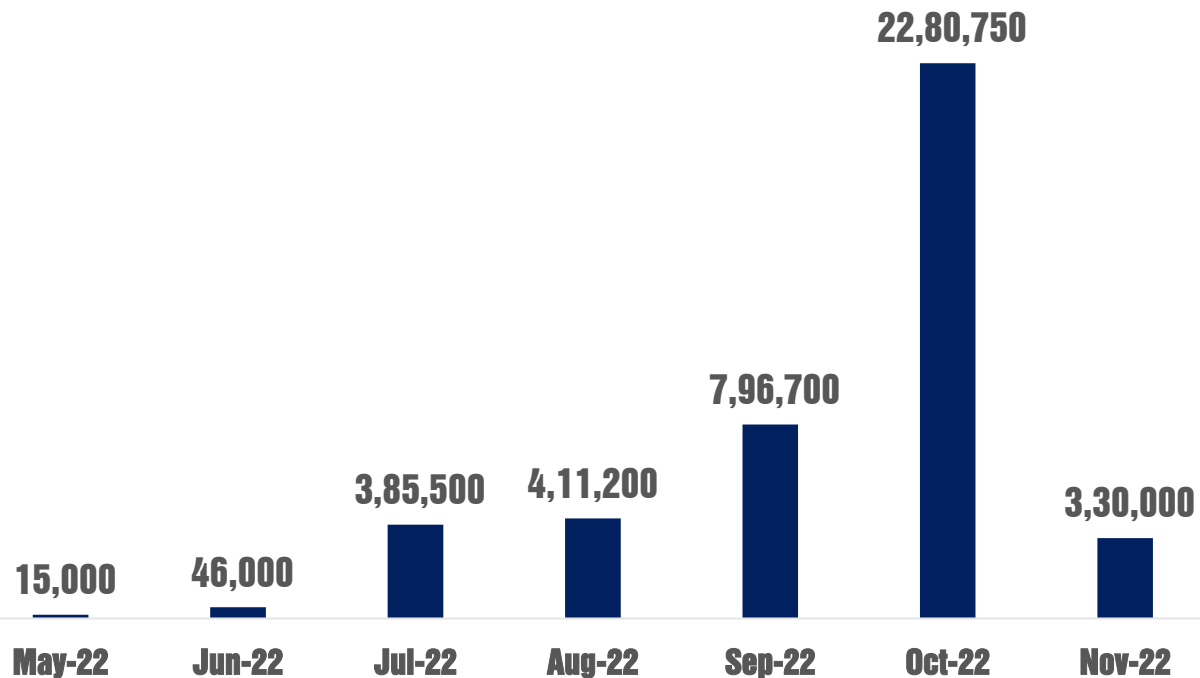


\*For delivered volumes both ceiling and non ceiling volumes are considered , and Prices Excluding Ceiling Price

## Trade Details - *Ceiling Price Gas Auction*

- **MoPNG** vide OM dt. 19.08.21 has granted additional option to **sell Domestic Gas** having Marketing & Pricing freedom
- **IGX** launched products for domestic gas trading in May-22

Vol. of Ceiling Price Gas Traded (MMBtu)

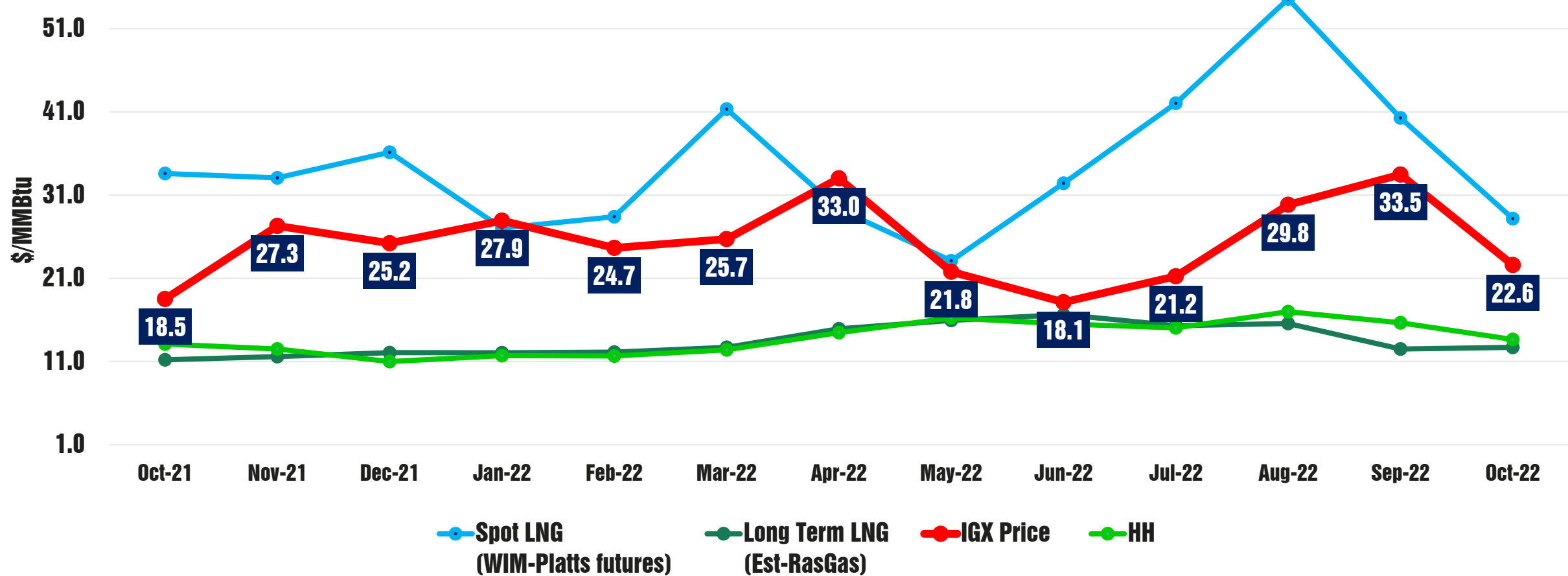


- Ceiling price gas traded: **42.7 Lakh MMBtu (~107 MMSCM)**
- No. of Auctions: **9**
- Participants: **90+**
- Hub: **KG Basin (Odalarevu) & Gadimoga**
- Current Ceiling Price: **\$12.46/MMBtu**

# Gas Price Benchmarks

Data till 30<sup>th</sup> Oct'22

### Other Benchmarks Est. Vs IGX Prices



IGX prices reflecting Indian demand and supply, IGX Prices are converted to \$/MMBtu

Source: CME, IGX, Market intelligence

Benchmark prices are monthly average of daily published prices

# IGX Members and Clients

**IGX has 35 registered Members and 120+ Active clients**

## Proprietary Member

## Trading & Clearing Member

## Clients



*\*Selected representation*

# IGX Innovations for Gas Sector

## Easy-to-trade, User friendly, Automated trading and Delivery system

- **Single trading platform for all buyers and sellers**
- **Developed standardized Market Rules & Byelaws , no need to sign elaborate time-consuming GSA**
- **Small denominations (50 MMBtu/day) for trading – suitable for small buyers**

## First to offer Flexible Contracts

- **Flexible/short-duration contracts (Day-Ahead upto 6 forward monthly)**
- **Minimizing take-or-pay risks for buyers**

## Indigenous gas price discovery

- **Price Discovery Based on demand & supply**
- **Boost confidence of market participants**
- **Increase transparency & standardization**
- **Generate price signals to encourage investments in gas sector ecosystem**

## Innovation in Delivery & Settlement

- **Multiple physical delivery points across India**
- **Delivery options- Ex-hub/Delivered transactions**
- **Delivered Transaction – Delivery Facilitated by IGX.**
- **Financial settlements in INR- no forex risks.**
- **Payment security for Sellers- robust risk management**

# Key Gas Market Enablers



**Inclusion of Natural Gas under GST**



**Implementation of Unified Tariff Regulations by PNGRB**



**Implementation of new Access Code Regulations and Incorporation of TSO**



**Declaration of CGD GAs as common carrier**



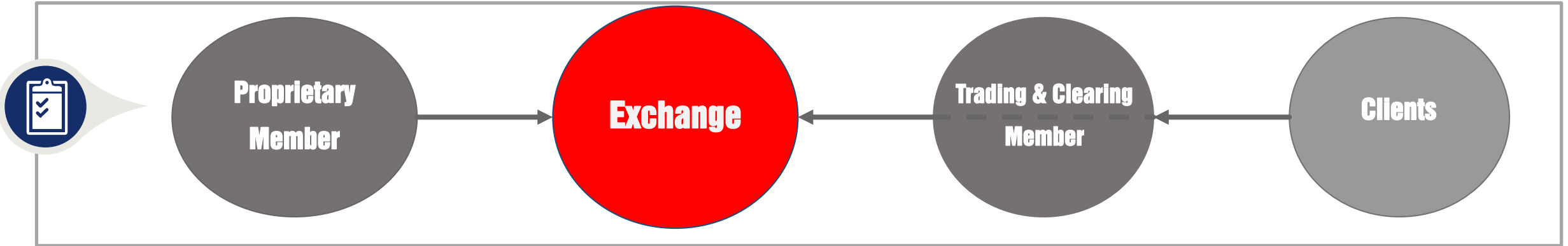
**Industries & Vehicles: Mandate to use NG and CNG instead of dirtier fuels in Tier II & III cities (say AQI > 200)**



**Removal of Deepwater/HPHT ceiling price for gas sold on Exchange**



## Access & Membership



### **Proprietary member:**

- *Member who can self-trade and also on behalf of its affiliates/associates*

### **Trading & Clearing member:**

- *Member who can only trade on behalf of its clients*

### **Client-**

- **An entity who has been registered through a Member as a Buyer/Seller.**
- **The Client has to settle their financial obligation through respective Members.**

# Membership Fees Structure

	Proprietary Member (INR)	Trading & Clearing (INR)	CGD Member
1. Member Fees*			
Admission Fee	25 L	15 L	10 L
Security Deposit (One Time)	25 L	25 L	25 L
Annual Fees	5 L	5 L	5 L
2. Client Fees: Annual Fee Rs 1L			

Exchange Transaction Fees		
Particulars	UoM	Transaction Fees
Transaction fees- Ex Hub	INR/MMBTU	4
Transaction fees- Delivered	INR/MMBTU	6

**Exclusive of taxes**

## Way Forward

- ✓ **Launch of Small-Scale LNG (ssLNG ) Contracts – LNG by Trucks**
- ✓ **Launch of Annual Contracts**

# Stakeholders Engagement



07-11-2022

ALL INDIA

Jan-23	₹ 1,500	\$18.8	▲ 25%
Dec-22	₹ 1,200	\$15.0	▼ -4%
Nov-22	₹ 1,245	\$15.6	▼ -33%

Hub		Western Hub											Southern Hub		
Delivery Points		Dahej		Ankot		Hazira		Bhadbhut		Mhaskal		Suvali		KG BASIN (Normal)	
WTP/LTP		WTP	LTP	WTP	LTP	WTP	LTP	WTP	LTP	WTP	LTP	WTP	LTP	WTP	LTP
On Going	Jan-23	1,500 \$19	1,500 \$19	-	-	-	-	-	-	-	-	-	-	-	-
	Dec-22	1,200 \$15	1,200 \$15	-	-	-	-	-	-	-	-	-	-	-	-
	Nov-22	1,205 \$15	1,200 \$15	1,214 \$15	1,193 \$15	1,150 \$14	1,150 \$14	-	-	1,385 \$17	1,207 \$15	1,130 \$14	1,130 \$14	-	-
Historical	Oct-22	1,931 \$24	1,500 \$19	1,489 \$19	1,225 \$15	-	-	1,630 \$20	1,600 \$20	2,153 \$27	1,350 \$17	-	-	-	-
	Sep-22	2,649 \$33	2,550 \$32	2,858 \$36	2,720 \$34	3,200 \$40	3,200 \$40	2,580 \$32	2,580 \$32	2,654 \$33	2,550 \$32	-	-	-	-

### Uncleared Bid Prices

07-11-2022

(Price in INR/MMBtu)

Delivery Points		Dahej		Ankot		Hazira		Bhadbhut		Mhaskal		Suvali		KG BASIN (Normal)	
		Buy	Sell	Buy	Sell	Buy	Sell	Buy	Sell	Buy	Sell	Buy	Sell	Buy	Sell
	Feb-23	-	1,750	-	-	-	-	-	-	1,100	-	-	-	-	-
	Jan-23	-	-	-	-	-	-	-	-	1,100	-	-	-	-	-
	Dec-22	1,000	1,700	-	-	-	-	-	-	1,100	-	-	-	-	-
	Nov-22	1,000	1,300	-	1,199	-	-	-	-	-	1,200	-	-	-	-

CONTRACTS AVAILABLE FOR TRADE ON 08-11-2022

Delivery Month-wise Prices

Note

DAY-AHEAD DELIVERY

09-Nov

DAILY DELIVERY

10 Nov 11 Nov 12 Nov 13 Nov 14 Nov 15 Nov 16 Nov 17 Nov

WEEKDAYS DELIVERY

14 Nov to 18 Nov

WEEK DELIVERY

W3 Nov22 W4 Nov22 W1 Dec22 W2 Dec22

FORTNIGHT DELIVERY

H2 Nov22 H1 Dec22 H2 Dec22 H1 Jan23 H2 Jan23

MONTHLY DELIVERY

Dec22 Jan23 Feb23 Mar23 Apr23 May23



- Prices are delivery month-wise volume weighted average price (WTP)
- For details of gas hubs and delivery points, please refer the attached circular no 59
- \$/INR conversion rate considered at 80 for delivery period of Jul-22 onwards
- Last tradeprice (LTP)
- Last Domestic Gas Ceiling Price Auction held on 04 Nov 22 at INR 1033/MMBtu
- For more details, <https://igxindia.com/market-data/>

- Daily IGX Price Index dissemination to 2000+
- IGX Gas Connect monthly newsletter
- MAC meeting once in a quarter
- External Events (webinars, customer meets, Member's training)
- Monthly press release
- Trade updates on social media

## Awards & Recognition

**ET Energy Leadership - Energy Best Start-up of the Year**

**June'22**



**IPPAI Power Award 2022 for - Best Exchange**

**April'22**

**Indian Smart Grid Forum,2022 - Smart Start-up of the Year**

**March'22**



# IGX is aligned to Governments' vision of creating a successful gas trading hub

**Dharmendra Pradhan**  
40.5K Tweets

Tweets Tweets & replies Media Likes

**Dharmendra Pradhan** @dprad... · 1h  
I congratulate @IEXLtd and @IgxIndia on the launch of the Indian Gas Exchange. This is a new chapter in the energy roadmap of the country and a big step forward towards an #AatmanirbharBharat.




2 20 92

**Dharmendra Pradhan** @dprad... · 1h  
India is a price sensitive market. The Gas Exchange will play a key role in discovering our own price benchmarks. @PNGRB\_ is working on a progressive & pro-business tariff policy to make natural gas affordable in every part of the country & facilitate development of gas markets.



## IGX, country's first gas trading platform, goes live

**MUMBAI**  
Union Petroleum Minister Dharmendra Pradhan on Monday inaugurated the Indian Gas Exchange (IGX), a natural gas trading platform, owned by the Indian Energy Exchange (NSE- IEX).

The platform, the country's first, is primarily aimed at enabling short-term trading of imported domestic gas. Prices are fixed by the government every six months. Imported LNG is mostly bought and sold long term, but there is some sold on the spot market too.

India consumes roughly 60 million standard cubic feet per day (MMSCFD) of natural gas, 51 percent of which is imported in the form of LNG.

About a third of the imported LNG is sold in the spot market, rest over long-term contracts. The IGX aims to win over the spot buyers and sellers on the platform.

Exchange-based trading offers several advantages over bilateral trades. First, LNG producers from abroad can now offer to sell gas in smaller quantities, if need be, and for shorter delivery timelines. Currently, the IGX allows LNG trades for deliveries up to one month, but IEX officials have said that in course of time, transactions would be allowed where the gas would be delivered any time within six months.

Second, the exchange makes way for market-based price discovery. Also, since the deals on the IGX are denominated in rupees rather than dollars, the element of foreign exchange fluctuation is also removed.

The opportunity to buy smaller quantities, quickly delivered, makes way for gas consumers – such as fertilizer companies – to benefit from low international prices of gas.

Rajesh Mediratta, Director, IGX, told *Bhaskar* that market discovery of prices offers scope for the government to do away with the periodic fixing of gas prices. For instance, LNG prices today hover around \$2 a MMBTU, an attractive price which would not be available to those who are buying the gas on long-term, fixed-price contracts.



Union Petroleum Minister Dharmendra Pradhan

Mediratta said on Monday that the exchange already had registered 12 members (traders) and about 350 clients. He said that city gas companies and fertilizer manufacturers showed much interest in buying gas on the exchange which could often be much cheaper than long-term con-

The Indian Gas Exchange will offer six market products beginning from day-ahead market and forward contracts including daily, weekly, monthly, fortnightly and quarterly at three physical hubs in Dabhol, Hazira in Gujarat and Odera in Andhra Pradesh to begin with while it is planned to add more hubs soon.

There is enough spare pipeline capacity in the country for delivery of gas from the terminals to consumers, officials said at a press conference today. Speaking at the launch, Omesh K Saral, Chairman, Petroleum and Natural Gas Regulatory Board, urged Minister Pradhan to push for inclusion of natural gas into the GST regime.

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**Dharmendra Pradhan**  
15 Jun at 7:43 pm · 🌐

This landmark development will enable efficient and competitive discovery of gas prices at designated physical hubs and promote and sustain a robust and efficient gas market.

The gas trading platform will play a vital role in addressing demand supply gaps and accelerate investments in the value chain. The transparency, reliability, flexibility, and competitiveness of our gas markets will contribute in driving India's industrial and economic growth.

Energy | Oil & Gas | Govt allows gas producers to sell up to 500 mmscm through exchanges

# Govt allows gas producers to sell up to 500 mmscm through exchanges

# Thank you

## Strategic Partners



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