



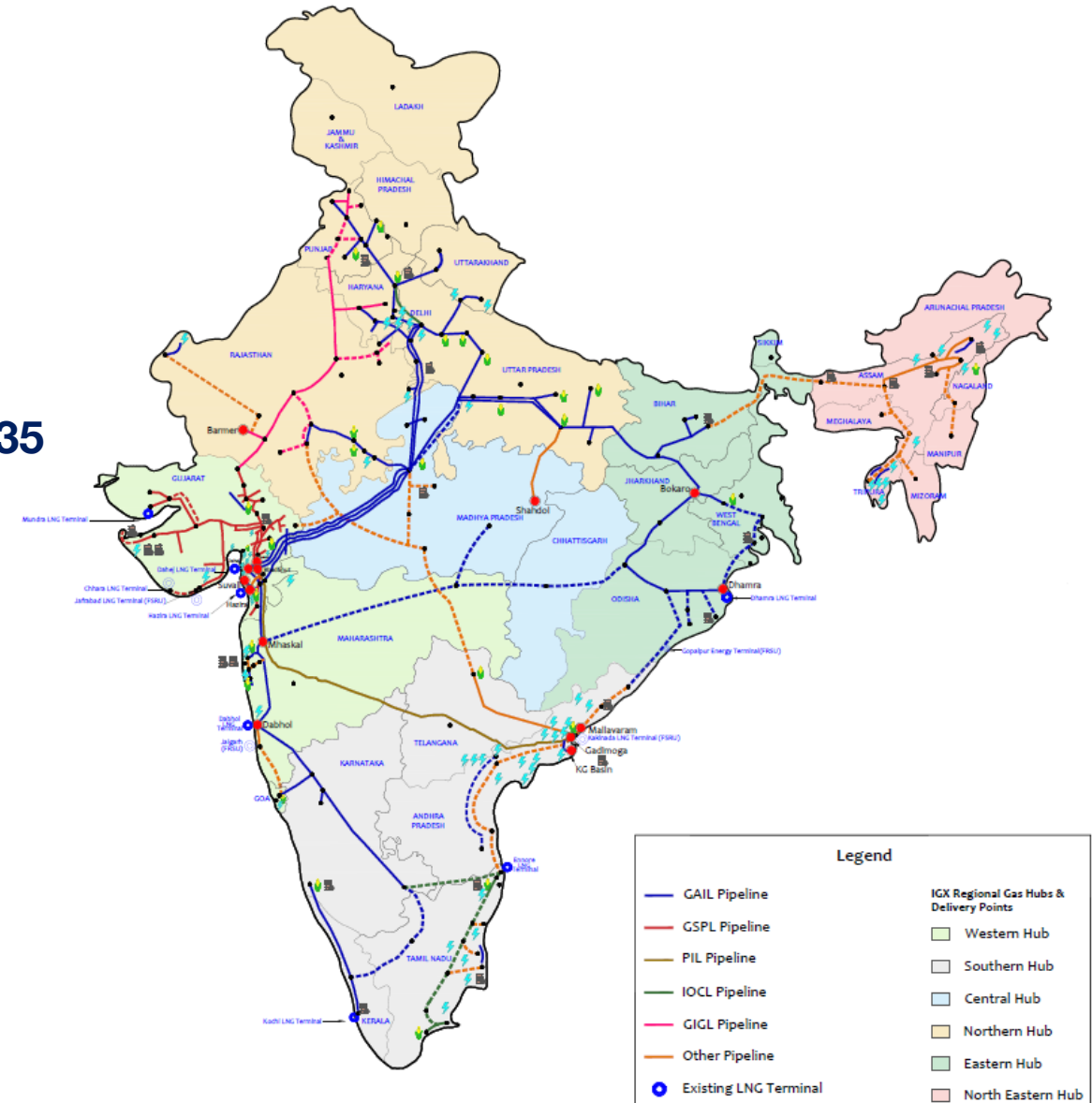
India: how can traded markets enhance gas supply security?

November-2023

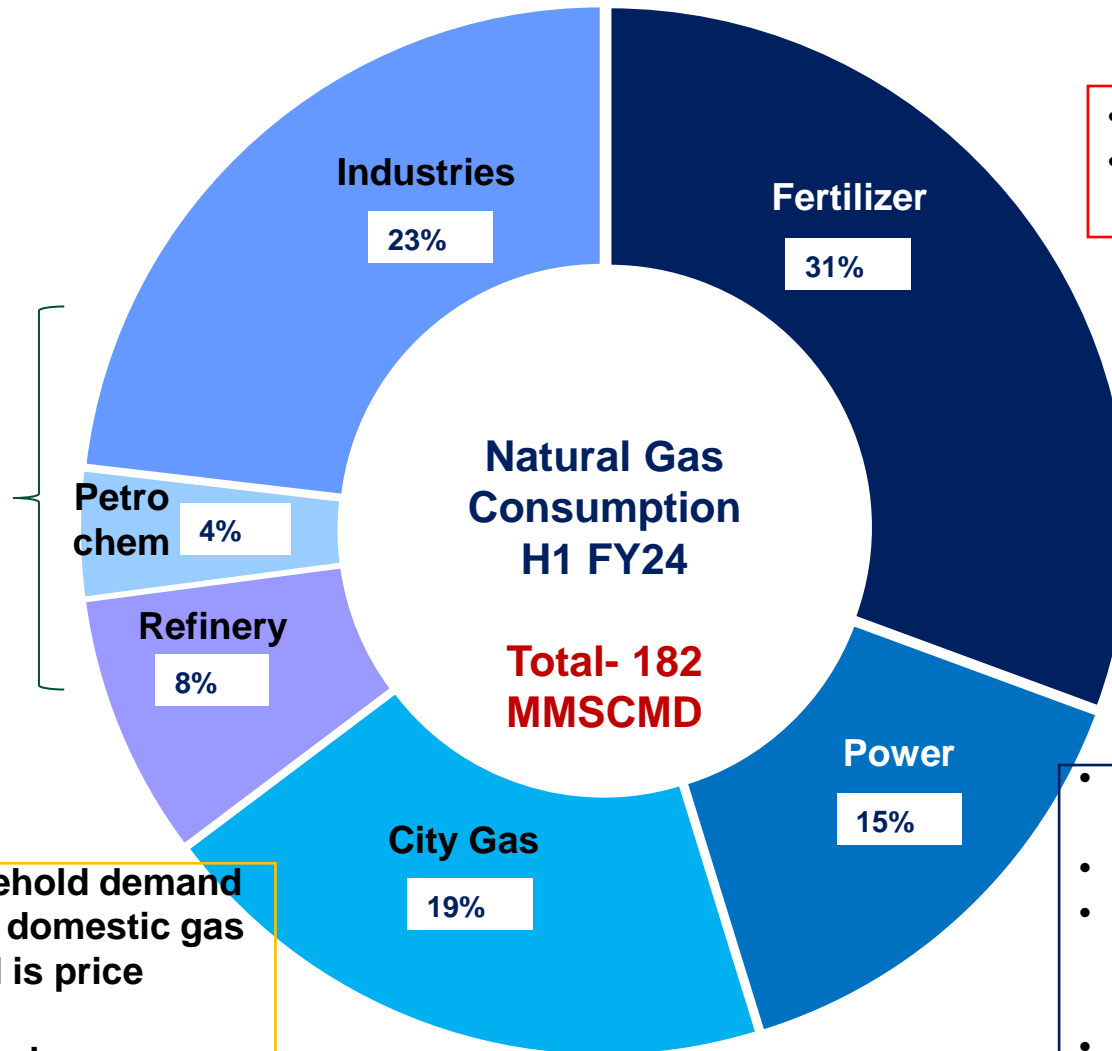
Natural Gas Infrastructure



- Transmission pipeline network is expected to grow from ~**22,000 km** to around **33,000 km** by 2025
- LNG terminal capacity is expected to grow from current ~**48 MMTPA** to around **75 MMTPA** in 3-4 yrs
- Domestic Gas production is expected to increase from ~**35 BCM** to around **45 BCM** by 2025
- **City Gas expansion** – covering >98% population in next few years



Natural Gas Demand



- Major Consumer of Natural Gas
- Price insensitive as due to subsidies

- Price Sensitive Sectors
- Switch to alternative fuels like Naptha, FO, Propene, LPG etc

- Transport & household demand is met by cheaper domestic gas
- Industrial demand is price sensitive
- Large potential if prices are subdued <\$10/MMBtu

- 25GW capacity, remaining utilised only 20%
- Highly price sensitive
- Competing against coal .. Substantial degrowth due to high prices
- Transition expected to increase its utilisation.

LNG Imports (45%)

LNG Long-term Markets

- Crude Oil & HH/JKM linked
- Freely Tradeable

LNG Spot/Mid-term (1y) Markets

- JKM, WIM (gas-on-gas)
- Freely Tradeable

Domestic (55%)

Administered Price Gas (30%)

- Regulated Price @ formula (oil-linked)
- Not Tradeable

Difficult (High Pressure/High Temperature) Gas

- JKM, WIM (gas-on-gas)
- Tradeable with limited resale margin

Free Market Gas

- JKM, WIM (gas-on-gas)

Gas Exchange: Physical Spot Market



6 Regional Gas Hubs

Hubs & Delivery points

- 6 Gas Hubs with multiple Delivery Points
- Multiple delivery points within 2 regional hubs (western & Southern)

6 Contracts

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

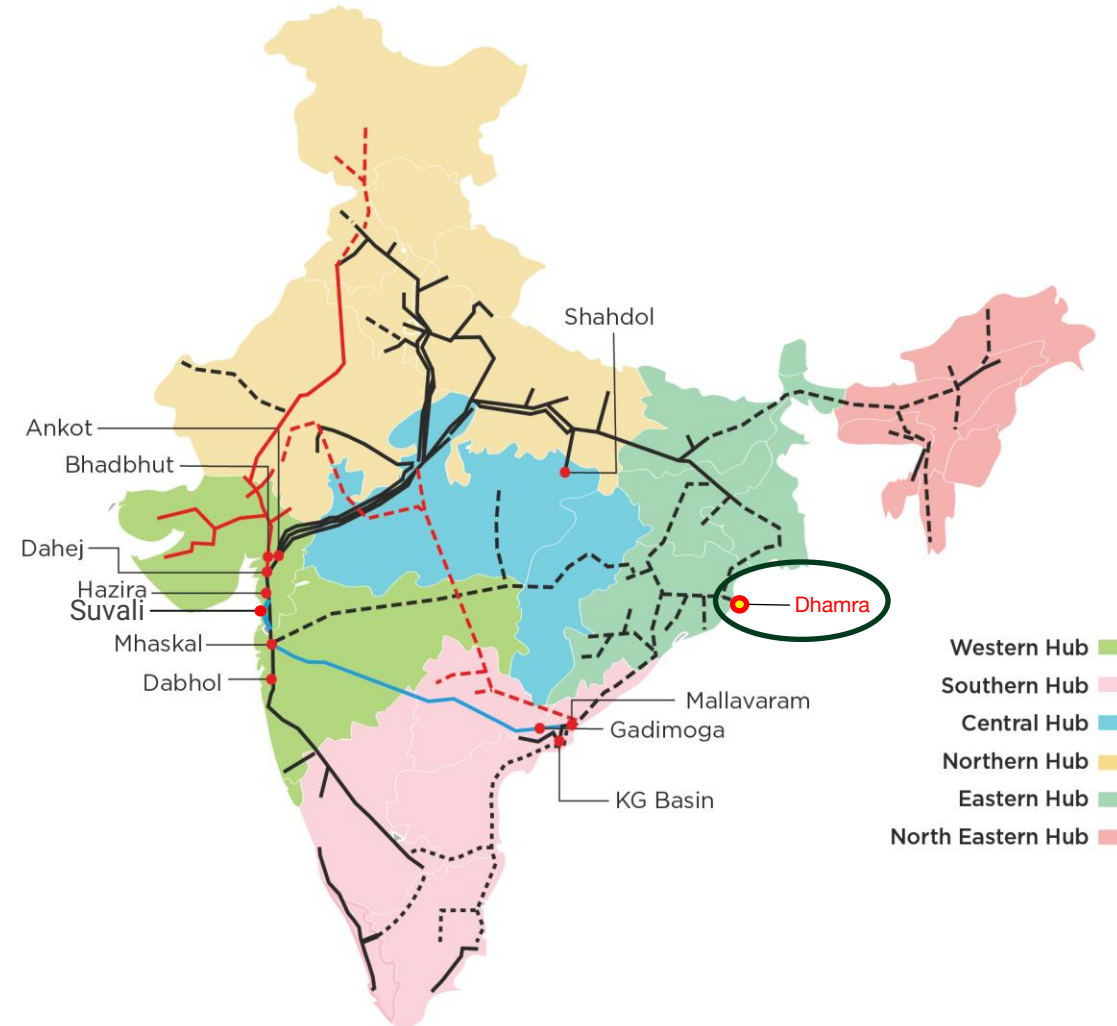
6 consecutive monthly contracts are available on any trade date

Price Discovery Mechanism

Open Auction	Weekday, Weekly, Fortnightly & Monthly
Continuous Matching	Day-Ahead, Daily
Open Auction	All contracts - for Ceiling Price Domestic Gas

Ex-hub: Delivery by Buyer
Delivered : Delivery facilitation by Exchange

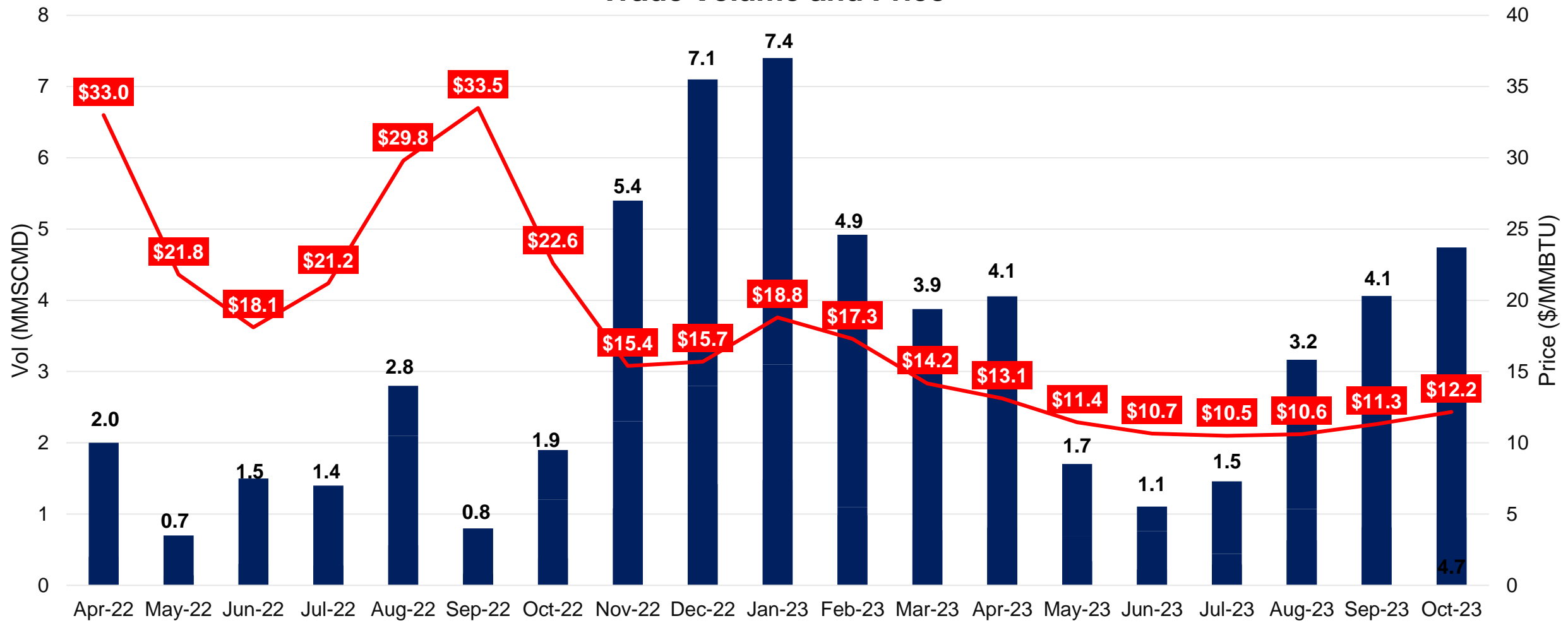
INR Contracts
Minimum purchase 50 MMBtu /day



Delivery Volume and Price (GIXI)



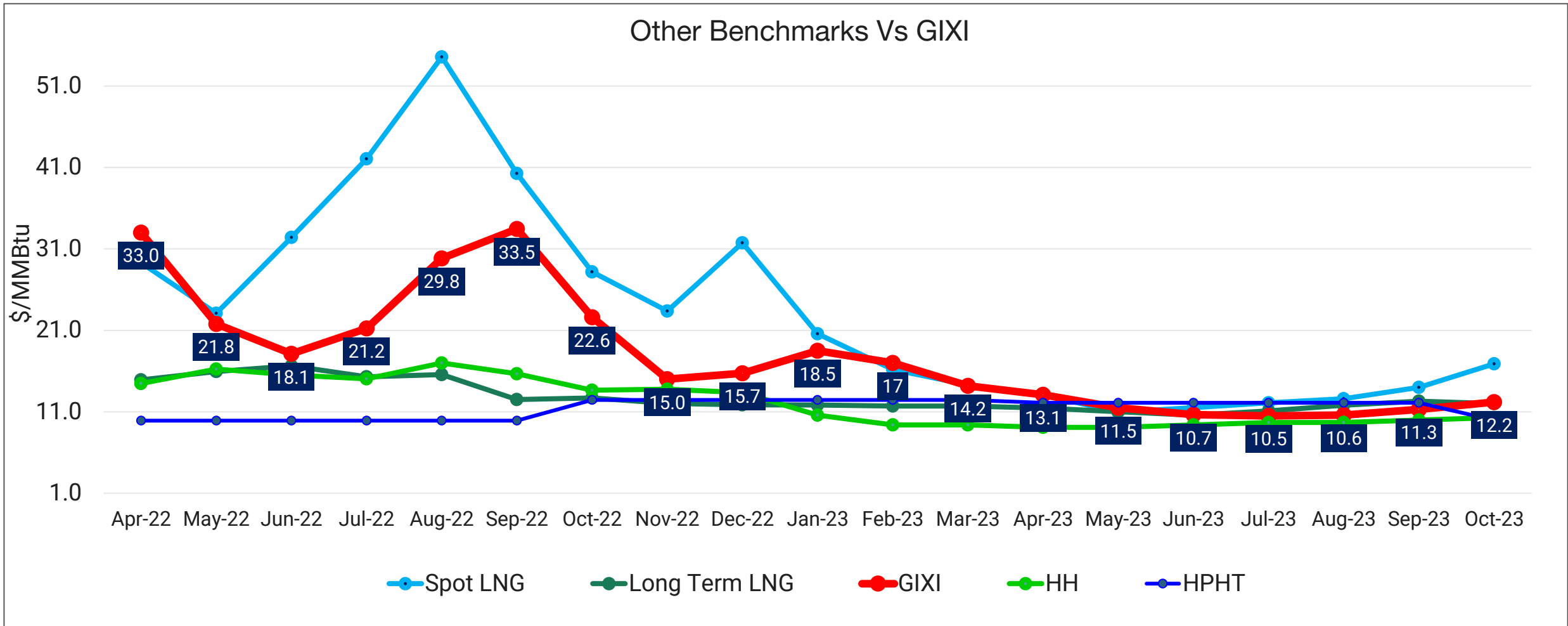
Trade Volume and Price



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

*Data till 31st Oct'23 ⁵

Gas Price Benchmarks



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

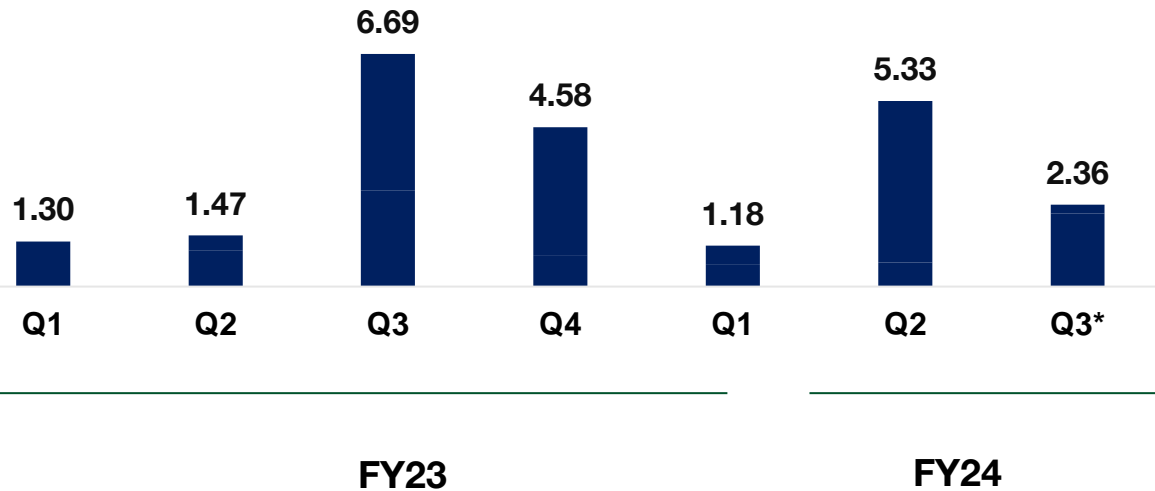
*Data till 31st Oct'23

Trade Highlights



~2.3 BCM
Gas Traded

In MMSCMD



- Total trade volume : **~900 Lakh MMBtu**
- Total trade volume in FY23 : **508 Lakh MMBtu**
- Delivery Handled: **~ ₹11,200 Crores**
- Total Members : **43 Members**
- Total Clients: **190+ Clients**
- Total Sellers: **35+**
- Total Buyers: **190+**

*Data till 31st Oct'23

GIXI : India's own inland gas price discovery through a mix of Domestic market freedom prices, Long-term gas contracts Spot and short-term RLNG

Price Signals are key

- Pricey gas flows to sectors which value it most
- More incentives to Domestic Gas Producers
- Customers explore cheaper fuels though dirtier
- Currently no under-ground gas storages – expect moves to have few strategic and commercial reserves
- Investment signals for new capacities – expects liquefaction capacities globally to increase by 50% in next 3y

Price discovered at Indian Gas Exchange (IGX) is a Mix of all Gases Marketed in India

Shift towards Long-term Contracts

- Scarcity prices have caused move of large customers (Fertiliser) to mid-term contracts
- Changing **Long Vs Spot Mix** post high-price scenario
- Investment signals in new capacities**

Different hub-prices

- Arbitrage opportunities across hubs

Higher Trade Churn

- Pricier gas creates more play across intermediaries and multiple-trades opportunities

Cross Border – improved regional security

- Secure Gas through Cross Border Trades

Thank you

Strategic Partners



Disclaimer: The contents covered under the presentation are subject to change without any prior intimation. For more details, please visit Market Rules By Laws published on the website www.igxindia.com from time to time.

