

## Advancements in Midstream Infrastructure: IAVL's role in enhancing energy efficiency



ATUL KHARATE

In the evolving landscape of energy infrastructure, IndianOil Adani Ventures Limited (IAVL) stands as a transformative force, redefining midstream logistics and energy efficiency in India and beyond. As a joint venture between Indian Oil Corporation Ltd. and Adani Ports and SEZ Ltd., IAVL brings together the legacy, scale and innovation of two industry giants to deliver cutting-edge solutions in oil, gas, petrochemicals, and renewable energy.

### Midstream Infrastructure: the backbone of energy logistics

Midstream infrastructure plays a pivotal role in the energy value chain, bridging the gap between upstream production and downstream consumption. It encompasses the transportation, storage and handling of crude oil, refined products, natural gas, and biofuels. IAVL has emerged as a leader in this domain, offering terminalling services, build capabilities, and integrated logistics solutions tailored to the needs of modern energy systems.

With over two million kilolitres of storage capacity and strategically located terminals across India, IAVL provides flexible business models—Independent, Exclusive, Shared Usage, and Operations & Maintenance (O&M) to suit diverse client requirements. These models are supported by world-class automation, stringent HSSE (Health, Safety, Security and Environment) protocols and a commitment to operational excellence.

### Terminalling solutions

IAVL's terminalling operations are designed to meet the dynamic demands of the energy sector. From crude oil and petroleum products to aviation fuel and bulk LPG, the company handles a wide spectrum of products with precision and safety. Its key terminalling projects include Navghar Terminal, Common User Terminal - Raipur, Goa Terminal and BOOT Paradip equipped with automated dispatch mechanisms, and multimodal connectivity via rail, road, and pipeline.

Additionally, two major projects are under construction i.e. Paradip: Numaligarh Refinery Limited—Crude Storage terminal and IOCL Panipat—finished products storage Tankfarm. NRL project is on the verge of completion and shall be operational soon. IAVL facilities are equipped to handle multiple products and multiple receipt and dispatch modes.

IAVL's in-house Build Services Division complements its terminalling expertise by offering end-to-end infrastructure solutions. From design and



engineering to procurement, construction, and commissioning, the company ensures that every project is optimised for energy efficiency and operational sustainability.

### Compressed Biogas: A green energy breakthrough

One of IAVL's most impactful contributions to energy efficiency is its pioneering work in Compressed Biogas (CBG). Recognising the potential of waste-to-energy solutions, IAVL has developed biogas plants that convert organic waste into clean fuel. The Namakkal Biogas Plant in Tamil Nadu exemplifies this commitment by processing 1,20,000 tonnes of poultry and farm waste annually. This facility utilises agri and poultry waste and enriches the local economy and ecology through a sustainable, circular model. The plant carries out enrichment, compression and bottling of biogas, generating 10 tons of Compressed Biogas (BioCNG) per day.

Additionally, it produces 10,000 tons of organic manure annually, marketed under the brand name Ayswaryam, which is free from chemicals and used to enhance soil fertility in agriculture.

The generated CBG is supplied to industrial, transport, and cooking segments, supporting India's clean energy transition and reducing dependence on fossil fuels. The biogas plant enjoys a sustainable and a symbiotic relation with the local economy and ecology. It exemplifies IAVL's commitment to alternate fuels and aligns with national initiatives to promote CBG for transportation.

### Sustainability and ESG Commitment

At the heart of IAVL's operations lies a robust Environmental, Social and Governance framework. The company's approach is anchored in the values of Care, Commitment, and Trust, driving sustainable practices across all business verticals.

#### Environmental Stewardship

- **Renewable Energy:** IAVL has adapted solar, and biogas as part of its renewable energy portfolio.
- **Conservation Initiatives:** Activities like tree plantation and cleanliness drives help minimise environmental footprints.
- **Waste-to-Energy:** Biogas plants con-

tribute to circular economy goals by converting organic waste into fuel and fertiliser.

#### Social Responsibility

- **Safety Culture:** Comprehensive training and incident prevention programs foster a safe working environment.
- **Diversity and Inclusion:** IAVL promotes an inclusive workplace that values all employees.
- **Community Engagement:** CSR initiatives focus on health, education and environmental well-being in local communities.

IAVL's management systems are designed to align business goals with stakeholder interests, reinforcing its reputation as a responsible corporate citizen.

### Strategic partnerships and global vision

IAVL's strength lies in its strategic partnerships. The backing of Indian Oil Corporation and Adani Ports provides access to vast networks, technical expertise, and financial robustness. This enables IAVL to scale its operations and innovate continuously. The company's vision is to lead the energy infrastructure space globally—combining global best practices with local relevance. By adopting sustainable technologies and efficient logistics models, IAVL aims to be the preferred partner for energy companies, governments, and communities.

### Future Outlook: driving energy transition

As the world transitions towards cleaner energy, midstream infrastructure must evolve to support new fuels, decentralised systems, and digital integration. IAVL is well-positioned to lead this transformation through smart terminals, green logistics, and collaborative innovation. With a legacy of excellence and a forward-looking approach, IAVL continues to redefine energy infrastructure in India and globally. Its focus on energy efficiency, renewable integration, and stakeholder value makes it a cornerstone of the country's sustainable development journey.

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# BioGas India Policy Framework: What more can be done?



**ROSHAN LAL TAMAK**

**CBG Growth Pathway: Opportunities and Implementation Challenges :**

Compressed Biogas (CBG) has emerged as a strategic national opportunity, delivering a "triple dividend" of stronger energy security, reduced stubble burning and urban waste and the production of valuable organic manure (FOM/LFOM) that improves soil health. The Sugar Industry is central to this transition, offering a steady and high-quality feedstock supply mainly press mud and spent wash, that supports reliable, year-round CBG production. This integrated model helps de-risk operations and positions sugar mills as natural anchor investors. Under the SATAT scheme, more than 1,200 plants have received LOIs, though only about 160 are operational so far. Addressing the implementation challenges through calibrated policy support will be important for scaling the supply chain to its full potential.

Translating LOIs into operational CBG plants remains challenging due to three factors: steady feedstock availability, reliable offtake for gas and the commercial viability of FOM. Feedstock from agricultural residue is often costly to aggregate, seasonal and difficult to transport over long distances. Industrial feedstocks such as press mud also face recovery losses when stored improperly.

For many plants located in the hinterland, moving CBG to the City Gas Distribution (CGD) network adds further logistical complexity. In addition, uncertainty in FOM offtake affects both revenue streams of a CBG project. The Department of Fertilisers (DoF) mandate for FOM procurement is still evolving, resulting in periodic unsold inventories for producers.

**Policy Framework 2.0: Strategic Interventions for Decisive Scaling :**

To enable large-scale CBG deployment, Policy Framework 2.0 can focus on ensuring assured markets for gas and FOM, easing financial processes, and improving infrastructure support. Industry feedback suggests the following measures can further strengthen this effort:

**1. Assured offtake of CBG :** To overcome the financial impact of plant underutilisation and revenue loss from gas flaring, certainty in CBG offtake is paramount. This requires expedited implementation of the Scheme for Development of Pipeline Infrastructure (DPI) to swiftly connect all new CBG plants to the City Gas Distribution (CGD) network.

Crucially, in the interim period until grid connectivity is achieved, the Government may consider ensuring producers receive payment at ex-factory price or are reimbursed for transportation costs. This dual approach



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helps ensure continuous offtake and maximizes utilisation.

**2. Assured offtake of FOM** To fundamentally de-risk the CBG project balance sheet, the existing DoF mandate for fertilizer companies to offtake FOM and Liquid FOM (LFOM) could be implemented with renewed emphasis.

**3. Enhance MDA Support of FOM :** The current MDA support of ₹1,500 per tonne does not adequately cover production economics. This support should be enhanced, with higher levels of assistance specifically for enriched and value-added

products, such as Phosphorous Rich Organic Manure (PROM) and enriched FOM/LFOM.

**4. Market Expansion for MDA Eligibility (FOM and LFOM):** To widen adoption and reduce unsold inventory, sales of FOM and LFOM across all states, whether in bulk or packaged form and through all dealer/retailer networks, should be fully eligible for MDA support.

**5. Recognise Storage and Handling Costs of FOM and LFOM:** Producers incur significant, unrecognised costs for storage, handling, drying and distribution against seasonal demand of FOM/LFOM.

These unavoidable logistical costs should be formally recognised either through incentives or within the MDA framework to ensure financial viability.

**6. Streamline MDA Disbursal (FOM and LFOM) :** The MDA process could be simplified. It should be linked directly with CBG production and released monthly.

A mechanism where a substantial majority share (75-80 per cent) is released upfront upon proof of CBG production, with the balance released subsequently, would provide the necessary predictability for financial stability.

**7. Enhancing CFA and Streamlining Fiscal Incentives:** The process for releasing CFA could be simplified, and the government can consider increasing the CFA grant limits to better de-risk project financials. The enhanced CFA should be strategically directed, utilizing the higher grants available for Solid Waste Management projects, toward capital-intensive core plant machinery and technology upgrades.

## Conclusion and call to action

A collaborative effort between Government, industry and the fertiliser ecosystem can rapidly unlock the next wave of CBG growth. Clear offtake pathways, predictable incentives and timely infrastructure interventions will allow CBG plants to operate at full potential and deliver long-term benefits across energy security, waste management and soil health.



## ATF price hiked by 5.4%, commercial LPG rates cut

**NEW DELHI:** Aviation Turbine Fuel (ATF) prices were raised by 5.4 per cent on Monday, while commercial LPG rates were reduced by Rs 10 per cylinder, as state-owned oil companies announced their monthly price revisions based on global trends.

ATF in Delhi rose by Rs 5,133.75 per kilolitre to Rs 99,676.77 per kl, marking the third straight monthly increase. Prices had gone up by around 1 per cent on November 1 and 3.3 per cent on October 1. The ATF accounts for nearly 40 per cent of operating costs of airlines.

In Mumbai, ATF prices were revised to Rs 93,281.04 per kl, while Chennai and Kolkata rates climbed to Rs 1,03,301.80 and Rs 1,02,371.02 per kl, respectively.

Meanwhile, the price of a 19-kg commercial LPG cylinder in Delhi was reduced to Rs 1,580.50, the second consecutive cut, following a Rs 5 reduction on November 1. This offsets part of the Rs 15.50 hike imposed in October. Since April, six earlier cuts have lowered commercial LPG rates by Rs 223 per cylinder.

Domestic LPG prices were unchanged at Rs 853 for a 14.2-kg cylinder, after a Rs 50 increase in April.

Petrol and diesel prices remain frozen since a Rs 2-per-litre cut in March last year, with petrol at Rs 94.72 and diesel at Rs 87.62 in Delhi.

AGENCIES

# Natural gas: Go long on a break above ₹443

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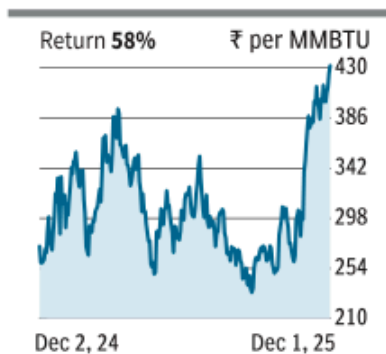
Natural gas prices have resumed their rise after a short-lived correction. The contract traded on the MCX rose well, breaking above the key resistance level of ₹420 per mmBtu. It is currently trading at ₹432 per mmBtu.

## COMMODITY

### CALL.

The uptrend is intact. The region between ₹420 and ₹417 will be a good resistance-turned-support zone for now. Resistance is around ₹443, which could be tested in the coming days. The contract has to breach this hurdle in order to move higher. Such a break could boost the bullish momentum. It will then take the contract up to ₹485.

In case the contract reverses lower from around ₹443, it could see a dip to



₹420-417 this week. Failure to bounce back from this support zone could drag the contract down to ₹400-₹395 thereafter. If the contract turns down from around ₹443, then the price action in the ₹420-417 region will need a very close watch.

### TRADE STRATEGY

Go long only on a break above ₹443. Keep the stop-loss at ₹433. Trail the stop-loss up to ₹448 as soon as the contract goes up to ₹453. Revise the stop-loss up to ₹455 and ₹467 when the price touches ₹462 and ₹471 respectively. Exit the long positions at ₹478.



# Gas market reforms: Experts flag price sensitivity

**FE BUREAU**
**New Delhi, December 1**

**THE LATEST SET** of measures by the Petroleum and Natural Gas Regulatory Board (PNGRB) to liberalise the natural gas market may be a step in the right direction but its growth will hinge on cost competitiveness and an adequate pipeline network, experts believe.

A high-level expert committee set up by the PNGRB has proposed structural reforms to build a free and competitive domestic gas market, including market-driven pricing and open access.

"These reforms have been talked about for many years now that pipeline capacity and marketing should be separate. Marketing should not be done

## PROPOSED VIEWS

■ Expert panel by PNGRB has proposed reforms to build free, competitive domestic gas market

■ Present pricing framework creates inefficiencies: panel

■ Panel pointed out resale curbs in regasified LNG (RLNG) contracts



■ Panel recommended allowing 3rd party open access for laying pipelines

by the owner of the pipeline. Part of this is important but India being price sensitive and due to volatility in prices of LNG, overall growth has been impacted," said Prashant Vasisht, Senior Vice President and Co-Group Head, Corporate

Ratings at Icria. He highlighted that while these reforms are a welcome step, its growth will ultimately depend on consumers' buying capacity.

The country's present pricing framework is a combination of government-regulated

gas, market-linked domestic production and LNG imports, which creates inefficiencies, the panel said in its report. It also pointed out resale restrictions in regasified LNG (RLNG) contracts, lack of an Independent System Operator (ISO), limited open access to infrastructure, and the absence of contract-path transmission tariffs and location-based taxation as major challenges.

The expert panel also recommended allowing third party open access for such dedicated pipelines laid by CGD entities after the end of exclusivity period.

A cost-plus model may be adopted for third-party access, ensuring that the investing entity is adequately compensated for its capital and opera-

tional costs, while keeping access charges reasonable, transparent, and non-discriminatory, the panel said.

"We are ready for a liberalized gas market, gas to gas competition should be there. It will help in more uniform, non-discriminatory access," Vasisht said, however adding that these kinds of reforms take a long time to actually show and growth will happen with time only.

The establishment of a neutral gas pipeline ISO is essential to ensure transparent, efficient, and non-discriminatory access to India's gas transmission network, as per the recommendations. It also proposed a unified online platform for real-time pipeline capacity booking.

## After 19.2% ethanol blended fuel in 2024-25, India eyes 20% by 2026

**Rishi Ranjan Kala**  
New Delhi

Ethanol blending in petrol during the ethanol supply year 2024-25 (November-October) stood at 19.2 per cent.

In October 2025, it stood at 19.97 per cent, with more than 77 crore litres of the commodity in storage at the end of the month.

While PSU oil marketing companies (OMCs) received around 1,003 crore litres of ethanol during 2024-25, around 1,022 crore litres was consumed to achieve 19.2 per cent blending with petrol.

The National Policy on Biofuels, after being amended in 2022, advanced the target of 20 per cent blending of ethanol in petrol to 2025-26 from 2030.

OMCs achieved the target of 10 per cent ethanol blending in petrol in June 2022, five months ahead of the target. India achieved a blending of 12.06 per cent in 2022-23 and 14.60 per cent in 2023-24.

The price of ethanol produced from sugarcane juice/syrup was ₹65.61 per litre in 2024-25. The rate for ethanol produced from B heavy molasses (BHM) and C heavy molasses (CHM) was ₹60.73 per litre and ₹57.97 per litre, respectively.

While ethanol produced from damaged food grains was priced at ₹64 per litre in 2024-25, the prices of ethanol produced from maize was ₹71.86 per litre.

### ETHANOL PRODUCTION

In order to ensure availability of feedstock for ethanol production to achieve the 20 per cent ethanol blending target by October 2026, the government approved the allocation of 52 lakh tonnes (lt) of surplus Food Corpora-



tion of India (FCI) rice, each for 2024-25 and 2025-26 (up to June 30, 2026) and diversion of 40 lt of sugar for ethanol production in ESY 2024-25.

For ESY 2024-25, the average procurement cost of ethanol stands at ₹71.55 per litre (inclusive of transportation and GST), which is higher than the cost of refined petrol.

In 2025-26, OMCs invited bids for the supply of 1,050 crore litres of ethanol. The government has increased the prices of FCI rice-based ethanol in the current supply year. The price of ethanol produced from surplus rice sourced from FCI has been fixed at ₹60.32 per litre for 2025-26, compared with ₹58.50 last year, an increase of around 3 per cent. The revision corresponds to the increase in the rate of surplus rice for ethanol from FCI.

According to the supply schedule, 100 crore litres are to be supplied in November 2025, and 200 crore litres in December 2025 and January 2026.

### THREE QUARTERS

The remaining is divided into three quarters — February-April 2026 (280 crore litres), May-July 2026 (250 crore litres) and August-October 2026 (220 crore litres).

The country's annual ethanol distillation capacity is around 1,950 crore litres at present.

## डीजल की खपत नवंबर में छह माह के उच्चतम स्तर पर, पेट्रोल की मांग भी बढ़ी

एजेंसी ■ नई दिल्ली

वाहनों में सर्वाधिक इस्तेमाल होने वाले ईंधन डीजल की खपत नवंबर में छह महीने के उच्चतम स्तर पर पहुंच गई। पेट्रोलियम उद्योग के प्रारंभिक आंकड़ों से यह जानकारी सामने आई है। पेट्रोलियम मंत्रालय के पेट्रोलियम नियोजन एवं विश्लेषण प्रकोष्ठ (पीपीएसी) की तरफ से जारी आंकड़ों के मुताबिक, नवंबर में डीजल की बिक्री 4.7 प्रतिशत बढ़कर 85.5 लाख टन हो गई जो मई, 2025 के बाद का सर्वाधिक आंकड़ा है। डीजल देश

में माल ढुलाई का आधार है और मानसून के दौरान मांग घटने के बाद अक्टूबर में 67.9 लाख टन की बिक्री के साथ मांग में धीरे-धीरे सुधार आया। यह सिलसिला नवंबर माह में भी कायम रहा। मौसमी प्रभाव और त्योहारी मांग के कारण नवंबर में ट्रकों के परिवहन और घरेलू गतिविधियों में वृद्धि ने डीजल खपत को और बढ़ा दिया। आंकड़ों के मुताबिक, चालू वित्त वर्ष के पहले आठ महीनों में डीजल बिक्री 2.76 प्रतिशत बढ़कर 6.18 करोड़ टन रही। नवंबर में पेट्रोल की खपत भी 2.19 प्रतिशत बढ़कर 35 लाख टन हो गई।