



LNG India Summit 9th Edition 2025

Post-Event Report



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Background

The global energy architecture is currently undergoing a seismic structural realignment, driven by the dual imperatives of decarbonization and energy security. Within this volatile paradigm, Liquefied Natural Gas (LNG) has emerged not merely as a transitional hydrocarbon but as a foundational pillar for sustainable industrialization, particularly in high-growth economies like India. This report serves as a comprehensive synthesis of the strategic dialogues, technical presentations, and market data unveiled at the **9th LNG India Summit 2025**. It integrates granular market intelligence from global equity research, technical specifications from next-generation liquefaction providers, and policy directives from Indian regulatory bodies to provide an exhaustive roadmap for stakeholders.

The summit, themed "Unleashing LNG Growth Drivers," convened against the backdrop of India's aggressive national target to elevate the share of natural gas in its primary energy mix from approximately 6.5% to 15% by 2030. The analysis within this document reveals a market at a precipice: global liquefaction capacity is poised for a historic surge led by the United States and Qatar, potentially crashing spot prices to record lows of \$3.0/MMBtu by the early 2030s.² This looming "buyer's market" offers India a strategic window to lock in affordable energy, provided domestic infrastructure specifically "last-mile" connectivity via Small-Scale LNG (SSLNG) and City Gas Distribution (CGD) can scale rapidly enough to absorb the volume.

Furthermore, this report critically examines the deepening geopolitical energy axis between India and Russia, characterized by record bilateral trade of \$70.65 billion and evolving technological collaborations.² It delves into the granular engineering innovations transforming the sector, from vacuum-less cryogenic storage and rail-based ISO container logistics to "Cyber Risk M3" paradigms essential for protecting digitized gas grids. By weaving together data on heavy-duty transport decarbonization, virtual pipeline economics, and regulatory reforms, this document offers a definitive outlook for the next fifteen years of the Indian gas economy

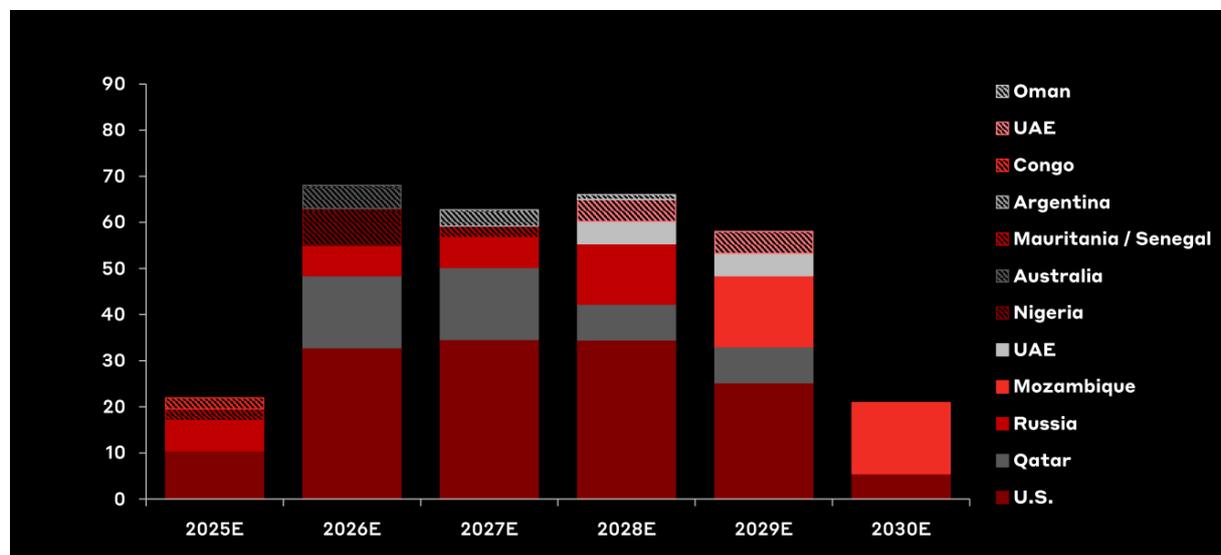
1. Global LNG Market Fundamentals: The Supply Wave and Price Revolution (2025-2040)

The global LNG market is currently navigating a period of profound disequilibrium. The narrative emerging from the 2025 summit is one of imminent abundance following years of volatility. Comprehensive equity research and market projections presented during the sessions indicate that the industry is on the cusp of the largest capacity expansion in its history, a shift that will fundamentally alter trade flows and pricing mechanisms for importers like India.

1.1. The Coming Liquefaction Surge (2025-2030)

The supply-side dynamics for the remainder of the decade are dominated by a massive wave of project commissioning's. Data through the first eight months of 2025 (8M25) already indicates a 4.6% gain in global LNG production, with exports climbing well above 300 million tonnes (Mt) year-to-date. The market remains highly concentrated, with the United States, Qatar, and Australia solidifying their oligopolistic hold, collectively commanding a market share of 63%, up from 61% in 2024.

However, this is merely the precursor. The next five years (2025-2030) will witness the commissioning of up to 320 Mt of new liquefaction capacity. This "second wave" of infrastructure is geographically heavily weighted toward North America and the Middle East:



- **United States:** The US is set to lead global gains, with over 132 Mt of capacity coming online prior to 2030. Notably, 80% of these volumes are already confirmed via Final Investment Decisions (FID), providing high visibility on future supply. Projects such as Plaquemine's, Corpus Christi Stage 3, and Golden Pass are driving this expansion.
- **Qatar:** The North Field Expansion (NFE) and North Field South (NFS) projects will add approximately 47 Mt to the global balance, with another 16 Mt under consideration. This massive infusion of low-cost gas is expected to anchor global supply stability post-2027.

Russia: Despite sanctions and geopolitical headwinds, Russia retains significant ambition, targeting up to 33 Mt of new capacity through projects like Arctic LNG 2 and the Baltic LNG complex. The operational restart of Arctic LNG 2 is specifically cited as a mechanism to compensate for outages at other facilities like Vysotsk and Portovaya.

1.2 Demand Bifurcation: Mature vs. Emerging Markets

While supply expands, the demand landscape is bifurcating between the saturation observed in mature markets and the aggressive growth in emerging Asian economies.

- **European Saturation:** Europe is on track to reach record LNG intake in 2025, with imports rising 27% year-on-year in the first eight months to 85 Mt. Storage facilities are near 80% capacity, reflecting a structural shift away from Russian pipeline gas. However, demand elasticity in Europe is diminishing as the continent accelerates its renewable energy transition.
- **Asia-Pacific Resurgence:** After nine consecutive months of decline, the APAC region recorded a 9.4% year-on-year gain in imports in August 2025. This resurgence is pivotal. As the "sink" for global LNG surpluses, Asia's ability to absorb the coming supply wave will determine the floor for global prices. India, with its price sensitive downstream sectors (fertilizer, power, CGD), is expected to be a primary beneficiary of this trend.

1.3 Price Forecasts: The "Buyer's Market" Era

Perhaps the most critical insight for Indian policymakers and buyers is the projected collapse in spot prices. The analysis suggests that the sheer volume of new supply will outstrip demand growth between 2027 and 2031, creating a substantial glut.

- **Price Trajectory:** Spot prices, which averaged \$12.7/MMBtu in 2025, are forecast to dip significantly. Models predict an aggregated spot benchmark price could touch a record low of **\$3.0/MMBtu** during the 2030-2033 period. This price point effectively competes with coal on a thermal equivalent basis, potentially unlocking massive fuel-switching demand in India's power sector.
- **Contractual Implications:** This bearish spot outlook creates a dichotomy with long-term contracts. While legacy oil-indexed contracts may average around \$7.5/MMBtu, the depressed spot market will force renegotiations and a shift toward hybrid pricing formulas. Panelists at the summit advised Indian buyers to adopt a portfolio approach, leveraging the impending glut to secure "range-bound" contracts that protect against volatility while capturing downside benefits.

1.4 Long-Term Supply-Demand Balance (2034-2040)

Looking beyond the 2030 horizon, the market faces uncertainty. The "Post-FID" supply curve peaks around 2031-2034 and then begins to decline as older fields deplete and contracts expire.

- **Utilization Rates:** Liquefaction plant utilization is projected to peak at 89% in 2029 before dropping to 80% by 2040. This suggests that without a continuous pipeline of Pre-FID projects being sanctioned, the market could re-tighten significantly in the late 2030s.
- **The Supply Gap:** To meet a projected demand of 691 Mt in 2040 (Base Case), the industry will need to sanction approximately 147 Mt of Pre-FID capacity. If these projects are delayed due to environmental opposition or financing hurdles, India could face a renewed cycle of scarcity and high prices post-2035.

Table 1: Global Liquefaction Capacity Additions Forecast (2025-2030)

Region	Projected Capacity Addition (Mt)	Key Projects / Notes
United States	~132 Mt	Plaquemines, Corpus Christi Stage 3, Golden Pass; 80% Confirmed.
Qatar	47 Mt (+16 Mt potential)	North Field East (NFE), North Field South (NFS).

Russia	~33 Mt	Arctic LNG 2, Baltic LNG; Subject to sanction risks.
North America (Canada/Mexico)	29 Mt	LNG Canada, Ksi Lisims LNG; Focus on West Coast exports to Asia.
Africa	Variable	Emerging FLNG projects in Congo (Eni), Mauritania/Senegal (GTA).

Source: Synthesized from Alfa Bank Equity Research Data

2. India's Gas Infrastructure: Bridging the Connectivity Gap

India's strategy to increase gas consumption is contingent upon the physical infrastructure required to import, store, and distribute fuel. The summit highlighted that while regasification capacity has grown, "last-mile" connectivity remains the Achilles' heel of the sector.

2.1 Regasification Infrastructure Status

India currently ranks third globally in LNG regasification capacity, with approximately 44.5 MTPA operational. However, the utilization of these assets is starkly uneven.

- **The Utilization Paradox:** While the national average utilization rate hovers around 59%, specific terminals like Dahej operate at over 100% capacity, while newer terminals on the East Coast and in Kerala often languish at 20-30% utilization.
- **Connectivity Bottlenecks:** The primary driver of this inefficiency is the lack of pipeline connectivity. Summit discussions cited the "islanded" nature of certain terminals where the evacuation pipelines were not commissioned in synchronization with the terminal. This has led to a situation where molecules are available at the port but cannot reach the demand centers in the hinterland.
- **Regulatory Remedies:** The Petroleum and Natural Gas Regulatory Board (PNGRB) has introduced stringent regulations requiring the synchronization of terminal registration with pipeline capacity booking. This policy aims to ensure that no future terminal becomes a stranded asset due to lack of evacuation infrastructure.

2.2 Pipeline Grid Expansion and the Unified Tariff

The National Gas Grid (NGG) is the circulatory system of the gas economy. Currently spanning roughly 24,945 km, the grid is undergoing a massive expansion with another 10,805 km under construction.

- **Unified Tariff (UFT):** A landmark reform discussed extensively was the implementation of the Unified Tariff. Historically, consumers far from the source paid additive tariffs for every

pipeline zone crossed, making gas prohibitively expensive in the hinterland. The UFT socializes these costs, creating a single transport tariff zone. This acts as a powerful stimulant for demand in eastern and northern India, leveling the playing field with coastal industrial clusters.

- **Geographic Disparities:** Despite progress, the "East-West Divide" persists. The western region (Gujarat, Maharashtra) possesses a dense, mature network, while the Indradhanush Grid in the Northeast is still under development. Accelerating these pipeline projects is critical for bringing the fertilizer plants and refineries of Eastern India onto the gas grid.

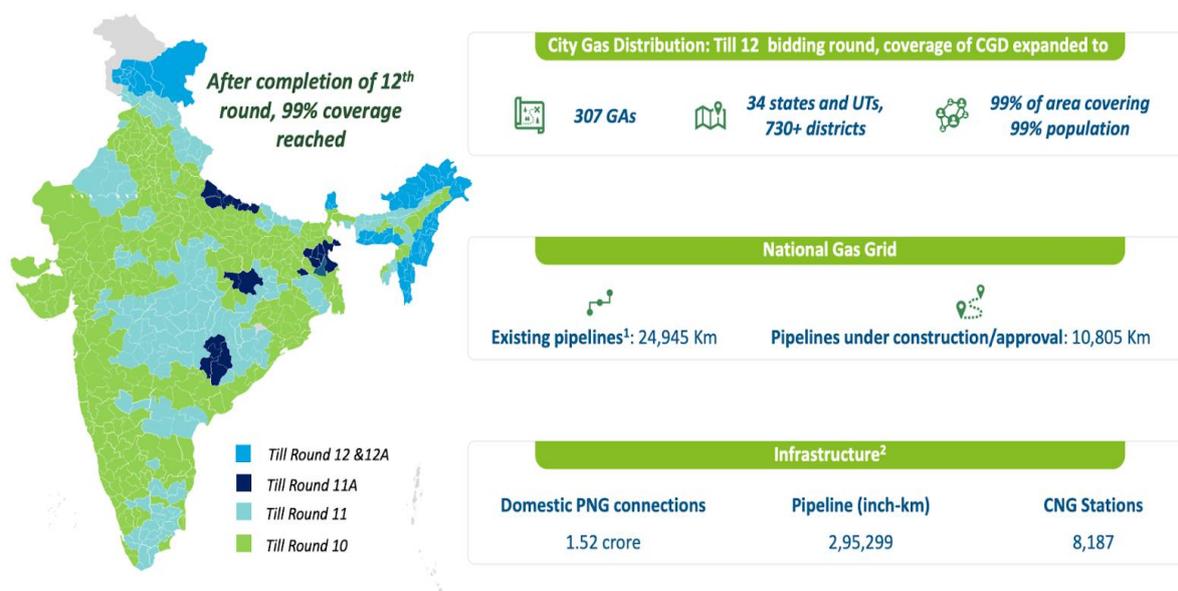
2.3 The Strategic Storage Imperative

Unlike crude oil, where India maintains strategic petroleum reserves (SPR), the country lacks strategic gas storage. This leaves the economy vulnerable to supply shocks and spot price volatility.

- **Underground Storage:** Technical sessions explored the feasibility of developing underground gas storage in depleted fields or salt caverns. With global gas demand fluctuating seasonally, indigenous storage would allow India to buy opportunistic cargoes during low-price periods (e.g., the forecasted \$3.0/MMBtu lows) and utilize them during demand peaks.
- **Policy Needs:** Industry leaders advocated for a policy framework that incentivizes private capital in storage infrastructure, potentially through Viability Gap Funding (VGF) or "infrastructure status" benefits, similar to those enjoyed by renewable energy projects.

3. City Gas Distribution (CGD): The Engine of Demand Growth

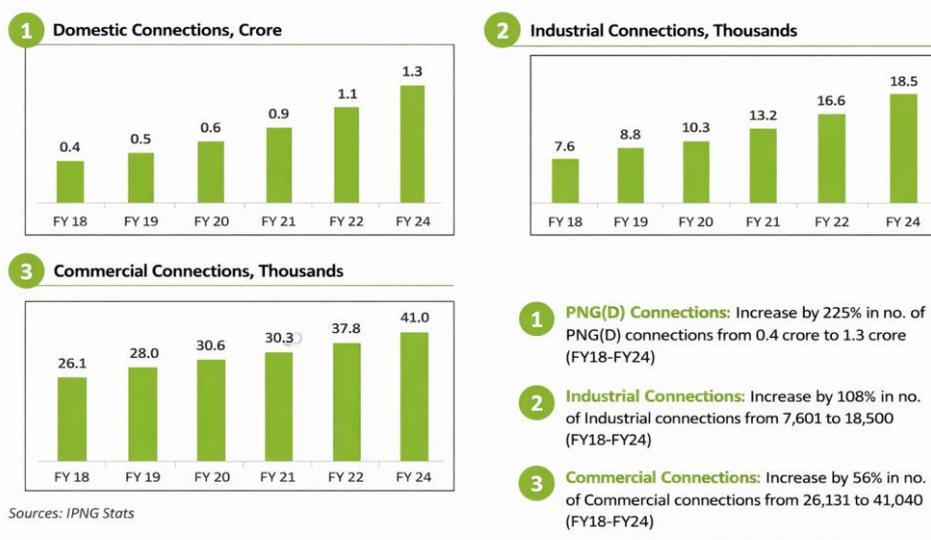
The City Gas Distribution (CGD) sector is unequivocally the fastest-growing segment of India's downstream gas market. It is the primary vehicle for democratizing access to clean fuel for households, transport, and small industries.



3.1 Exponential Infrastructure Growth

The scale of CGD expansion over the last decade has been unprecedented, driven by the aggressive bidding rounds conducted by the PNGRB.

- **Coverage:** Following the 12th Bidding Round, authorized Geographical Areas (GAs) now cover nearly 100% of India's populated landmass (excluding remote islands). This effectively brings the entire population into the ambit of the gas network.
- **CNG Stations:** The number of Compressed Natural Gas (CNG) stations has exploded from approximately 1,000 in 2014 to over 8,187 by July 2025. This network density is critical for alleviating "range anxiety" for CNG vehicle owners.
- **PNG Connections:** Domestic Piped Natural Gas (PNG) connections have reached ~1.5 crore (15 million), a six-fold increase since 2014. The sector is projected to contribute nearly 100 million metric standard cubic meters per day (mmscmd) of demand by 2030.



3.2 The "Shitala" Scheme Proposal

A significant policy intervention proposed during the summit was the "**Shitala**" scheme. Modeled after the transformative *Ujjwala Yojana* (which provided LPG connections to the poor), Shitala aims to facilitate the transition from LPG cylinders to pipeline gas or small-scale LNG.

- **Concept:** The scheme envisages providing financial support or subsidies to cover the connection costs for PNG in semi-urban areas. It also proposes using "LNG Hippos" (community cryogenic storage tanks) to serve high-rise societies or clusters where laying underground pipes is technically or commercially unviable.
- **Strategic Rationale:** By shifting urban households to PNG/LNG, the government can free up subsidized LPG for rural areas that are harder to reach, optimizing the overall subsidy burden and logistics chain.

3.3 Fiscal and Regulatory Challenges

Despite the growth narrative, the sector faces a formidable obstacle: the tax structure.

- **GST Exclusion:** Natural gas remains outside the Goods and Services Tax (GST) regime. It is subject to state-level Value Added Tax (VAT), which varies wildly from 3% to over 24%. This cascading tax structure means industrial consumers cannot claim input tax credits on gas procurement, rendering it uncompetitive against polluting alternatives like furnace oil or coal which are under GST.
- **Uniform Gas Policy:** Summit delegates issued a unified call for bringing gas under GST to create a national market. Additionally, a "Uniform Gas Policy" across states was demanded to standardize the complex and expensive process of acquiring land and permissions for laying pipelines.

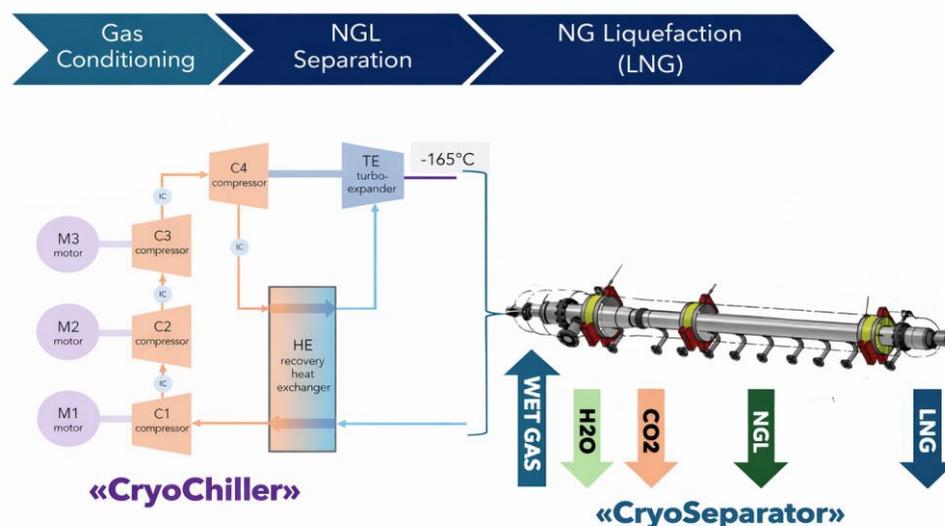
4. Small-Scale LNG (SSLNG): Technology and Virtual Pipelines

As the grid expands, it faces the law of diminishing returns in remote areas. Here, Small-Scale LNG (SSLNG) emerges as the critical technological intervention for "last-mile" connectivity. SSLNG involves liquefying gas in smaller volumes and transporting it via truck or rail to demand centers disconnected from the main grid.

4.1 Technologies for Micro-Liquefaction

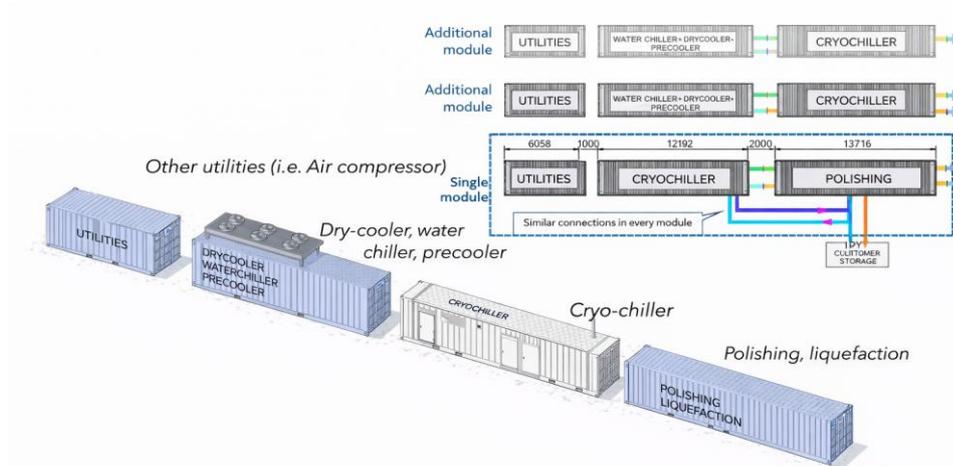
The summit showcased cutting-edge technologies designed to make small-scale liquefaction economically viable.

- **Thermodynamic Cycles:** Providers like Cryogenmash presented advanced liquefaction cycles tailored for small scales. The "**Throttle-Ejector Cycle**" is optimized for ultra-small capacities (1.5–5 tons/hour) offering simplicity and low CAPEX. For slightly larger needs (5–100 tons/hour), the "**Nitrogen Expander Cycle**" offers higher efficiency. These technologies allow for the monetization of small, isolated gas fields that would otherwise be flared



- **Modularization:** Companies like Eurotec highlighted "Plug-and-Play" liquefaction modules housed in standard 40-foot ISO containers. These units, such as the "CryoChiller" and "CryoSeparator," are pre-wired and tested, drastically reducing on-site construction time. They

can handle "wet" gas with CO₂ and heavy hydrocarbons, integrating purification and liquefaction into a single mobile footprint.

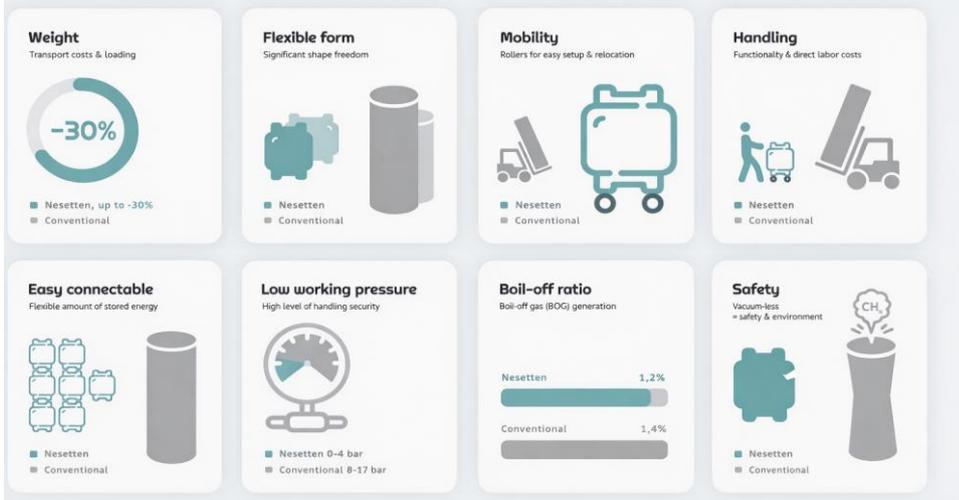


Standalone Brayton

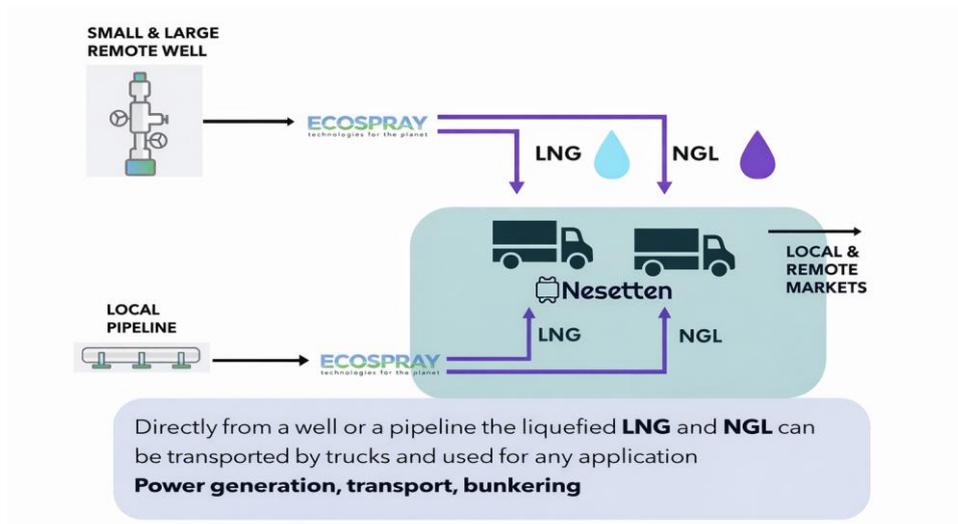
Standard 40/45 feet container size, welded, wired, ready for installation

- Storage Innovation:** The summit introduced novel storage technologies, such as Nesetten's "vacuum-less and steel-less" cryogenic tanks. By using advanced foam insulation instead of heavy vacuum-jacketed steel, these tanks reduce weight and CAPEX, making the logistics of virtual pipelines significantly cheaper.

Vacuum- and Steel-less Cryogenic Micro Bulk (500 litre / 230 kg)



4.2 The Virtual Pipeline Ecosystem



The "Virtual Pipeline" concept replaces steel pipes with a rolling logistical network.

- **Operation:** Gas is liquefied at a "Mother Station" (connected to a pipeline or a well) and transported via cryogenic trucks to "Daughter Stations" at industrial parks or off-grid towns. There, it is regasified and fed into a local mini-grid.
- **Rail-Based Logistics:** A breakthrough discussed was the transport of LNG via Indian Railways using ISO containers. This multimodal approach allows for the movement of massive volumes (equivalent to a small pipeline) over long distances at a fraction of the cost of road transport. Trials have successfully demonstrated the safety and viability of this model, opening up the hinterland to LNG supply.

4.3 Economic Viability of SSLNG

For SSLNG to succeed, liquefaction costs must be competitive.



- **Target Costs:** Current micro-liquefaction costs range from \$5-7/MMBtu. Technology providers at the summit outlined pathways to reduce this to **\$3.0-3.5/MMBtu** through modularization and standardized designs. Achieving this target is essential for SSLNG to compete with diesel and furnace oil in the industrial sector.

5. Decarbonizing Transport: The LNG Trucking Revolution

The heavy-duty transport sector is perhaps the most promising yet challenging frontier for LNG adoption in India. Diesel trucks are a primary source of emissions and logistics costs; LNG offers a cleaner, cheaper alternative.

5.1 The Economic Case: TCO Analysis

The adoption of LNG trucks is driven by Total Cost of Ownership (TCO).

- **CAPEX vs. OPEX:** An LNG truck carries a significant upfront premium, costing approximately ₹60 lakhs compared to ₹38 lakhs for a diesel equivalent. However, the fuel cost savings are substantial. With LNG offering a range of 1,200-1,350 km on a single fill (using dual tanks), it is uniquely suited for long-haul logistics where electric trucks currently struggle due to battery weight and charging time.
- **Payback Period:** For high-mileage fleets (running >10,000 km/month), the operational savings can recover the incremental CAPEX within 18-24 months, provided the price spread between diesel and LNG remains favorable.

5.2 Market Reality and Case Studies

Despite the theoretical benefits, on-ground adoption has been cautious.

- **Adoption Lag:** As of 2025, India has approximately 1,309 LNG trucks on the road. While this represents a 75% year-on-year growth, it pales in comparison to China, where sales exceed 100,000 units annually. The disparity highlights the lack of a cohesive policy push in India compared to China's aggressive subsidies.
- **Green Line Logistics - A Success Story:** The summit highlighted **Green Line Logistics** as a proof-of-concept. By deploying a fleet of nearly 700 LNG trucks on specific "green corridors" (e.g., servicing cement plants), they have created a self-sustaining ecosystem. They established their own captive refueling stations, bypassing the "chicken-and-egg" problem of infrastructure availability. This "anchor tenant" model is now being replicated by other logistics majors.

5.3 Policy Recommendations for Transport

To accelerate adoption, industry leaders proposed a "FAME-like" scheme for LNG vehicles:

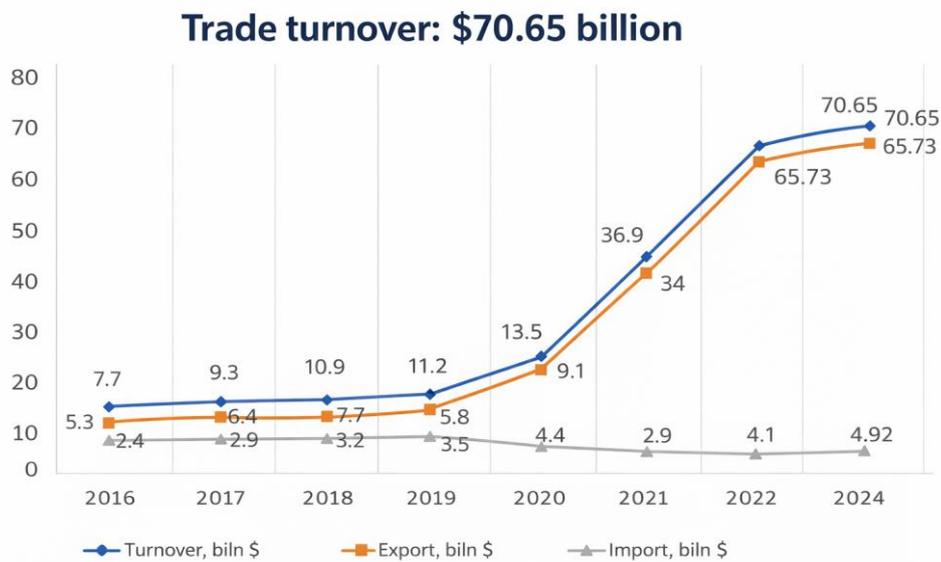
- **GST Parity:** Reducing the GST on LNG trucks to bridge the acquisition cost gap.
- **Toll Exemptions:** Offering toll waivers for LNG trucks to improve operating margins.
- **Domestic Gas Allocation:** A critical demand was the allocation of cheaper domestic Administered Pricing Mechanism (APM) gas to the LNG transport sector, insulating it from the volatility of imported spot prices.

6. Indo-Russian Energy Partnership: A Strategic Axis

The 2025 summit placed significant emphasis on the evolving energy relationship between India and Russia. With Western sanctions reshaping global flows, Russia has pivoted decisively toward Asian markets, and India has emerged as a key strategic partner.

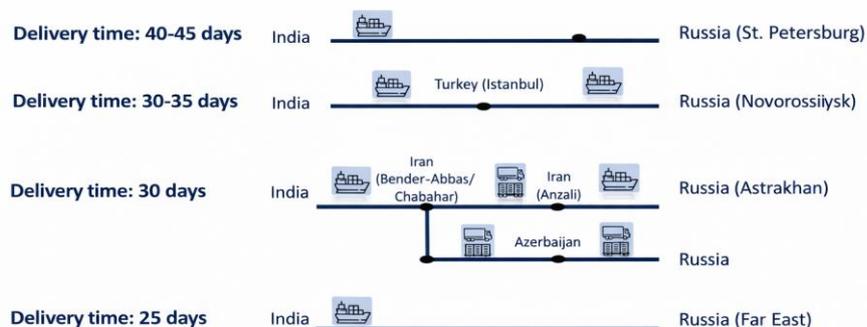
6.1 Trade Dynamics and Volume

Bilateral trade between the two nations reached a record **\$70.65 billion in 2024**, predominantly driven by India's imports of Russian oil, petroleum products, and LNG. Russia is now integral to India's energy security calculus.



- LNG Supply:** Russia aims to capture a significant share of the Indian market through supplies from its Yamal and Arctic projects. The operationalization of the **Vladivostok-Chennai Maritime Corridor** is seen as a game-changer, significantly reducing the shipping time compared to the traditional Suez Canal route.

Logistic routes



Key Ports of Departure/Receipt of Cargo in India:

- Port (Nhava Sheva)
- Port of Mumbai
- Port of Mundra
- Port of Chennai
- **Novorossiysk:** Delo Group (PJSC TransContainer and logistics operator Ruscon)
- **St. Petersburg:** Modul Freight Forwarding Company
- **Vladivostok:** Crystal Alliance Group of Companies

6.2 Financial Infrastructure

To insulate this trade from geopolitical shocks, robust financial mechanisms have been established.

- **Payment Mechanisms:** The summit confirmed the efficacy of the rupee-ruble payment systems and the integration of alternative financial messaging platforms. These mechanisms facilitate direct settlement of energy contracts and enable Foreign Direct Investment (FDI) in joint ventures without relying on Western banking channels.

6.3 Technology Transfer and "Make in India"

The partnership is evolving beyond a simple buyer-seller relationship into deep technological collaboration.

- **Innovation Centers:** The establishment of the "**Technology Without Borders**" center in Mumbai was highlighted as a conduit for transferring Russian expertise to India. Areas of collaboration include advanced cryogenics, corrosion protection for pipelines, and drilling technologies.
- **Localization:** Russian firms like Cryogenmash are actively partnering with Indian manufacturers to localize the production of critical components like cryogenic tanks and valves, supporting the "Atmanirbhar Bharat" (Self-Reliant India) initiative.

7. Digital Resilience and Safety Systems

As gas infrastructure becomes increasingly digitized and interconnected, cyber-physical security has moved to the forefront of the agenda.

7.1 The "Cyber Risk M3" Paradigm

The summit addressed the vulnerability of Operational Technology (OT) and SCADA systems to state-sponsored cyber threats. Experts introduced the "**M3 Paradigm**" (Management, Modelling, Mitigation) as a framework for resilience.

- **Management:** Elevating cyber risk from an IT concern to a boardroom strategic imperative.
- **Modelling:** Utilizing **Digital Twins** not just for operational efficiency, but as "Cyber Ranges." These virtual replicas allow operators to simulate cyberattacks (e.g., Stuxnet-style malware) and test defenses without risking live infrastructure.
- **Mitigation:** Deploying industrial-specific security suites (like PT Industrial Security Incident Manager) capable of detecting anomalies in real-time process data, distinct from standard IT firewalls.

1 On guard of Industries



Industry level MoE, Russia

Industry **Competence center** with PT expertise:

- Industry DevSecOps / SSDLC standards
- Industry level cyber exercises / cyber testing approach



Power generation

- 90+ power plants are protected by PT
- SOCs in 4 energy companies are running on PT products



Power grids

- 20+ 220/110 kV substations
- SOCs in 3 electric grid companies are running on PT products

PT Application Inspector

PT consulting support

PT Industrial Security Incident Manager (ISIM)

MaxPatrol SIEM

MaxPatrol VM

MaxPatrol EDR

PT Sandbox

PT Industrial cybersecurity suite

2 The team of Experts

R&D in cyber security, years

22+

Customer Count, worldwide

4k

Creative environment, specialists and experts

2.8k

Security experts, Red teams, Blue teams, Security research

800+

7.2 Advanced Sensing and Safety

On the physical safety front, innovation in gas detection was prominent.

- Next-Gen Sensors:** Companies like Ambtronics showcased sensors capable of detecting leaks in milliseconds using UV and IR spectrum analysis.

FLAME DETECTOR (UV & IR BASED)



Innovated, Engineered & Design by Ambtronics

Flame Detector

Total 4 Sensors:
3 IR Sensors & 1 UV Sensor



Bluetooth Configuration facility



ULTRAFAST

Flame Detection only in India by AMBETRONICS

Response time: 100 milliseconds



Flame Detector

Total 2 Sensors:
1 IR Sensor & 1 UV Sensor

- IIoT Integration:** The shift is toward wireless, IIoT-enabled detectors that feed data into a central dashboard, allowing for predictive safety monitoring across vast pipeline networks. This is critical for dense urban environments where CGD networks operate in close proximity to residential areas.

8. Conclusion and Strategic Roadmap

The 9th LNG India Summit 2025 has crystalized the narrative: India is no longer just a passive consumer in the global gas market; it is an active shaper of demand and a hub for innovation. The path to a 15% gas share is ambitious, but the convergence of global supply abundance, domestic infrastructure expansion, and technological adaptation makes it achievable.

Strategic Imperatives for 2025-2030

1. **Harmonize the Fiscal Regime:** The government must prioritize bringing natural gas under GST. This single reform is the master key to unifying the market, reducing costs for industrial consumers, and accelerating the shift away from polluting fuels.
2. **Synchronize Infrastructure:** The PNGRB's mandate on synchronizing terminal and pipeline commissioning must be rigorously enforced. The era of "islanded" terminals represents a capital inefficiency that India cannot afford.
3. **Institutionalize SSLNG:** Small-Scale LNG must be recognized as a distinct sector with its own policy support. Promoting "virtual pipelines" and rail-based logistics is essential for monetizing stranded assets and reaching the 40% of the market that physical pipes will never serve.
4. **Incentivize Green Transport:** To unlock the LNG trucking revolution, the government must bridge the CAPEX gap. A policy framework offering GST concessions and toll waivers for LNG trucks will catalyze fleet conversion, mirroring the success of the EV sector.
5. **Leverage the Buyer's Market:** With global prices set to soften, Indian buyers should aggressively negotiate flexible, long-term contracts. The focus must shift from security of supply to *optimization* of supply, using the upcoming glut to lock in favorable terms.

In summary, the transition to a gas-based economy is a complex engineering and economic challenge. However, the technologies—from micro-liquefaction to digital twins—are mature, and the global market winds are blowing in India's favor. The next five years will be decisive in building the physical and digital arteries required to power a cleaner, more secure energy future for the nation.

Appendix A: Comparative Economics of Transport Fuels

Feature	Diesel Truck (Heavy Duty)	LNG Truck (Heavy Duty)	Strategic Implication
Capital Cost	~₹38 Lakhs	~₹60 Lakhs	High entry barrier requires financing/subsidy support.
Fuel Efficiency	Baseline	High Energy Density	Lower running costs offset CAPEX over ~2 years.
Range (Single Fill)	800-1000 km	1200-1350 km (Dual Tank)	LNG is the only viable alternative for long-haul.
Emissions (NOx)	High	Negligible	Key for meeting future BS-VII norms.

Infra Density	Ubiquitous	Sparse (~1,309 trucks on road)	"Corridor-based" deployment is the only viable short-term strategy.
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Appendix B: India's Gas Infrastructure Snapshot (2025)

- **LNG Import Capacity:** ~44.5 MTPA (Status: Underutilized due to connectivity gaps)
- **Pipeline Network:** ~35,750 km (Operational + Under Construction)
- **CGD Coverage:** 99% of Populated Area (307 GAs)
- **CNG Stations:** 8,187+
- **Domestic Connections:** ~1.5 Crore



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