

Market Assessment & Industry Report on Natural Gas Industry

Torrent Gas Ltd

18th August 2026



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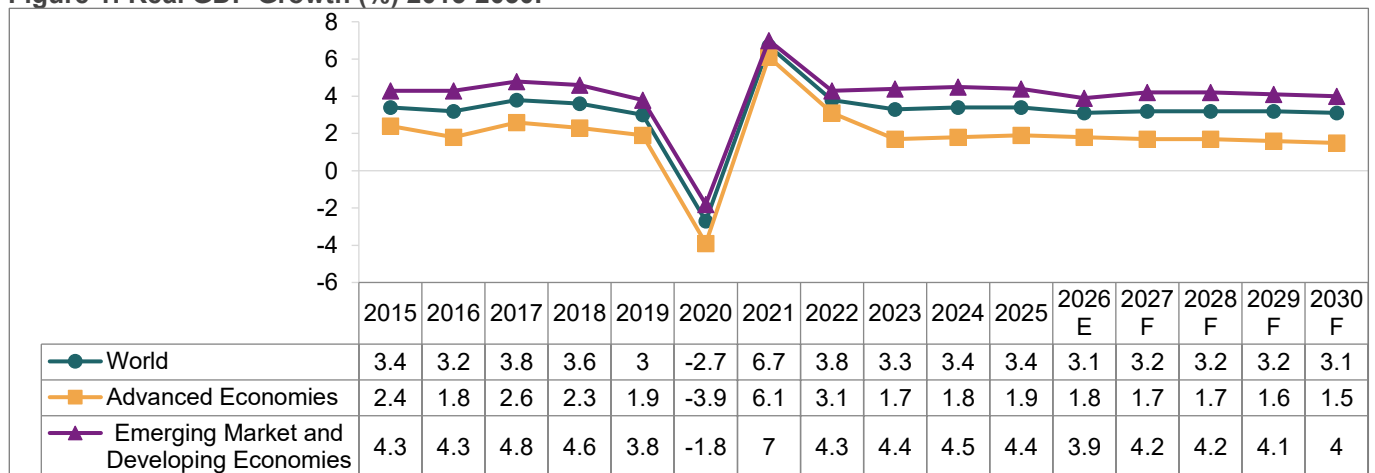
Executive Summary

Global Macroeconomic Overview

Global real GDP growth is estimated at ~3.4% in 2025 and is projected to moderate to ~3.1% in 2026, reflecting a transition towards a structurally lower but more resilient growth trajectory rather than a broad-based expansion. While global inflation has eased considerably from its post-pandemic highs, elevated real interest rates, high sovereign debt burdens, weak productivity growth, demographic headwinds in advanced economies, and persistent geopolitical uncertainty continue to weigh on investment and consumption. Although labour markets remain relatively resilient across major economies, global economic activity is expected to remain below its pre-pandemic trend, with downside risks continuing to dominate the medium-term outlook.

Global trade dynamics continue to be shaped by heightened geopolitical fragmentation, evolving industrial policies, and increasing strategic competition among major economies. The reconfiguration of supply chains through diversification, near-shoring and friend-shoring strategies, together with sector-specific trade agreements in critical minerals, semiconductors, clean energy technologies and advanced manufacturing, is gradually replacing traditional globalization with a more regionalized yet resilient trade architecture. While tariff-related uncertainties have moderated compared with earlier expectations, businesses continue to adapt through supply-chain diversification and increased investment in strategic production hubs, particularly across Asia and other emerging markets.

Figure 1: Real GDP Growth (%) 2015-2030F



Note: E-Estimated, F-Forecast

Source: International Monetary Fund (IMF) World Economic Outlook April 2026

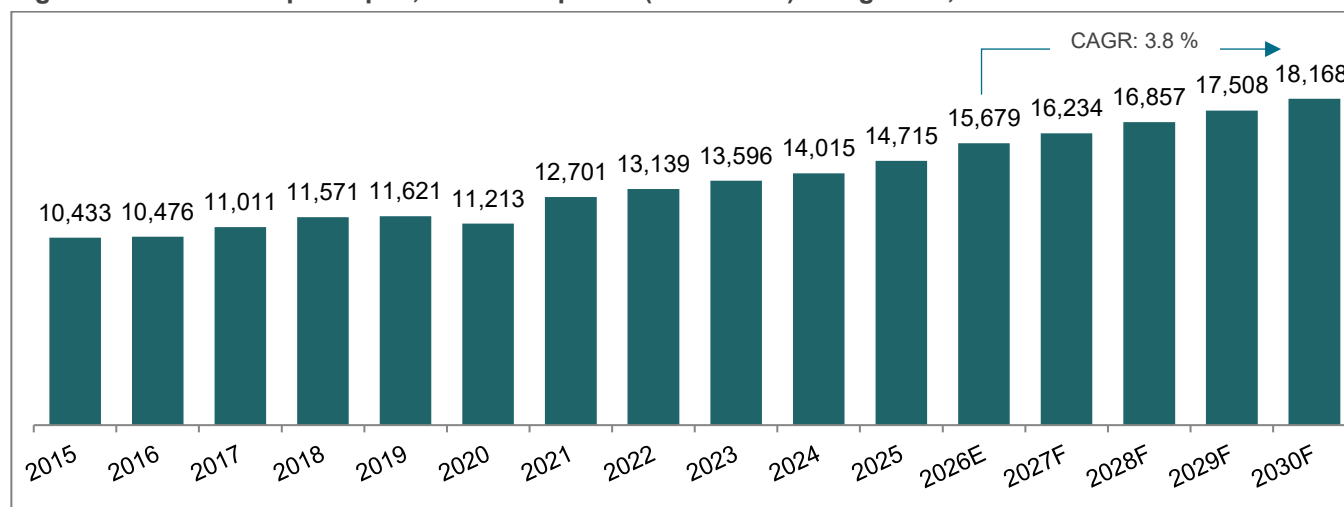
A clear divergence between advanced economies and emerging market & developing economies (EMDEs) remains a defining feature of the global growth outlook. In 2025, EMDEs are estimated to have grown by ~4.4%, compared with approximately ~1.9% for advanced economies, with the gap expected to persist over the forecast period. This divergence reflects stronger domestic consumption, favourable demographics, expanding manufacturing capacity, urbanization, digital transformation and continued infrastructure investments across several emerging economies. In contrast, advanced economies continue to face structural constraints arising from ageing populations, subdued productivity gains, elevated public debt levels and slower labour force growth, resulting in projected growth of only ~1.5–1.8% through 2030. Consequently, EMDEs are expected to remain the principal drivers of incremental global GDP growth, supported by increasing participation in global manufacturing, services exports and supply-chain realignment. The medium-term global outlook points towards moderate but resilient economic growth within an increasingly fragmented and multipolar global economy.

Global GDP per capita

Global GDP per capita has demonstrated a sustained long-term upward trajectory, increasing from approximately US\$10,433 in 2015 to US\$14,715 in 2025, representing a cumulative increase of over 40% during the period. The continued rise in per capita income reflects improvements in labour productivity, technological advancement, expanding global trade, and structural transformation across emerging economies. Looking ahead, global GDP per capita is projected to increase from US\$15,679 in 2026 to approximately US\$18,168 by 2030, implying a forecast CAGR of ~3.8% during 2026–2030. The projected growth is expected to be supported by continued urbanization, digital adoption, higher participation in value-added manufacturing and services, and sustained income growth across emerging markets despite a moderating global economic environment.

Rising global per capita incomes are expected to support higher energy consumption across residential, commercial, industrial, and transportation sectors through increased household purchasing power and expanding economic activity. Growing affluence generally translates into higher electricity consumption, greater penetration of consumer appliances, increased vehicle ownership, expanding mobility requirements, and higher industrial output. Concurrently, rapid urbanization and infrastructure development across emerging economies are expected to reinforce this trend. Consequently, demand for relatively cleaner fuels, including natural gas for industrial, commercial and power generation applications, as well as CNG in the transportation sector, is expected to benefit from sustained growth in global income levels, supporting the ongoing transition towards a more diversified, efficient and lower-carbon global energy mix.

Figure 2: Global GDP per capita, at current prices (US Dollars) and growth, 2015-2030F



Note: E-Estimates, F-Forecast

Source: International Monetary Fund (IMF) World Economic Outlook April 2026

India Macroeconomic Overview

According to the Provisional Estimates released by the Ministry of Statistics and Programme Implementation (MoSPI), India's real Gross Domestic Product (GDP) grew by 7.7% in FY2025-26, compared with 7.1% in FY2024-25, while nominal GDP increased by 8.9% to ₹346.36 lakh crore. The robust economic performance was supported by growth across agriculture, manufacturing and services, alongside sustained infrastructure activity, higher consumption, resilient exports and continued Government capital expenditure. The strong macroeconomic environment is expected to support industrial activity, urbanisation and energy demand, thereby providing a favourable backdrop for continued growth in the natural gas and city gas distribution sector.

Real GDP grew by 7.1% in FY2024-25 setting a stable and credible base for the medium term rather than indicating an overheated expansion. This growth rate reflects an economy that has transitioned from post-pandemic rebound

to structural normalization, where momentum is driven more by fundamentals than by one-off boosts. Importantly, 2025 also marks a major structural milestone, with India emerging as the world's 4th largest economy. This achievement is not the result of a sudden surge in growth but of sustained outperformance relative to other large economies, many of which have faced prolonged stagnation, fiscal stress, or demographic headwinds. India's economic expansion in 2025 is underpinned by resilient domestic consumption, continued public infrastructure spending, and strong services-sector performance, even as external demand remains subdued.

Looking at the immediate past, growth dynamics over 2023 and 2024 clearly show a process of moderation rather than deterioration. In 2023, India recorded a strong growth rate of about 9.2%, largely driven by post-COVID normalization, pent-up consumer demand, and an aggressive public capital expenditure cycle. However, this pace was inherently unsustainable and benefited from favourable base effects.

The longer-term trend highlights India's growing ability to absorb shocks and recover quickly. Between 2016 and 2019, growth steadily slowed due to structural adjustments, balance-sheet stress in the financial sector, and subdued private investment. This was followed by the sharp contraction of -5.8% in 2020 due to the pandemic, the deepest shock in recent history. However, the subsequent rebound in 2021, with growth of 9.7%, and the sustained expansion thereafter indicate that the underlying drivers of the economy, favourable demographics, and a strong services base.

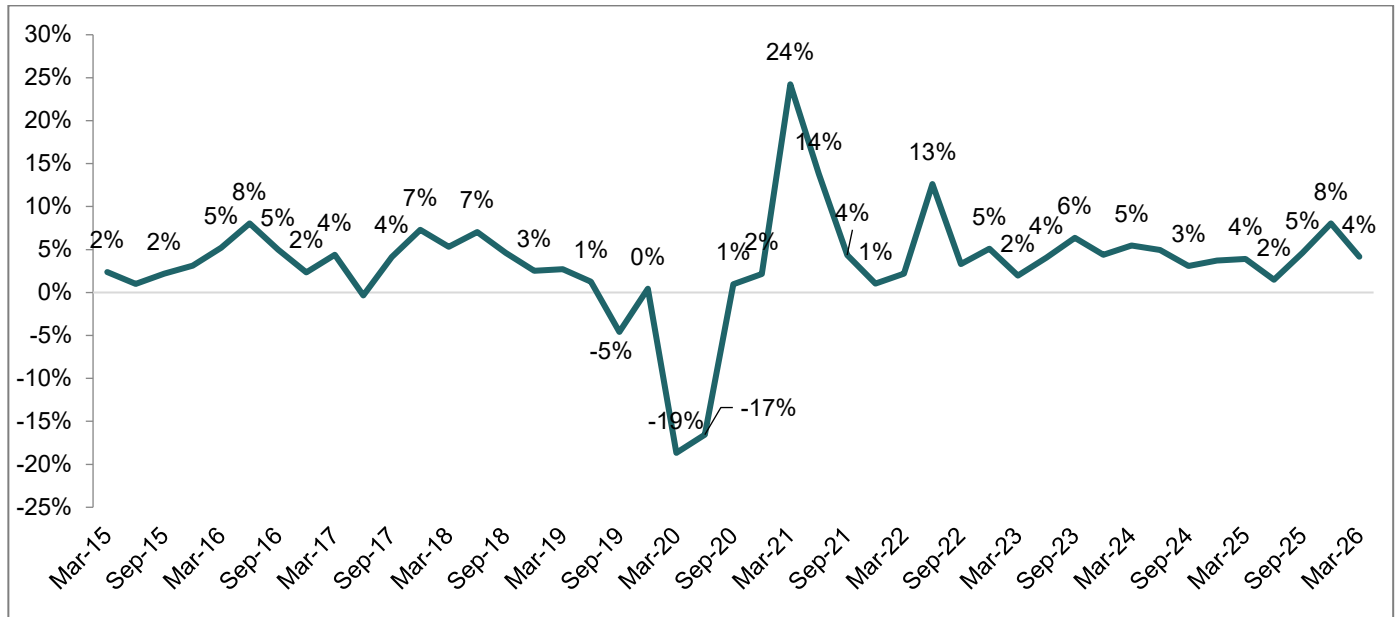
India's GDP Per Capita (at current prices) is likely to reach ~USD 3,975 by 2029, growing at a CAGR of 9.0% between 2025 and 2029. This boost in per capita GDP levels will play a crucial role in propelling India's vision to become a USD 5 trillion economy by 2030. This upward trend in per capita GDP levels will be supported by domestic structural reforms, fiscal prudence, monetary policy stability, reduced input costs, falling price pressures, political stability, and rapid urbanization.

Expansion of capacity utilisation and productivity across critical sectors such as manufacturing, transport, infrastructure, construction, chemicals, telecom, and financial services will lead to a sustained growth in GDP per capita levels, with positive spillovers being witnessed in India's economic growth.

Index of Industrial Production IIP & its growth

India's industrial activity remained resilient during FY2025-26, with the Index of Industrial Production (IIP) recording cumulative growth of 4.1%, supported primarily by the manufacturing sector, which expanded by 5.0%, while the mining and electricity sectors grew by 1.4% and 1.0%, respectively. In March 2026, IIP increased by 4.1% year-on-year, led by manufacturing (4.3%) and mining (5.5%), although electricity growth moderated to 0.8%. On a use-based classification, capital goods registered the highest growth of 14.6%, followed by infrastructure/construction goods (6.7%), consumer durables (5.3%) and intermediate goods (3.3%), indicating continued investment activity alongside resilient domestic consumption. Furthermore, 14 out of 23 manufacturing industry groups recorded positive growth during March 2026, reflecting broad-based industrial expansion and sustained momentum across key sectors.

Figure 3: IIP Growth (%) 2015 to 2026



Note: Data is based on base year (2011-12)

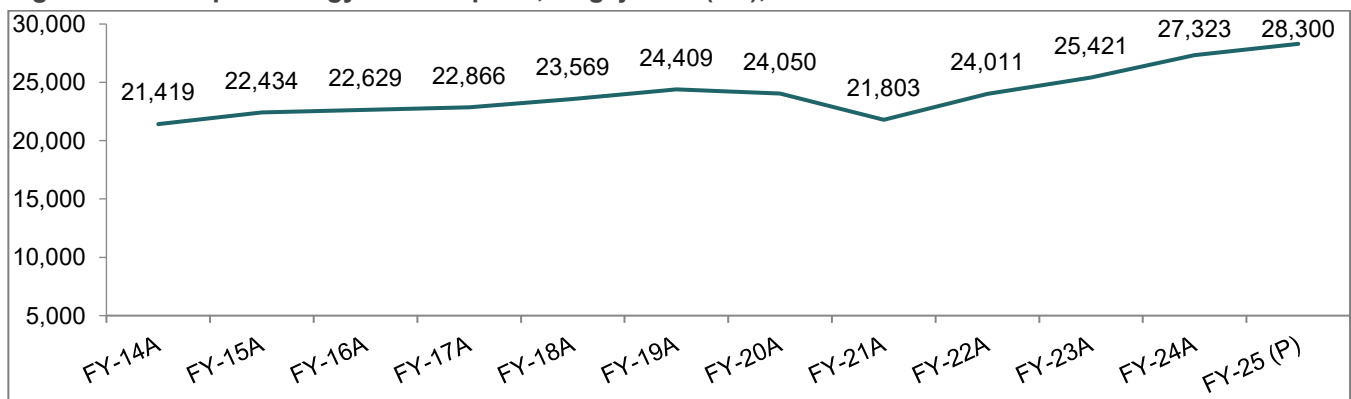
Source: MOSPI

India's Per Capita Energy Consumption

India's per capita energy consumption has steadily increased over the past decade, from 21,419 MJ in FY14 to 28,300 MJ in FY25, driven by economic growth, urbanization, industrial expansion, and better electricity access. The pandemic caused a temporary dip in FY20 and FY21, but consumption rebounded strongly, reaching 27,323 MJ in FY24. This upward trend reflects ongoing industrial activity, rising household energy demand, and a shift toward cleaner fuels like LPG, PNG, and electricity, which improve energy efficiency while increasing overall consumption. India's per capita energy consumption is expected to increase substantially, driven by expanded rural electrification through schemes like Saubhagya, which has connected millions to the grid, and rapid industrial growth under 'Make in India' and PLI initiatives. This shift includes a move from biomass and kerosene to cleaner fuels such as LPG, PNG, and electricity, boosting energy efficiency while raising overall demand.

Compared to other countries (120 GJ in China, 51 GJ in Brazil and 270 GJ in US) and world average of 77 GJ, India's per person energy consumption of 28.3 GJ is still low, indicating significant headroom for future demand expansion as the economy continues to develop

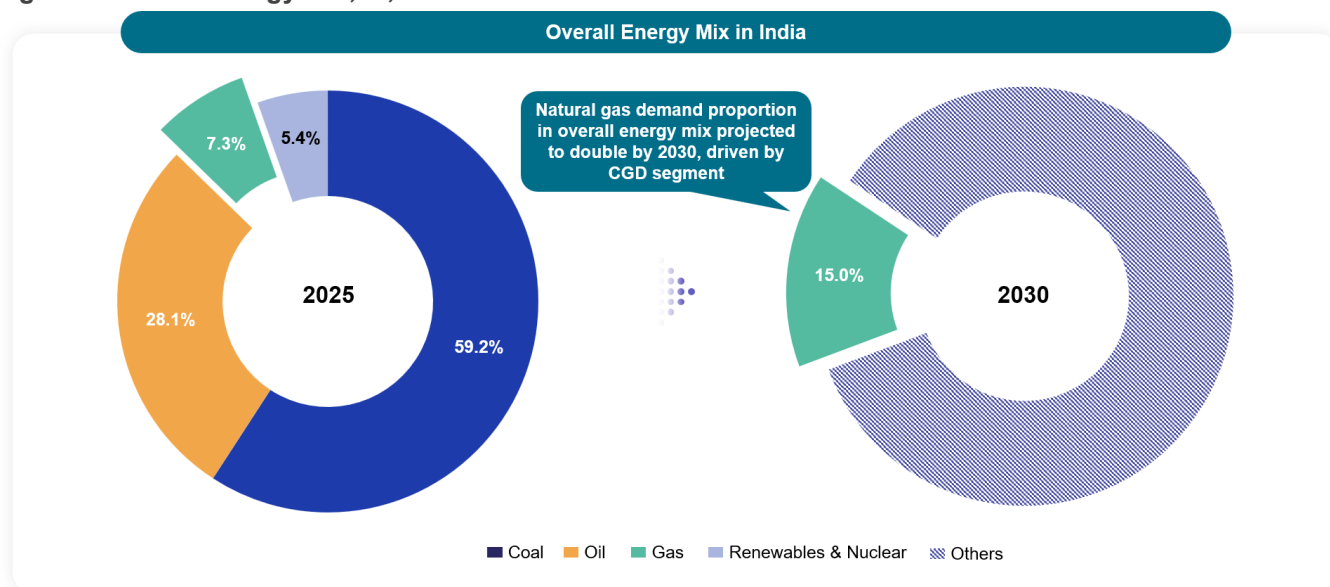
Figure 4: Per Capita Energy Consumption, Megajoules (MJ), FY-14 to FY25



Note: A-Actual, P-Provisional

Source: MOSPI, Crisil Intelligence

Figure 5: India's Energy Mix, %, 2025 and 2030



Source: IEA, PNGRB, Crisil Intelligence

India's primary energy mix in FY25 remains dominated by coal and oil, together accounting for ~ 87% of total energy supply, while natural gas contributes a little more than 7%. The share of gas has remained largely stable in recent years due to limited domestic production, high dependence on imported LNG, and global price volatility impacting demand from price-sensitive sectors. The Government of India has articulated a policy objective to increase the share of natural gas to around 15% by 2030, recognizing its role as a lower-emission and flexible fuel. This transition is expected to be supported by expansion of LNG import capacity, development of the national gas grid, and targeted policy support for priority sectors such as city gas distribution, industry, and transport.

Natural Gas

Natural gas is a critical component of the global and Indian energy ecosystem, driven by its higher efficiency, relatively lower carbon emissions compared to coal and oil, and expanding infrastructure base. Predominantly composed of methane, natural gas is sourced from conventional gas fields, associated petroleum gas, and unconventional resources such as shale and tight formations. Technological advancements in exploration, production, and liquefaction have significantly enhanced global accessibility to natural gas. Beyond its role as a fuel for power generation and heating, natural gas serves as a key industrial feedstock for fertilizers, petrochemicals, methanol, and other synthetic materials. In India, rapid urbanization, tightening air-quality norms, and policy support for cleaner fuels have accelerated the adoption of natural gas across residential, commercial, industrial, and transportation segments, positioning it as a transition fuel in the country's shift toward a lower-carbon energy mix.

The natural gas value chain in India comprises upstream exploration and production, midstream transportation and processing, and downstream distribution to end-users. While domestic production remains limited, leading to significant dependence on imported LNG and exposure to global price volatility, the midstream segment plays a vital role through pipeline networks, LNG terminals, and regasification infrastructure. The downstream segment is anchored by city gas distribution (CGD) networks supplying piped natural gas (PNG) and compressed natural gas (CNG), regulated by the Petroleum and Natural Gas Regulatory Board (PNGRB). Over recent years, CGD coverage has expanded substantially, although regional disparities persist, with mature networks in select states and under

penetration in eastern and northeastern India. Continued development of pipeline connectivity, underground gas storage, and last-mile infrastructure, along with regulatory streamlining and cost rationalization, is expected to support demand growth, enhance supply security, and reduce India's dependence on imported hydrocarbons.

Natural gas has always been a strategic lever for India's energy security as it offers a self-reliance pivot versus crude oil, while domestic gas supply is additive, not sequential especially for the domestic household and transportation requirements of the nation. Crude oil remains substantially import-dependent, with domestic production accounting for 11% in FY26 compared to 16% in FY21, compared with imports of 89% and 84% respectively, demonstrating reduction in India's domestic production compared to the overall consumption. Natural gas has a more balanced supply profile, with domestic production increasing from 46% in FY21 to ~50% in FY26, while imports decline from 54% to 50%. Further, for every US\$1 spent, natural gas delivers approximately 50.6% more energy than crude oil. CGD also has national-priority status, with first-priority supply to D-PNG and CNG.

Table 1: Energy Efficiency comparison; Crude oil vs LNG

Input / calculation	Crude oil	LNG	Unit / interpretation
Crude oil price	85.85		US\$/barrel
LNG slope		12	% of crude oil price
Crude GCV	42.79		GJ/MT
Crude barrels per MT	7.33		barrels/MT
MMBtu per GJ	0.95		MMBtu/GJ
Crude energy per MT	40.56		MMBtu/MT
Crude energy per barrel	5.53		MMBtu/barrel
LNG price at slope		10.30	US\$/MMBtu
Crude cost per MMBtu	15.52		US\$/MMBtu
Energy obtained per US\$1	0.06	0.10	MMBtu per US\$
LNG energy advantage		50.6%	% more energy per US\$1

Note:

1. Crude Oil FOB (Indian Basket) prices as of August 2026

2. 1 MMBtu = 1,055.06 MJ

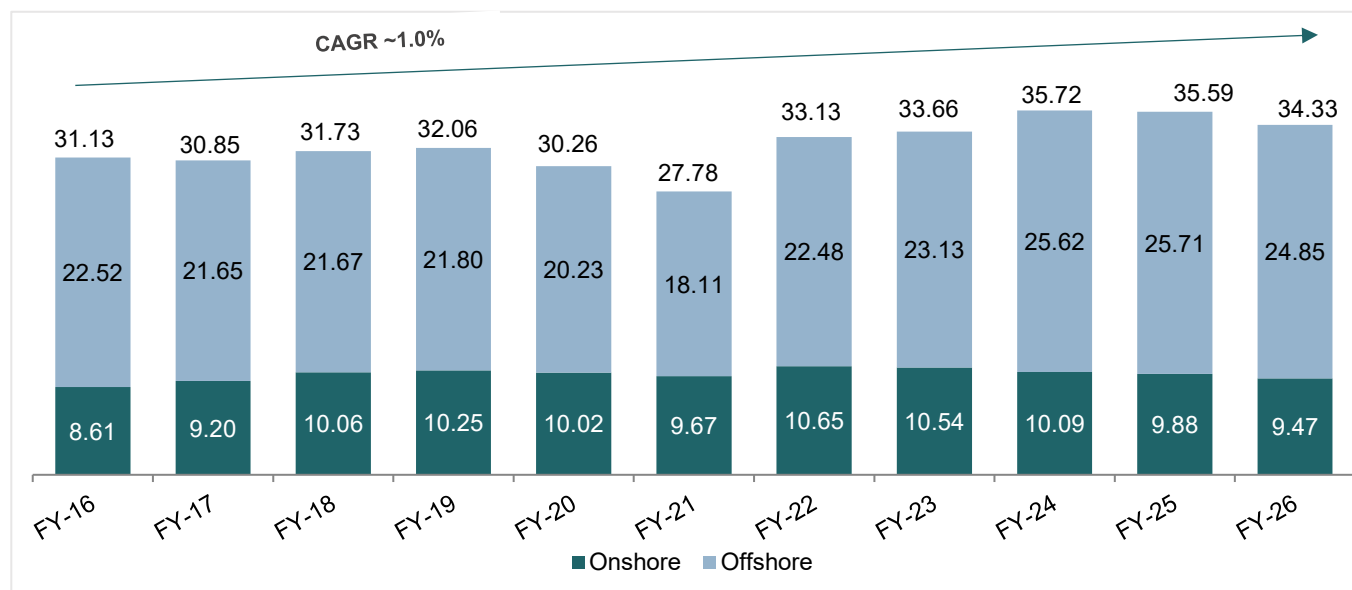
3. 1 GJ = 0.9478 MMBtu

4. Crude oil energy content is derived using gross calorific value (GCV) assumptions and converted to MMBtu basis.

Source: PPAC, Crisil Analysis

Global natural gas demand recorded strong growth in 2024, increasing by 2.7% year-on-year (approximately 115 bcm), making it the fastest-growing fossil fuel and accounting for about 28% of global energy demand. Growth was driven by higher industrial activity, rising power generation requirements, and the ongoing transition toward cleaner fuels. Emerging markets in Asia led demand expansion, with nearly 40% of incremental global demand originating from the region, primarily driven by China and India. India's natural gas consumption grew by around 10%, supported by favorable macroeconomic conditions, expansion of gas infrastructure, and higher gas-based power generation during periods of elevated temperatures

Figure 6: India Natural Gas Production, bcm, FY-16 to FY-26



Source: PPAC, Crisil Intelligence

Domestic natural gas production has increased since FY22, supported by commencement of output from KG-D6 offshore fields, which together are producing around 30 MMSCMCD since FY24. Going forward, production is expected to rise moderately, driven by ONGC's KG-98/2 field, with domestic gas output projected to grow at approximately 3% CAGR between FY26 and FY30. Government reforms, including pricing freedom for deepwater and high-pressure fields, are expected to support faster field development.

Figure 7: Natural Gas as a Strategic Lever for India's Energy Security



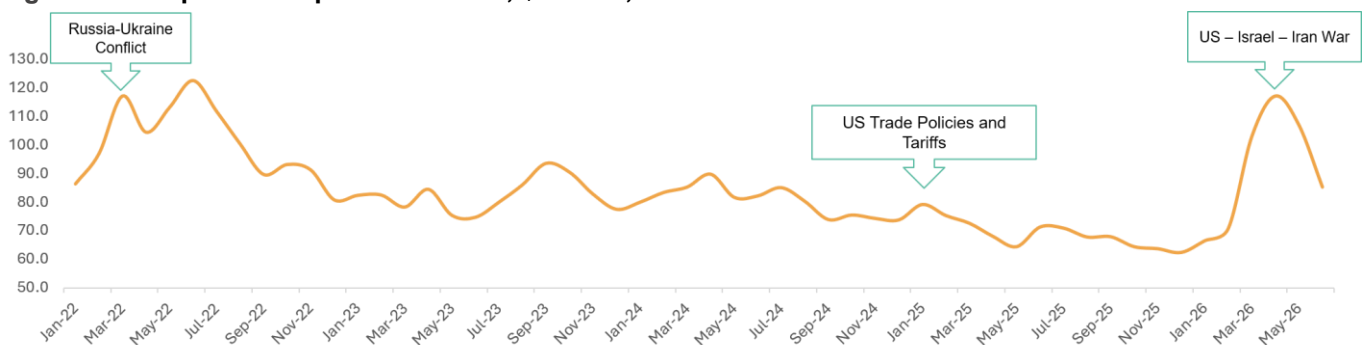
Source: PNGRB, PPAC, Crisil

India's natural gas sector benefits from a diversified domestic supply base and a supportive policy ecosystem aimed at enhancing energy security, reducing import dependence and ensuring long-term supply availability for retail

consumers. Domestic natural gas consumption of ~25.3 MMT in FY2026 was sufficient to meet nearly two times the demand of the city gas distribution sector and more than twelve times the domestic PNG demand, underscoring the resilience of domestic supply. Pricing mechanisms across legacy nomination fields, difficult deepwater and high-pressure/high-temperature discoveries, and new well gas provide incentives for upstream investments while moderating price volatility relative to competing liquid fuels. In parallel, compressed biogas is emerging as an additional domestic source of gaseous fuel, supported through initiatives such as GOBARdhan and SATAT envisage 15 MMT of annual CBG production, equivalent on a mass basis to ~57% of India's FY2025-26 LNG imports of ~26 MMT, indicating the potential to reduce natural-gas import dependence from ~50% to nearly 29%, subject to full production and effective substitution through CGD networks. Unlike imported RLNG, CBG is domestically produced and rupee-priced under a minimum tenor year framework, insulating its pricing from dollar movements, international LNG volatility and crude-linked fluctuations while retaining the import-substitution benefit. As of FY2025, around 170 compressed biogas plants were operational, with over 300 additional plants under various stages of construction, while more than 1,800 projects had been registered across over 250 districts, indicating a robust development pipeline. Further, the phased compressed biogas blending mandate of 1% in FY2026, 3% in FY2027, 4% in FY2028 and 5% from FY2029 onwards is expected to improve supply diversification, enhance domestic fuel security and support sustained growth in natural gas consumption across end-use segments.

Impact of recent Geopolitical Scenarios on Gas Supply

Figure 8: Europe Brent Spot Prices FOB, \$/barrell, Jan 2022 - June 2026



Note: Data till June 2026

Source: EIA, Crisil Intelligence

Geopolitical conflicts have historically had a significant impact on global crude oil and natural gas markets by disrupting supply chains, trade routes, and market sentiment. The Russia–Ukraine conflict in 2022 triggered one of the most severe global energy shocks in recent decades, with Russia curtailing pipeline gas deliveries to Europe by approximately 80bcm, creating a major supply deficit and pushing global gas prices to record highs. The crisis significantly tightened global LNG markets as Europe increased LNG imports to replace Russian pipeline gas, intensifying competition for cargoes in Asia and leading to sustained volatility in oil and gas prices. Crude oil prices also surged following the invasion amid sanctions on Russian energy exports and fears of supply disruption, with benchmark prices reaching multi-year highs and triggering what the International Energy Agency described as a global energy crisis with far-reaching implications for energy security and trade flows.

During the Russia–Ukraine war induced gas shock, spot RLNG prices into Asia repeatedly traded above \$30/MMBtu, materially lifting CGD input costs and curbing discretionary spot purchases. PPAC's contemporaneous data (as reported in May 2022) shows India's April LNG imports falling year-on-year amid "very high spot prices", with Asian spot (JKM) above \$30/MMBtu for weeks before easing underscoring the severity of the procurement environment for CGDs. In response, CGD companies passed through a substantial portion of cost inflation to end-users via sequential retail price hikes while preserving the relative competitiveness of gas versus alternate fuels. For example, Indraprastha Gas Ltd. (IGL) raised CNG prices in Delhi multiple times in April 2022 from Rs. 60.81/kg on April 1 to

Consulting

Rs. 71.61/kg by April 14 with mainstream outlets documenting the step-ups of Rs. 2.50/kg on April 4, Rs. 2.50/kg on April 7, and Rs. 2.50/kg on April 14 (cumulatively ~Rs. 10.8/kg in April, and ~Rs. 12.5–Rs. 15/kg since late March), explicitly attributing the moves to elevated input gas prices. Similar pass-throughs were reported across other CGD geographies (e.g., MGL and Gujarat areas), reinforcing that while sector margins were temporarily squeezed, pricing power and demand stickiness enabled a meaningful pass-through, evidencing the resilience of the CGD pricing model during the shock.

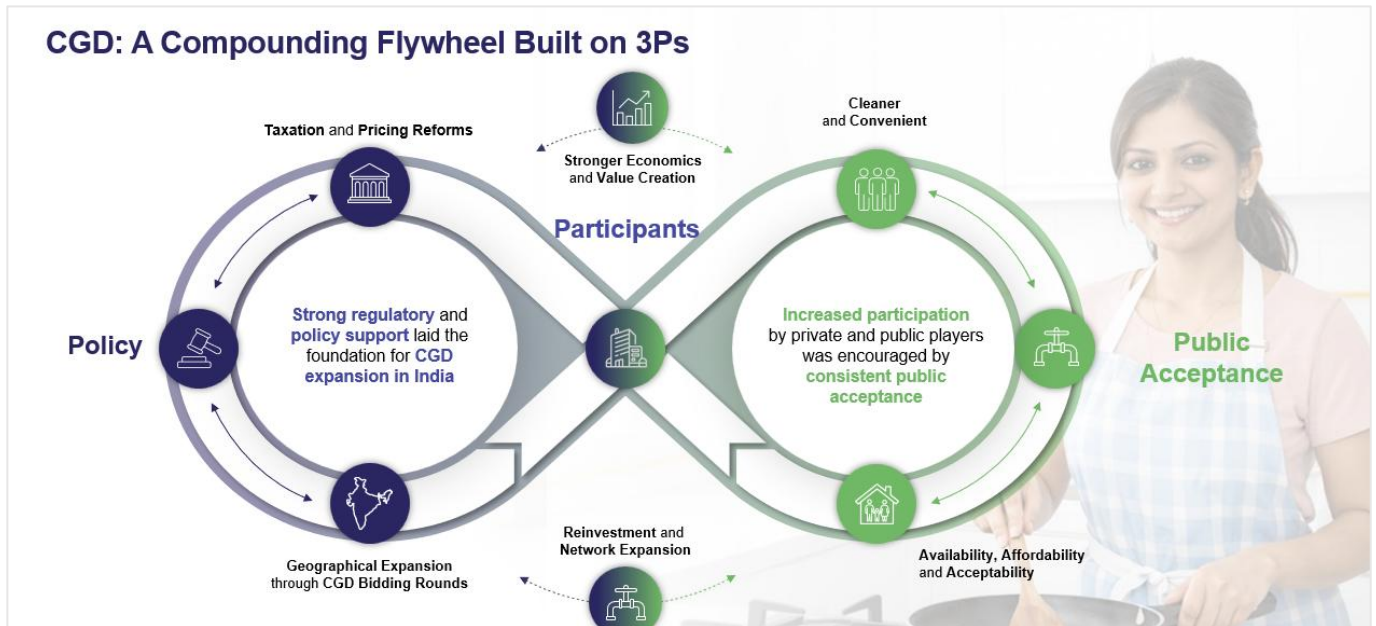
Elevated gas procurement costs arising from higher global LNG prices, constrained domestic gas availability and broader geopolitical uncertainties have led to upward revisions in CNG retail prices across the CGD sector. For instance, Indraprastha Gas Limited increased CNG prices in its flagship Delhi-NCR geographical area four times between 15 May 2026 and 26 May 2026, with the retail price increasing from ₹77.09/kg to ₹83.09/kg, representing a cumulative increase of ₹6.00/kg. Similarly, Adani Total Gas Limited revised CNG prices in its flagship Ahmedabad geographical area from ₹82.27/kg at the beginning of May 2026 to ₹90.02/kg by July 2026, reflecting a cumulative increase of ₹7.75/kg, including a ₹1.50/kg revision announced in April 2026. Torrent Gas has also undertaken calibrated retail price revisions across its geographical areas, including Jaipur and Pune of ₹2.5/kg and ₹2/kg respectively in April 2026 in response to higher gas procurement costs. These pricing revisions reflect the impact of sustained increases in input gas costs on the CGD sector, with operators periodically recalibrating retail CNG prices to align with prevailing procurement economics while preserving the fuel's competitiveness relative to conventional transportation fuels.

The recent escalation in conflict in the Middle East has further heightened volatility in global energy markets, particularly due to disruptions in the supply of gas through the Strait of Hormuz in the Middle East, one of the world's most critical energy supply routes which accounts for approximately 20% of global oil and LNG trade, approximately ~40% of the gas imports for India comes through the Strait of Hormuz and its supply is currently disrupted. This has led to a reduction in the availability of gas and an overall increase in the cost of gas, leading to spikes in oil and gas prices and tightening supply conditions in international markets. As a result, India's largest LNG importer Petronet LNG has issued force majeure notices to suppliers and domestic off-takers, including GAIL (India) Limited, IOCL, BPCL indicating potential supply disruptions. The shutdown has raised concerns for downstream sectors such as city gas distribution and gas-based industries, which rely on imported LNG for feedstock and fuel requirements. India, which imported ~41% of its long-term LNG commitments in FY2025 from Qatar, has seen a temporary suspension of LNG cargoes which has led to curtailment of LNG supply in the Indian market leaving companies explore alternative cargoes in the spot market. It is observed that a prolonged disruption could tighten global LNG availability and increase procurement costs for energy-importing economies that rely significantly on Middle East countries for their LNG requirement.

CGD: A Compounding Flywheel Built on 3Ps

India's city gas distribution sector has evolved from a policy-led infrastructure programme into a self-reinforcing growth ecosystem. This evolution is underpinned by three mutually reinforcing pillars: Policy, Participants and Public Adoption. Policy reforms expanded the addressable market and improved sector economics; CGD participants responded by committing capital and developing infrastructure; and wider infrastructure availability, affordability and cleaner-energy benefits encouraged consumer adoption. Rising consumption, in turn, has strengthened the case for further policy support and modular network expansion, setting the CGD flywheel in motion.

Figure 9: CGD Flywheel



1. Policy: Creating the foundation for sector-wide expansion:

- The acceleration in CGD development began with the expansion of geographical areas through successive bidding rounds, particularly the 9th round and thereafter. The authorised CGD footprint increased from 57 geographical areas, covering approximately 13% of India's population before the 9th round, to 307 geographical areas covering approximately 97% of the population by 2025.
- This transformed CGD from a largely metro-centric activity into a contiguous national gas distribution ecosystem. The expansion was supported by a more enabling regulatory framework. Key measures included state-level CGD and natural gas policies, single-window clearances, reductions in value-added tax on natural gas in select states, reduction in GST on CNG vehicles from 28% to 18%, priority allocation of domestic gas, infrastructure and marketing exclusivity, and measures supporting compressed biogas blending and network development.
- More recent regulatory actions have reinforced CGD's priority in the natural gas allocation framework and sought to accelerate last-mile infrastructure. These include standardisation and shortening of approval timelines, state-level fast-track mechanisms, and directives facilitating the switchover of eligible consumers to PNG. Thus, policy has evolved from initially creating the market to responding to operating requirements and emerging demand across domestic, mobility, commercial and industrial segments.

2. Participants: Converting policy opportunity into infrastructure

- The widening policy framework attracted increased participation from public-sector undertakings, oil marketing companies and private CGD operators. Private-sector participation increased from approximately 10% before the PNGRB framework to 47% by the 12th bidding round. The sector also witnessed greater participation from oil marketing companies seeking to leverage their existing retail networks.
- Bidding rounds 9–12 resulted in total committed capital expenditure of approximately Rs. 1.29 lakh crore, of which the private sector accounted for around 70%. This capital commitment translated into a sharp expansion of physical infrastructure after FY2018. The steel pipeline network expanded 7.4 times, from ~44,000 inch-km to 3,26,714 inch-km (steel + MDPE) in May 2026; the CNG station footprint increased 6.3 times, from 1,424 in FY2018 to 8,980 stations in May 2026; and domestic PNG connections grew four times,

from ~42 lakh in FY2018 to ~173 lakh in May 2026. Over the same period, CGD volumes nearly doubled from ~24 mmscmd in FY2018 to ~45 mmscmd in FY2026.

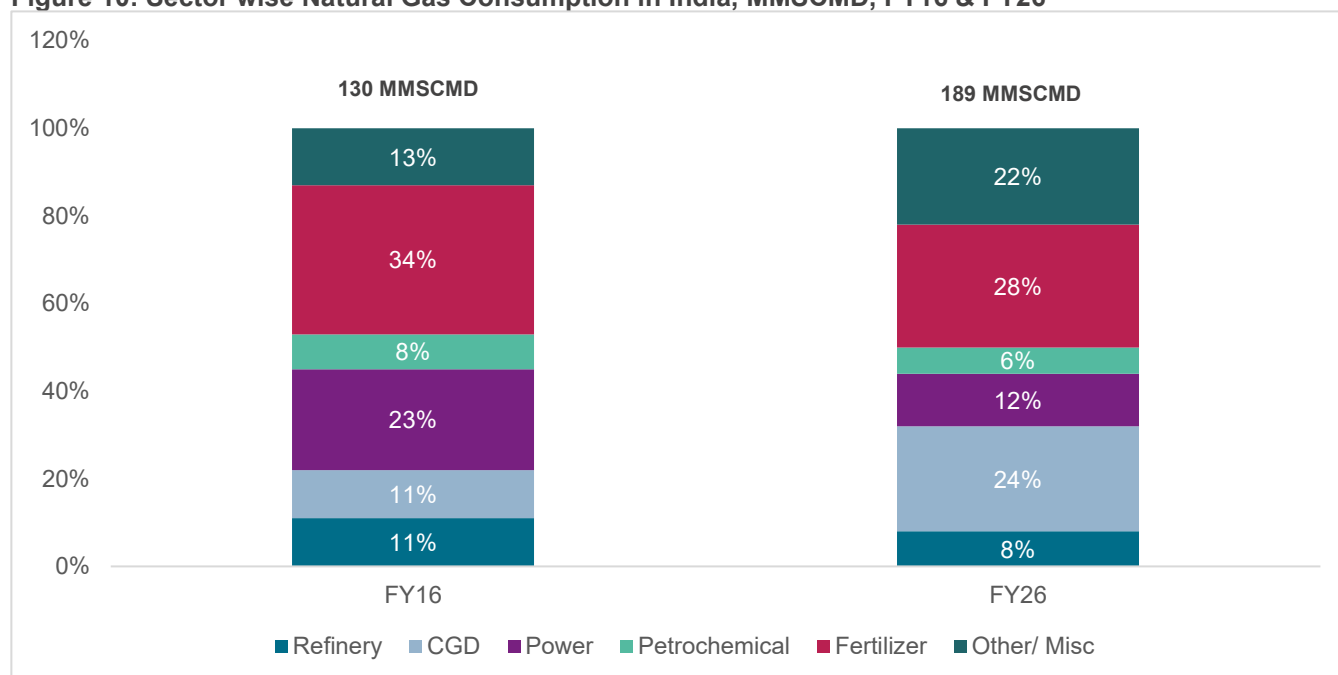
- c. Importantly, infrastructure expanded ahead of volumes, creating capacity for future demand. As networks mature, participants can add pipelines, stations and connections progressively within existing geographical areas. This enables a modular approach to capital deployment, with incremental infrastructure increasingly aligned to visible consumer demand and network density.

3. Public Adoption: Monetising infrastructure through recurring demand

- a. Improved availability and last-mile connectivity have supported sustained adoption across mobility, households, commercial establishments and industries. The CGD sector increasingly exhibits utility-like demand characteristics: consumption is recurring, embedded in daily activity and relatively resilient across price cycles.
- b. CNG adoption has benefited from lower running costs, a growing vehicle-model ecosystem and the expansion of the national refuelling network. Based on the presentation's illustrative economics, CNG offers a total cost of ownership approximately 24% lower than petrol and 10% lower than diesel over 100,000 km. Domestic and commercial PNG offer continuous, metered supply while avoiding cylinder handling, storage and leakage costs. Industrial PNG also supports cleaner operations, dependable pipeline supply and lower storage and pollution-compliance requirements.
- c. Consequently, CGD demand recorded a ~12% CAGR over FY2016–FY2025, while domestic PNG connections reached approximately 17.07 million by May 2026. CGD's share of India's natural gas consumption is projected in the presentation to increase from ~21% in FY2025 to ~35% by FY2030 (according to PNGRB GtB scenario).

Natural gas currently accounts for ~7% of India's total primary energy consumption, which remains materially lower than the global average of ~24% underscoring the structural headroom for gas penetration in India's energy mix. India's natural gas consumption has increased steadily from ~130 MMSCMD in FY16 to ~189 MMSCMD in FY26, translating into an overall CAGR of ~3.8%. The demand is primarily driven by fertilisers (~28%), city gas distribution (CGD) including CNG and PNG (~24%), power (~12%), and refineries and petrochemicals (~14%) and rest by other sectors such as manufacturing, LPG shrinkage, etc. India's natural gas consumption is expected to grow at a CAGR of approximately 7.5% through 2030, with the CGD segment expected to account for a significant portion of incremental demand. Further, The CGD sector has undergone a structural transformation over the last five years, evolving from a predominantly city-centric model into a broad-based national ecosystem with wider participation across the value chain. This transition has been supported by wider OEM participation, the expansion of CNG vehicle offerings beyond public transport, and growing acceptance of gas-based fuels across transportation and industrial applications. Policy measures, including reductions in GST on CNG vehicles, rationalization of state-level taxes on natural gas, and inclusion of CNG and PNG within cleaner energy and urban transport initiatives, have contributed to improved affordability and adoption. This is expected to drive the proportion of natural gas usage within the overall energy mix in India increasing from 7% in the financial year 2024 to 15% in the financial year 2030, largely through the growth in the CGD industry.

Figure 10: Sector wise Natural Gas Consumption in India, MMSCMD, FY16 & FY26



Source: PPAC, Crisil Analysis

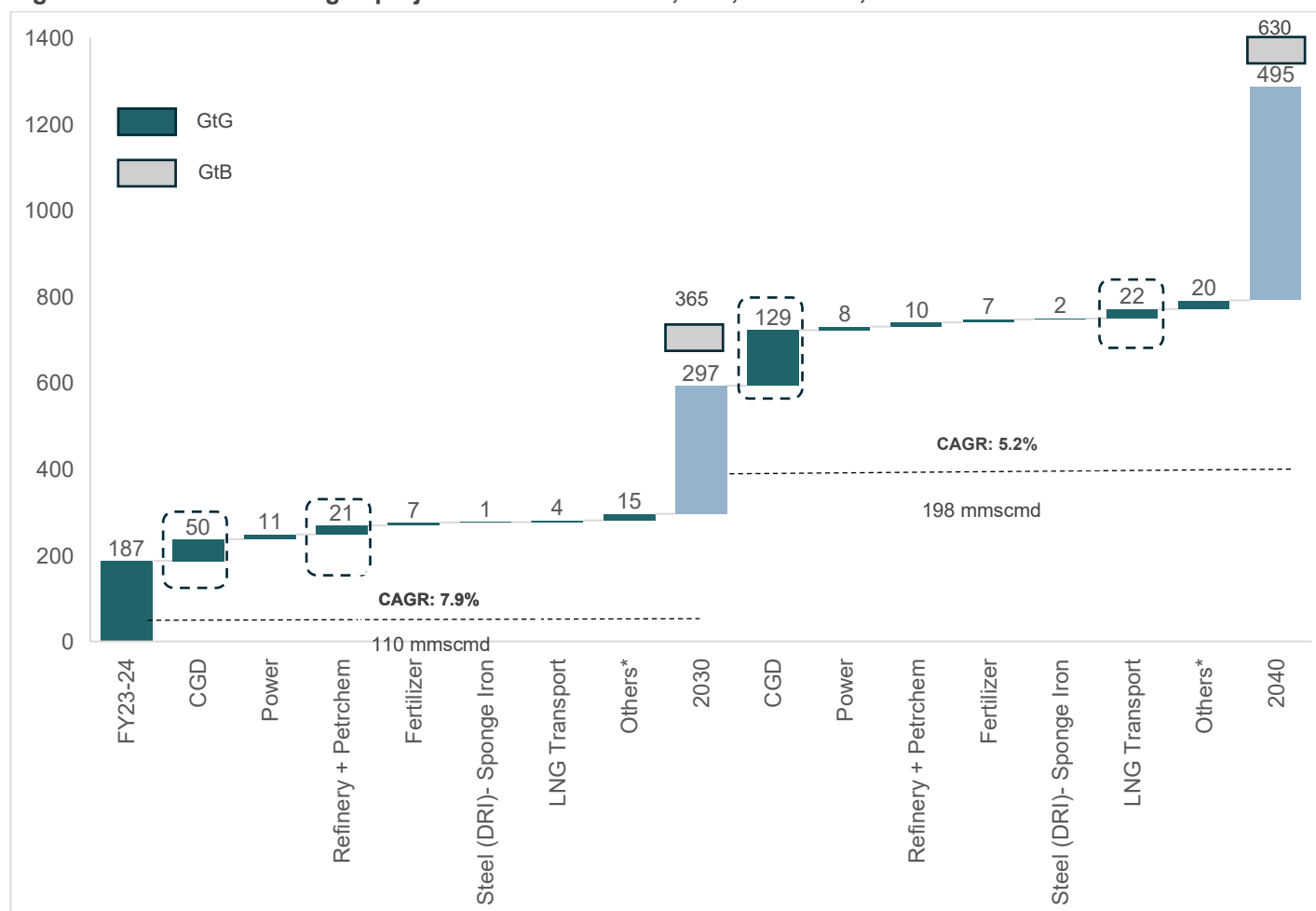
The city gas distribution sector in India has undergone a structural transformation over the last decade, evolving from a city-specific model into a contiguous, pan-India natural gas distribution ecosystem.

City Gas Distribution in India has witnessed a paradigm shift over the past decade. The demand from CGD segment has risen from ~15 MMSCMD in FY16 to 45 MMSCMD in FY2026, growing at a significantly higher CAGR of ~11.70%. This shift has been enabled through government led policy framework, which positions natural gas as an important energy source for transition towards cleaner fuel. City Gas Distribution business, in this pursuit is the enabler to reach to the ultimate consumer in the form of domestic households, commercial establishments, industrial units and vehicles.

Demand for city gas is growing across multiple segments in the current scenario, including private CNG vehicles and logistics fleets, domestic PNG households, commercial establishments, MSMEs, and large industries

The CGD sector has also witnessed increased participation by private sector companies and oil marketing companies, with OMCs leveraging their existing retail outlet networks to facilitate faster rollout of CNG stations. Gas supply availability has strengthened through increased LNG imports and expanded regasification infrastructure, with LNG now accounting for approximately 38% of India's CGD demand in FY26, while operating models have evolved toward a more flexible mix of company-owned and dealer-operated stations enabling quicker commissioning and improved consumer experience.

Industry demand dynamics have also broadened, with consumption expanding beyond traditional industrial users and public transport fleets to include private CNG vehicles, logistics and commercial fleets, PNG households and a diverse range of enterprises across industries and by scale. This diversification has been supported by the expansion of national highways and expressways, increasing vehicular movement across regions, and sustained OEM support through the introduction of multiple factory-fitted CNG vehicle models.

Figure 11: PNGRB Natural gas projections scenario GtG, GtB, MMSCMD, 2030-40


GtG: Good to Good (Development on basis of current policies and trends); GtB: Good to Best (Accelerated policy led adoption)

Note: *Others include Tea Plantation, Industries etc.

Source: PNGRB Vision 2040

As per PNGRBs, Good to Go (GtG) and Good to Best (GtB) scenarios, CGD segment will emerge as the primary growth driver of demand. CGD consumption is projected to increase from about 45 MMSCMD in FY26 to ~87 MMSCMD under GtG (CAGR ~17.75%) and ~126 MMSCMD under GtB (CAGR ~29.18%) by 2030, supported by large-scale CNG and PNG network expansion, fuel-switching mandates in urban and industrial clusters, and growing adoption in the transport and residential sectors. By 2040, PNGRB expects CGD demand to rise further to ~216 MMSCMD (GtG) (CAGR ~11.81%) and ~271 MMSCMD (GtB) (CAGR ~13.64%), accounting for a rising share of total national gas consumption. The incremental demand is expected to be met through a combination of domestic production and LNG imports, with LNG accounting for a progressively larger share of supply to bridge the structural gap between demand growth and limited domestic output. While domestic gas availability is projected to grow gradually over the period, its contribution remains relatively stable, resulting in increasing dependence on LNG imports to support consumption growth.

The sector has evolved from isolated pockets to a contiguous, PAN India framework, which has witnessed shift in investment trends from being dominated by GAIL and GAIL Joint Ventures to attracting substantial participation from PSUs particularly Oil Marketing Companies and various private players.

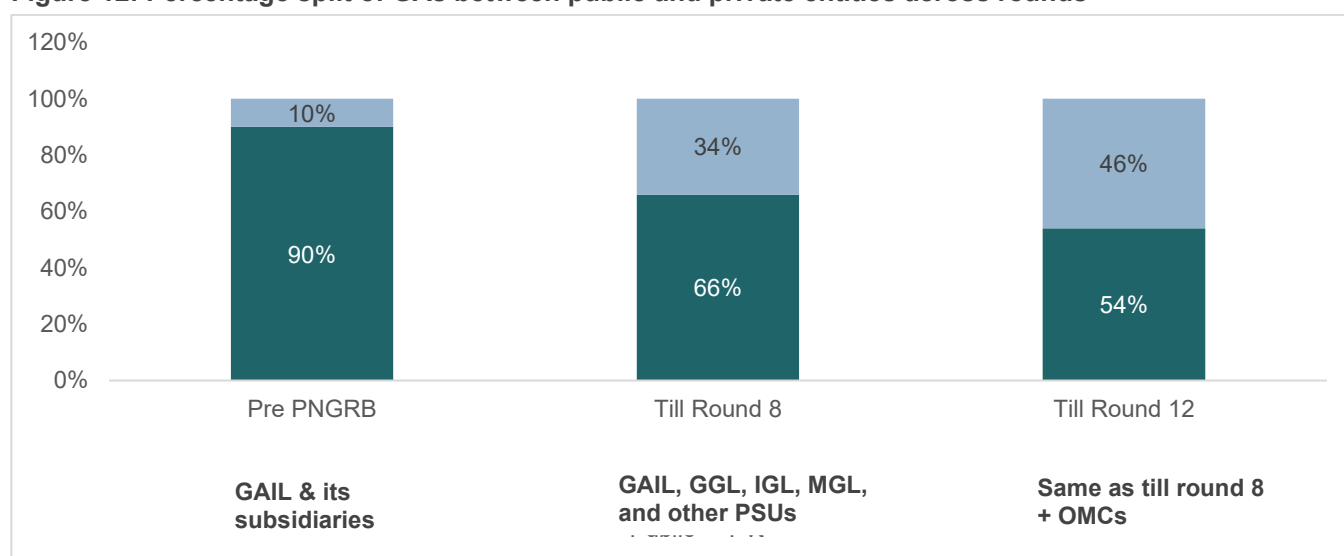
The gas sourcing ecosystem has expanded much beyond the traditional domestic sources, with India now having access to international LNG markets across the globe from Qatar to Australia and USA covering variety of price indices and different tenor thus bringing supply security and stability. India's growing regasification and cross-country pipeline infrastructure connects Dahej, Gujarat in the west of India, to Arunachal Pradesh in the far east to Dhamra, Orissa on the East Coast to Ennore, Tamil-Nadu down south, under a national grid with simplified tariff structure which has created a PAN India homogenous gas market which further enables CGD players with reliable supply through various origins.

The sector's growth has been propelled by multiple enablers: rapid development of road infrastructure, progressive industrial policies, and strong OEM support through the launch of new CNG vehicle models. Collectively, these factors are driving exponential growth in the CGD sector. Below are the key changes the City Gas Distribution sector has witnessed, creating significant business avenues for companies which have bidded after the 9th round in 2019.

1. One Nation, One Grid, One Tariff - Shifting gears with rising private & OMC participation.

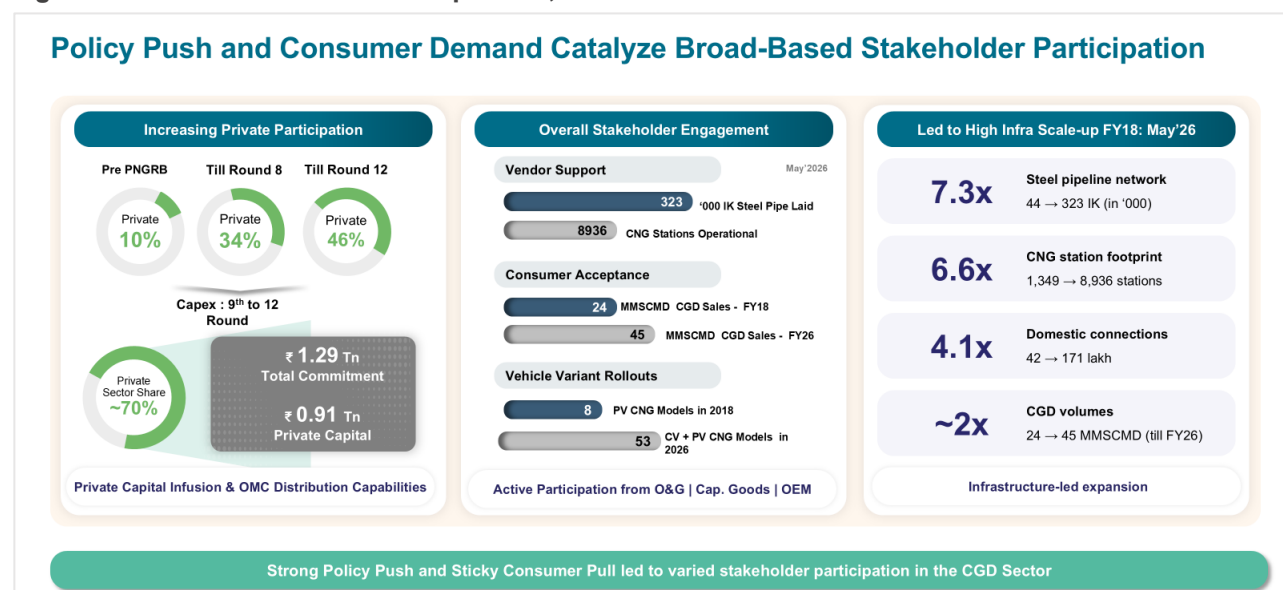
Over the past decade, India's CGD footprint has expanded from ~40 pre-PNGRB areas to 307 authorized GAs today, creating a contiguous gas ecosystem where trunk pipelines, spur lines, and stations interlock to serve households, vehicles, and industries at scale. This transition is marked by a clear pivot from a public/JV stronghold to balanced private and OMC participation across PNGRB bidding rounds (Rounds 8 through 12). Policy Push and Consumer Demand have Catalysed Broad-Based Stakeholder Participation. Private participation in the CGD sector increased from 10% pre-PNGRB to 34% till Round 8 and 46% till Round 12. Across the 9th to 12th rounds, total capex commitment stood at ₹1.29 trillion, including ₹0.91 trillion of private capital, translating into a ~70% private-sector share and combining private-capital infusion with OMC distribution capabilities. Overall stakeholder engagement also strengthened through vendor support, with 323,000 km of steel pipeline laid and 8,936 operational CNG stations as of May 2026; consumer acceptance, reflected in CGD sales increasing from 24 MMSCMD in 2018 to ~55 MMSCMD in May 2026; and vehicle-variant rollouts, with availability rising from 8 PV CNG models in 2018 to 53 CV and PV CNG models in 2026. This represents active participation from oil and gas companies, capital-goods players and OEMs. The resulting infrastructure-led expansion between FY18 and May 2026 includes a 7.3x increase in the steel pipeline network, from 44,000 in-km to 323,000 in-km; a 6.6x expansion in the CNG-station footprint, from 1,349 to 8,936 stations; a 4.1x rise in domestic connections, from 42 lakh to 171 lakh; and a 2.4x increase in CGD volumes, from 24 MMSCMD to ~55 MMSCMD. Strong policy push and sticky consumer pull have led to varied stakeholder participation in the CGD sector.

Figure 12: Percentage split of GAs between public and private entities across rounds



Source: PNGRB

Figure 13: CGD Infrastructure Comparison, FY26 vs FY18



Source: PNGRB, PPAC, Crisil

The Massive committed cumulative capex in the recent rounds (8–12) exceeds ₹1.29 trillion, with roughly 70% from the private sector and ~30% from GAIL/JVs/OMCs, signalling deep, durable capital behind nationwide rollout. Committed and Serious Players to result in PAN India CGD Ecosystem, Strong Balance sheet and Distribution Network for OMC – faster roll out, Original Equipment Manufacturer (OEM) launching multiple CNG variants. Round Wise CGD Player's momentum change from pre-PNGRB to till Round 12 based on allocated GAs.

In parallel, the PNGRB has accelerated the expansion of CGD authorizations, with the number of authorized Geographical Areas increasing to 307 and cumulative committed capital expenditure in recent bidding rounds estimated at approximately ₹1.29 trillion, reflecting a regulatory focus on rapid network expansion and last-mile connectivity.

Strategically, newer GAs come with built-in infrastructure obligations, emphasizing last-mile connectivity (especially domestic PNG), and typically covering larger territories crossing multiple districts creating scale economies and broadening segment reach. This large ecosystem is now attracting OEMs, consumers, and suppliers, and the investment mix across public, private, and OMCs is structurally aligned for faster execution and nationwide adoption. Additionally, the allocation of new GAs on a district or cluster basis has shifted infrastructure development from an "inside-city" approach to an "outside-in" model further supported by the TS4 regulatory amendment by PNGRB facilitating development of City Gate Stations outside the city boundaries. This structural change is enabling the creation of interconnected highway corridors, improving access to industrial consumers and accelerating network rollout.

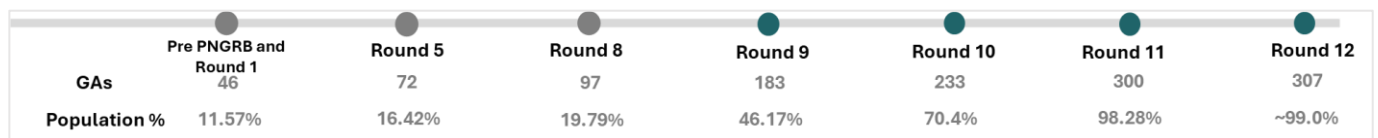
The CGD sector is expected to witness consolidation as a result of factors such as high capital expenditure requirements and complexities associated with establishing and maintaining CGD infrastructure.

2. Improvement in GA profile leading to reduction in capex intensity in CGD

Consulting

There has been a noticeable improvement in the GA profile for CGDs, leading to reduced capex intensity per unit of gas sold. Newer GA allocations, especially in the 9th and 10th rounds, cover larger and more economically dense areas, including urban centres and industrial corridors. This allows fixed infrastructure costs - pipelines, compressors, and metering stations - to be spread over a higher volume of consumers, lowering capex per SCMD. However, it is worth noting that small CGD operators have limited capacity to build and operate CGD networks at scale. Higher population and industrial density in these GAs also reduce the pipeline length-to-consumer ratio, enabling faster recovery of investment and improved margins. Additionally, CGD companies are leveraging optimized pipeline designs, such as hub-and-spoke networks and looped systems, along with digital planning and smart metering, to enhance utilization and efficiency. These operational improvements, combined with larger, denser GAs, have reduced historical capex intensity in newer allocation GAs. This trend makes new CGD expansions more economically attractive and accelerates the pace of gas penetration.

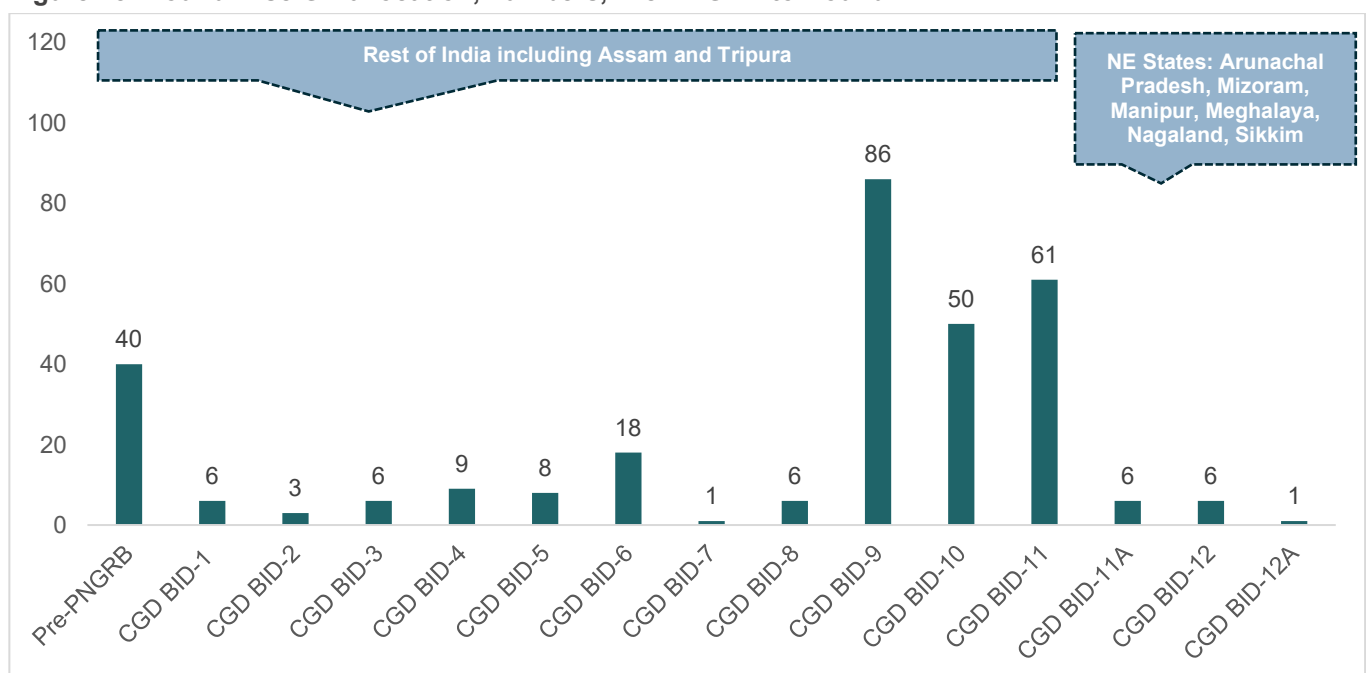
Figure 14: Timeline of GAs awarded historically and population coverage



For every round aggregate number of GAs are mentioned
Source: PNGRB, Crisil Analysis

The improvement in GA profile is evident across PNGRB bidding rounds. Before the 9th round, GAs were smaller and fragmented, limiting economies of scale. The 6th round (2015) awarded 18 GAs, followed by 1 GA in the 7th round (2016). The 8th round (2017) awarded 6 GAs covering ~18737 sq.km area (avg. ~3123 sq. km per GA), including Ambala/Kurukshetra and South Goa, improving contiguity and density. The 9th round (2018) marked a major shift, awarding 86 GAs covering ~787,401 sq. km (avg ~9,160 sq. km per GA). The 10th round (2018) added 50 GAs spanning ~593,000 sq. km (avg ~11,860 sq. km per GA). The 11th round (2021–22) offered 67 GAs, followed by 7 GAs the 12th round (2023–24) focused on strategic regions like the North-East and Union Territories, completing near-total CGD authorization across India.

Figure 15: Round wise GA allocation, numbers, Pre-PNGRB to Round 12A



Source: PNGRB, Crisil Analysis

Historically, demand for city gas was largely confined to selected industrial consumers and public transport fleets, with low household PNG penetration and limited awareness of natural gas benefits. In the current scenario, demand is growing across multiple segments, including private CNG vehicles and logistics fleets, domestic PNG households, commercial establishments, MSMEs, and large industries. This shift has been supported by improved consumer awareness and acceptance, along with supportive government policies promoting CNG vehicle adoption. As a result, the CGD sector now benefits from a diversified demand base, which enhances long-term revenue stability, improves volume visibility, and supports sustained growth for CGD companies.

Further this has led to a situation of collaboration amongst CGD entities in terms of infrastructure sharing on commercial terms. Whereby entities are facilitating each other by providing compression and facilitation services. The new players are driving innovation as well, where a large part of new demand is served from virtual pipeline on an interim basis. The scale has created ground for next level of efficiency in terms of smart/ pre-paid customer meters, digital tools for network safety, optimization and improvement of customer experience at CNG outlet.

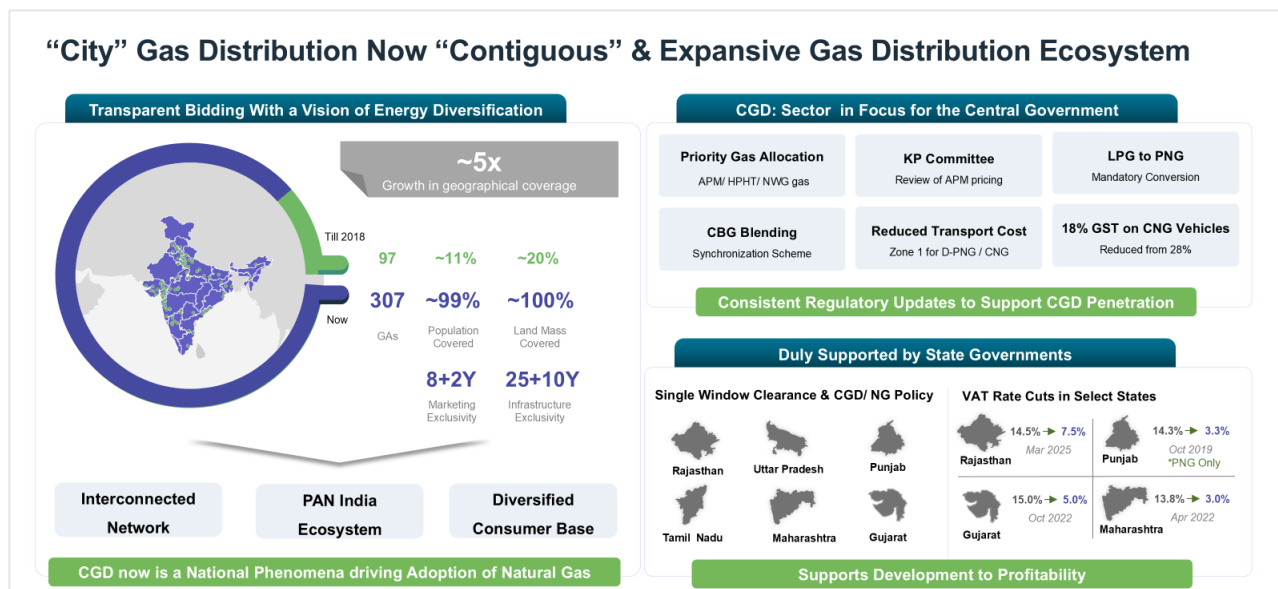
Table 2: CGD Bidding Rounds

S. No.	Bidding Round	Bidding Year	Population %	No. of GAs	Description
-	Pre-PNGRB	-	11.24	40	-
1	CGD BID-1	2008	0.33	6	The first bidding round (CGD BID-1) in 2008 saw the allocation of 6 GAs, followed by a slight increase to 7 GAs in 2009 (CGD BID-2) and 8 GAs in 2010 (CGD BID-3). After a three-year gap, CGD BID-4 in 2013 marked a more substantial allocation of 14 GAs.
2	CGD BID-2	2009	0.23	3	
3	CGD BID-3	2010	0.31	6	
4	CGD BID-4	2013	2.27	9	
5	CGD BID-5	2015	2.04	8	In 2015, two bidding rounds (CGD BID-5 and CGD BID-6) collectively allocated 54 GAs, which was more than the total allocations from 2008 to 2013.
6	CGD BID-6	2015	2.07	18	
7	CGD BID-7	2016	0.36	1	Two more bidding rounds (CGD BID-7 and CGD BID-8) took place, awarding 1 and 6 GAs in 2016, respectively. The most notable expansion came in 2018, with CGD BID-9 allocating a record 86 GAs. This was followed by CGD BID-10, which allocated 50 GAs, making 2018 the most significant year for CGD expansion. GAs awarded before 9th round of bidding their marketing exclusivity is about to end.
8	CGD BID-8	2016	0.94	6	
9	CGD BID-9	2018	26.38	86	
10	CGD BID-10	2018	24.23	50	
11	CGD BID-11	2021	25.88	61	Another major bidding round occurred in 2021 (CGD BID-11), with 61 GAs awarded. Additionally, CGD BID-11A in 2021 allocated 6 GAs. By 2023, with CGD BID-12 awarding 6 GAs and CGD BID-12A allocating 1 GA.
12	CGD BID-11A	2021	2.00	6	
13	CGD BID-12	2023	-	6	
14	CGD BID-12A	2023	-	1	
Total			~99	307	

Source: PNGRB

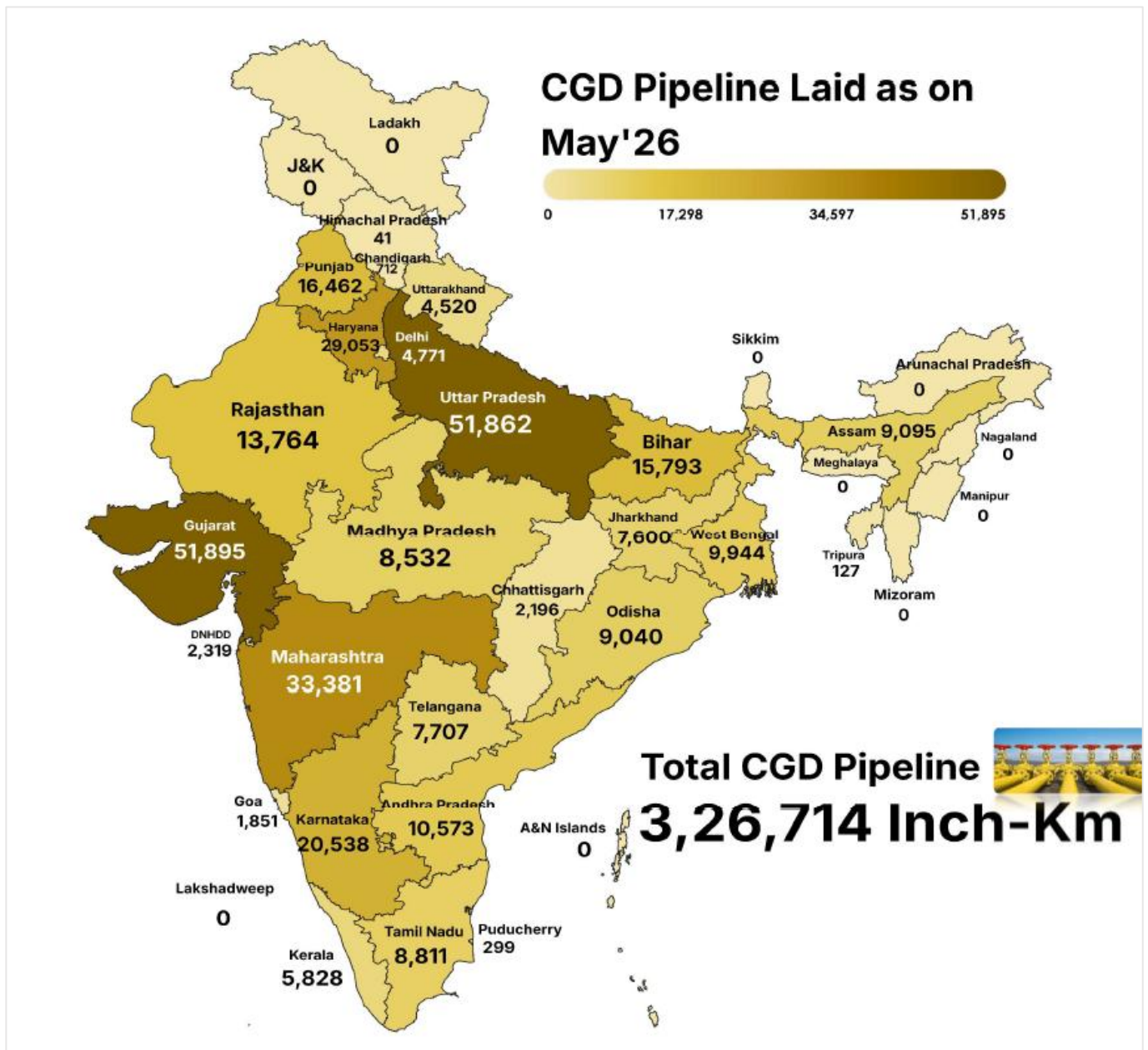
The progressive expansion of coverage through successive bidding rounds, particularly from the ninth bidding round 2018 onwards, has resulted in the award of larger, multi-district Geographical Areas with larger addressable market for CGD operators and improved economic viability, creating benefits of scale and supporting long-term growth for CGD operators.

Figure 16: City Gas Distribution Evolution



Source: PNGRB, PPAC, Crisil

Figure 17: State-Wise CGD Pipeline Laid, Inch-Km, May 2026



Source: PNGRB

3. Regulatory architecture exclusivity, pricing freedom, and faster approvals.

PNGRB authorizations grant an eight-year marketing exclusivity and a twenty-five-year infrastructure exclusivity to the authorised entities, which can be extended by an additional ten years subject to the Board's regulations. Even after the exclusivity period ends, the authorized entity continues to own and operate the infrastructure. Most of this infrastructure is located underground in urban areas, making it nearly impossible to replicate after 35 years period, thereby providing a form of perpetuity to the operator.

Recognizing the complex and volatile nature of energy prices, product pricing is left entirely to the discretion of the CGD entity without regulatory interference, enabling greater business agility. It is also noteworthy that, unlike sectors such as telecommunications, the Government does not levy any royalty, fee, or revenue-sharing for such authorizations. The only expectation is the creation of infrastructure that ensures high-quality customer service.

Consulting

Table 3: Key Regulatory Development Synopsis (From March 2026)

Sr. No.	Date / Period	Regulator	Subject of Update	Key Regulatory Development and Relevance
1	9-Mar-26	Ministry of Petroleum and Natural Gas (MoPNG)	Natural Gas (Supply Regulation) Order, 2026	MoPNG notified the Natural Gas (Supply Regulation) Order, 2026 under the Essential Commodities Act, 1955 to regulate the production, supply, distribution and allocation of natural gas, LNG and re-gasified LNG during supply disruptions arising from force majeure conditions affecting LNG imports. The Order established a priority-based gas allocation framework, providing 100% of the average natural gas consumption during the preceding six months (subject to operational availability) to domestic PNG, CNG (Transport), LPG production (including shrinkage requirements) and essential pipeline operations; at least 70% of the preceding six-month average consumption to fertilizer plants; and up to 80% allocation to notified grid-connected industrial consumers and industrial/commercial consumers supplied through CGD networks. The Order also designated GAIL and PPAC for allocation, monitoring and supply management functions. The notification is significant for the CGD sector as it provides regulatory certainty for priority gas allocation during supply disruptions while ensuring continuity of domestic PNG and transport CNG supplies. Further, to ensure gas availability for priority sectors, the order provides for full or partial curtailment of gas supplies to petrochemical facilities (including OPaL, GAIL Pata, Reliance O2C, and other HPHT consumers) and, where necessary, to power plants.
2	10-Mar-26	Bureau of Indian Standards (BIS)	IS 19584:2026 – Natural Gas Fuelling Stations: LNG Stations for Fuelling Vehicles	BIS notified IS 19584:2026, adopting a modified version of ISO 16924:2016 for LNG fuelling stations. The standard prescribes technical requirements for the design, construction, commissioning, operation, maintenance and inspection of LNG fuelling infrastructure, including LNG storage tanks, cryogenic pumps, vaporizers, dispensers, transfer piping, electrical systems, instrumentation, emergency shutdown systems, fire protection, risk management, testing and inspection procedures. The standard establishes uniform engineering and safety requirements for LNG fuelling stations and supports the development of LNG mobility infrastructure, including heavy-duty transport applications.
3	14-Mar-26	Ministry of Petroleum and Natural Gas (MoPNG)	Liquefied Petroleum Gas (Regulation of Supply and Distribution) Amendment Order, 2026	MoPNG amended the Liquefied Petroleum Gas (Regulation of Supply and Distribution) Order, 2000 to facilitate the transition of consumers from LPG to piped natural gas (PNG). The amendment restricts consumers already having PNG connectivity from retaining domestic LPG connections or receiving LPG refills and prohibits Government oil marketing companies from issuing new domestic LPG connections where functional PNG connectivity is available, subject to the provisions of the Order. The amendment supports increased PNG penetration, improves LPG availability in non-PNG areas and promotes efficient utilisation of CGD infrastructure.

4	18-Mar-26	Ministry of Petroleum and Natural Gas (MoPNG)	Extension of Synchronization Scheme for Co-mingling of Domestic Gas for Supply to CNG (Transport) and PNG (Domestic) Segments	MoPNG extended the Synchronization Scheme permitting co-mingling of domestic natural gas for supply to domestic PNG and transport CNG segments of CGD networks. The revised framework also incorporated compressed biogas (CBG) injection into the gas pipeline network under the revised Direct Pipeline Injection Guidelines and extended the validity of the scheme until 31 December 2047. The notification strengthens long-term domestic gas utilisation, facilitates CBG integration into the natural gas grid, enhances supply flexibility for CGD entities and supports India's energy transition objectives.
5	24-Mar-26	Ministry of Petroleum and Natural Gas (MoPNG)	Natural Gas and Petroleum Products Distribution (Through Laying, Building, Operation and Expansion of Pipelines and Other Facilities) Order, 2026	MoPNG notified a framework for laying, building, operating and expanding pipelines and related facilities for natural gas, LNG, LPG and petroleum products. The order introduced time-bound approvals, deemed clearance, standardised procedures and charges, and provisions for right of way/right of use. It is significant for CGD because it seeks to accelerate PNG networks, last-mile connectivity and gas infrastructure expansion.
6	30-Mar-26	Directorate General of Hydrocarbons (DGH) / MoPNG	Open Acreage Licensing Policy (OALP) Bid Round XI	DGH launched OALP Bid Round XI, offering 21 exploration blocks covering approximately 80,234 sq. km under the Hydrocarbon Exploration and Licensing Policy (HELP). While the notification primarily relates to upstream hydrocarbon exploration, successful exploration and production from awarded blocks could augment future domestic natural gas availability and strengthen long-term supply security for downstream consumers, including LNG importers, pipeline operators and CGD entities.
7	30 March 2026 (effective from 1 April 2026)	Petroleum and Natural Gas Regulatory Board (PNGRB)	Revision of Unified Natural Gas Pipeline Tariff for National Gas Grid System	PNGRB, through Tariff Order No. TO/NGPL/25-26/16, revised the Unified Natural Gas Pipeline Tariff (UGT) applicable to the National Gas Grid System with effect from 1 April 2026. The Order revised the unified tariff, zonal apportionment methodology, tariff paths, entity-wise tariff allocation and invoicing mechanism for interconnected natural gas pipelines. The applicable unified tariff for Zone 1 was revised to ₹54/MMBtu, while the tariff for Zone 2 was revised to ₹110.2/MMBtu for FY2027.
8	31 March 2026 (effective 1 April–30 September 2026)	Petroleum Planning and Analysis Cell (PPAC)	Domestic Natural Gas Price and Ceiling Price Notification	PPAC notified the domestic natural gas price for April 2026 at US\$ 10.76/MMBTU on GCV basis, subject to an APM ceiling of US\$ 7.00/MMBTU for ONGC/OIL nomination fields. PPAC also notified the gas price ceiling for deepwater, ultra-deepwater and high-pressure high-temperature areas at US\$ 8.90/MMBTU for 1 April 2026 to 30 September 2026.
9	April–July 2026 (Monthly Notifications)	Petroleum Planning and Analysis Cell (PPAC)	Monthly Domestic Natural Gas Price Notifications	PPAC issued monthly notifications revising the domestic natural gas price in accordance with the prevailing pricing guidelines. For May 2026, the domestic natural gas price was notified at US\$11.59/MMBtu (Gross GCV basis), subject to the applicable ceiling price for ONGC and OIL nomination fields. Similar monthly notifications were issued for March, April, June and July 2026. These periodic revisions are relevant for CGD entities as changes in domestic gas prices directly affect gas procurement costs, transportation

				economics and downstream retail pricing for PNG and CNG consumers.
10	4-May-26	Ministry of Petroleum and Natural Gas (MoPNG)	First Amendment to the Natural Gas and Petroleum Products Distribution Order, 2026	MoPNG amended the March 2026 pipeline distribution order. The amendment introduced the concept of a government-specified online portal for applications and approvals for right of way/right of use, expanded the list of public/local authorities to include gram sabhas, panchayats, union territory administrations, scheduled areas, tribal areas and nagar panchayats, and added provisions such as dig-and-restore requirements for CGD works in certain public areas.
11	April–May 2026	Petroleum and Natural Gas Regulatory Board (PNGRB)	Introduction of Longer-Duration Gas Exchange Contracts on IGX	PNGRB continued consultation on introduction of one-year and two-year term-ahead gas contracts on the Indian Gas Exchange platform, along with fixed-price contracts for three months, six months, one year and two years, and Brent-linked variants. PNGRB issued a public notice for an open house with stakeholders, and its public notice page recorded minutes of the open house on 25 May 2026. This update is relevant for natural gas market liquidity, price discovery and risk management for CGD and industrial consumers.
12	25-May-26	Ministry of Petroleum and Natural Gas (MoPNG)	Amendment to LPG Control Order for Consumers Opting for PNG	MoPNG amended the LPG regulatory framework to provide additional flexibility to consumers shifting from LPG to PNG. Under the revised provisions, consumers who surrender their LPG connection after obtaining PNG connectivity may restore the LPG connection within the prescribed period or obtain a transfer voucher for restoration at another location where PNG infrastructure is unavailable.
13	27 May 2026 to 23 June 2026	Petroleum and Natural Gas Regulatory Board (PNGRB)	Tariff Review of Assam Natural Gas Pipeline Network of Assam Gas Company Limited (AGCL)	PNGRB initiated a review of the transportation tariff for the Assam Natural Gas Pipeline Network operated by Assam Gas Company Limited (AGCL) by issuing a public consultation paper and inviting stakeholder comments. The review covers the determination of transportation tariff, tariff methodology and related commercial parameters for the regional natural gas pipeline network in accordance with the PNGRB tariff regulations. The outcome of the tariff review is expected to influence pipeline transportation charges and downstream delivered gas costs for CGD entities, industrial consumers and other gas offtakers connected to the AGCL pipeline network in Assam.
14	29-May-26	Petroleum and Natural Gas Regulatory Board (PNGRB)	Draft PNGRB (Third Party Conformity Assessment) (Amendment) Regulations, 2026	PNGRB invited views/comments on the draft Third Party Conformity Assessment amendment regulations. The update is relevant for compliance, inspection and certification under PNGRB technical and safety regulations for natural gas, LNG and CGD infrastructure.

15	3-Jun-26	Petroleum and Natural Gas Regulatory Board (PNGRB)	Connectivity of CGD Networks with Natural Gas Pipelines	PNGRB issued a public consultation paper regarding the timely connectivity of authorised City Gas Distribution (CGD) networks with the National Gas Grid and other natural gas pipeline systems. The consultation seeks stakeholder views on measures to facilitate timely pipeline connectivity, reduce delays in commissioning CGD networks and improve coordination among authorised entities and pipeline operators. The proposal is expected to improve gas availability, accelerate commissioning of CGD geographical areas and enhance infrastructure utilisation across the natural gas value chain.
16	8-Jun-26	Petroleum and Natural Gas Regulatory Board (PNGRB)	Draft Guidelines for Facilitating Faster and Wider Piped Natural Gas Connectivity	PNGRB released draft guidelines to facilitate faster and wider Piped Natural Gas (PNG) connectivity across authorised CGD networks. The draft guidelines propose the use of Multilayer Composite (MLC) piping systems, rationalisation of technical requirements for internal piping installations and utilisation of existing reticulated LPG manifold pipeline systems, subject to prescribed inspection, testing, certification and safety requirements. The proposed framework is intended to accelerate domestic PNG penetration, reduce installation timelines and facilitate cost-effective expansion of CGD infrastructure while maintaining prescribed safety standards.
17	10-Jun-26	Ministry of Petroleum and Natural Gas (MoPNG)	Second Amendment to the Natural Gas and Petroleum Products Distribution Order, 2026	MoPNG notified the second amendment to the Natural Gas and Petroleum Products Distribution Order, 2026. It modified consumer notice requirements before discontinuation of LPG supply in PNG-connected areas and recognised notices through RWAs, apartment owner associations, cooperative housing societies, facility managers, hand delivery, posters, flyers, pamphlets, SMS, telephone calls and recorded voice messages.
18	12-Jun-26	Petroleum and Natural Gas Regulatory Board (PNGRB)	Draft PNGRB (Technical Standards and Specifications including Safety Standards for City or Local Natural Gas Distribution Networks) Amendment Regulations, 2026	PNGRB issued draft amendments to the PNGRB technical standards and safety regulations for city/local natural gas distribution networks. The amendment was linked to safe and faster expansion of CGD networks and proposed changes aligned with field practices, safety requirements, MLC piping systems and usage of existing reticulated LPG pipeline systems for PNG supply. Comments were invited up to 19 June 2026.
19	16-Jun-26	Directorate of General Hydrocarbons (DGH) / MoPNG	Corrigendum to Open Acreage Licensing Policy (OALP) Bid Round XI	DGH issued a corrigendum to the Notice Inviting Offers (NIO) under OALP Bid Round XI, revising certain bidding conditions, timelines, technical information and procedural requirements applicable to the offered exploration blocks. The corrigendum was intended to provide additional clarity to prospective bidders and facilitate a transparent bidding process. While administrative in nature, continued progress under OALP is expected to support long-term augmentation of domestic oil and natural gas production, thereby strengthening domestic gas availability and reducing reliance on imported LNG over the medium to long term.

20	23-Jun-26	Petroleum and Natural Gas Regulatory Board (PNGRB)	Draft PNGRB (Data Bank and Information System) Regulations, 2026	PNGRB continued the consultation process for Draft PNGRB (Data Bank and Information System) Regulations, 2025. Stakeholder comments had been web-hosted on 10 March 2026, an open house was scheduled through public notice dated 24 April 2026, postponed on 4 May 2026, and PNGRB's public notice page listed an open house discussion on 1 July 2026. The framework is relevant for natural gas, LNG and CGD entities because it supports regulatory data collection, infrastructure monitoring and market oversight.
21	1-Jul-26	Government of Odisha	Odisha City Gas Distribution (CGD) Policy, 2026	The Government of Odisha notified the Odisha City Gas Distribution (CGD) Policy, 2026 to promote the development of city gas distribution infrastructure across the State. The policy provides an enabling framework for authorised CGD entities through facilitation of statutory approvals, coordination with State departments, Right of Way (RoW) support, streamlined permissions for pipeline laying and CNG station development, and institutional mechanisms for expeditious implementation of CGD projects. The policy is expected to accelerate expansion of PNG and CNG infrastructure, improve access to cleaner fuels and encourage private sector investment in Odisha's natural gas ecosystem.
22	1-Jul-26	Ministry of Petroleum and Natural Gas (MoPNG)	Withdrawal of Emergency Natural Gas Supply Restrictions	Following stabilisation of international LNG supply chains and easing of force majeure conditions, the Government withdrew the emergency supply management measures introduced under the Natural Gas (Supply Regulation) Order, 2026. The withdrawal restored the normal market-based natural gas allocation framework applicable prior to the emergency measures while ensuring adequate gas availability across consumer categories. The decision marked the transition from temporary supply prioritisation to normal commercial allocation and reduced regulatory intervention in the domestic natural gas market as LNG imports and global supply conditions normalised.

Source: PNGRB, DGH, MoPNG, Crisil Analysis

Table 4: Summary of Key Regulations and Reforms in the CGD Sector

Year	Regulation	Key Reform
2025	Inclusion of MDPE in Steel IK MWP Calculation	PNGRB amended its CGD Authorization Regulations in September 2025 to modernize bidding and compliance rules. It now counts both steel and MDPE pipelines in infrastructure metrics for MWP, ensuring fair evaluation of network development.
2025	Single Zone for CNG(T) & PNG(D) under Unified Tariff Zone	Simplified India's natural gas tariff framework by reducing unified tariff zones from three to two and extended the lower Zone 1 tariff to all CNG and domestic PNG users nationwide. To support infrastructure growth, a Pipeline Development Reserve now directs half of excess earnings (from pipelines operating above 75% capacity) into expansion, with the remainder benefiting consumers via tariff reductions. Additionally, pipeline operators must now source at least 75% of system-use gas through long-term (minimum three-year) contracts to ensure supply stability and more predictable pricing

2025	Tariff Notification for Single Zone for CNG(T) & PNG(D) under Unified Tariff Zone	Simplifies natural gas transportation tariffs by reducing zones from three to two and setting uniform rates of Rs. 54.00/MMBTU (≤ 300 km) and Rs. 102.86/MMBTU (> 300 km), effective January 1, 2026. CNG and domestic PNG consumers nationwide will now pay the lower Zone-1 rate yielding nearly a 50 % reduction for those beyond 300 km. This reform advances "One Nation, One Grid, One Tariff," tackles regional cost disparities, and promotes broader access to cleaner fuels
2025	CBG pipelines under DPI to be considered for MWP.	Mandates CGD entities to blend Compressed Bio Gas (CBG) with CNG and PNG starting FY 2025–26, with targets rising annually to 5% by FY 2028–29. It outlines compliance monitoring through a Central Repository Body and penalties for non-adherence.
2025	Prioritized allocation of NWG gas for DPNG & CNG	Revised domestic gas allocation policy to ensure affordable supply for CNG (transport) and PNG (domestic) users. It introduces advance quarterly allocations and includes New Well Gas from ONGC and OIL for CGD entities on a pro-rata basis instead of auctions. Gas pricing is linked to the Indian Crude Basket to maintain stability and lower costs for consumers.
2024	Flexibility to develop CGS outside city boundaries	Under PNGRB's T4S regulations, a City Gate Station can be located outside the authorized GA with prior PNGRB approval, and its connecting pipeline will be treated as part of the CGD network.
2022	Recalibration of APM Mechanism under Kirit Parikh Committee	The Kirit Parikh Committee, in its report submitted on 30 November 2022, recommended a market-linked pricing mechanism for domestic natural gas by introducing a fixed band for APM gas, pegged at 10% of India's crude basket. The initial floor and ceiling prices shall be \$4/MMBTU and \$6.5/MMBTU respectively. The ceiling remained unchanged for the first two years (FY 2023-24 and 2024-25) and thereafter an escalation of \$0.25/MMBTU has been applicable for each year. The current ceiling price for APM is \$7/ MMBtu. It also proposed a 20% premium for new well interventions, inclusion of natural gas under GST for uniform taxation, and reforms aimed at lowering CNG/PNG prices, reducing the subsidy burden, and incentivizing upstream investment to support India's transition to a gas-based economy.
2021	Aim to increase share of natural gas in energy mix to 15% by 2030	The press release dated 9 December 2021 from MoPNG; underscores India's commitment to a gas-based economy, aiming to raise natural gas's share in the energy mix to 15% by 2030. It highlights policy reforms such as prioritizing domestic gas for CNG and PNG segments and granting marketing and pricing freedom for gas from challenging fields, along with initiatives like SATAT to promote Bio-CNG.
2014	Priority allocation to CNG(T) & PNG(D)	The Ministry of Petroleum and Natural Gas issued revised guidelines on 20 August 2014 for allocation and supply of domestic natural gas to CGD entities for CNG (transport) and PNG (domestic) segments. The guidelines prioritize these segments by allowing diversion of domestic gas from non-priority sectors to meet actual consumption needs, with allocations reviewed every six months based on consumption data.
2008	Authorization Regulation	Board has right to Invite entities for Bidding for allocating Geographical Areas Bidding Based on financial Strength of the entity
2008	Exclusivity	Exclusive rights for CGD entities in their GA for 25 years, with initial 5-year carrier exemption and mandatory third-party access post-exclusivity.
2008	GA Round	The 1st bidding round, comprising 6 GAs, was announced by PNGRB and concluded with allocations to PSUs backed by State or Central Government.
2006	PNGRB Act & Board	The Petroleum and Natural Gas Regulatory Board (PNGRB) was constituted under The Petroleum and Natural Gas Regulatory Board Act, 2006, (NO. 19 OF 2006) notified via Gazette Notification dated 31st March 2006.

Pre 2006	Operations limited to metros Operated by PSUs or PSU JVs (e.g., IGL, MGL, GGL)
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Source: PNGRB, PIB

Furthermore, state and district administrative bodies have also taken significant steps in terms of framing policies for CGD adoption, below illustrations explains the same:

Uttar Pradesh:

Adopted in 2020 and strengthened through ongoing reforms, Uttar Pradesh's Nivesh Mitra Single Window System and CGD framework initiatives provide a strong foundation for City Gas Distribution expansion. Nivesh Mitra offers a unified digital platform for clearances, payments, and tracking, ensuring transparency and time-bound approvals under the Public Service Delivery Guarantee Act. For CGD, this means faster permissions for pipeline laying, CNG station setup, and infrastructure development, supported by GIS-enabled land banks, consolidated forms, and deemed approval provisions. Complementing this, the state's CGD framework promotes safe fuel supply and environmental sustainability through directives to industrial authorities under the 'Dig and Restore' policy, mandating trenchless technology for minimal disruption and accountability via bank guarantees and NOCs. Initiatives like the Green Energy Corridor, earmarked land parcels along highways, UPSIDA's cooperation for CNG facilities, and plans for 1,525 CNG buses in major cities create strong demand drivers. With over 12 authorized city gas distribution operating in the state coupled with cost advantages of PNG over conventional fuels, these measures collectively enhance operational ease, reduce delays, and position Uttar Pradesh as a favourable destination for CGD investment and clean energy infrastructure.

Rajasthan:

Adopted in 2025, the Rajasthan Business Reforms Action Plan and the City Gas Distribution (CGD) Policy 2025 together create a robust framework for accelerating CGD growth in the state. Through the One Stop Shop (OSS) and RAJ NIVESH Single Window System, approvals for pipeline laying, CNG station setup, and infrastructure development are consolidated under a digital platform, enabling online applications, tracking, e-payments, and time-bound delivery. GIS-enabled land databases and automated building plan approvals further support strategic planning and faster execution. Complementing these reforms, the CGD Policy promotes cleaner energy adoption in line with COP-26 commitments, ensuring streamlined processes, dedicated CGD portals, and government-backed land allotment for CGS and CNG stations on nominal leases. It mandates PNG pipeline inclusion in building plans, encourages CNG use in transport, and drives industrial transition to natural gas, creating strong demand drivers. Safety compliance is reinforced through PNGRB and PESO standards, while incentives for CBG plants and monitoring committees enhance operational ease and investor confidence. Together, these initiatives position Rajasthan as a leading destination for CGD growth and sustainable energy infrastructure.

Punjab:

Adopted through the 2018 CGD Policy Guidelines and strengthened by Invest Punjab reforms, Punjab offers a streamlined framework for City Gas Distribution expansion. The Invest Punjab Single Window System, managed by the Bureau of Investment Promotion, consolidates multiple departmental clearances under one digital platform, enabling end-to-end online processing, real-time tracking, and time-bound approvals with deemed clearance provisions. For CGD, this reduces complexity in permissions for pipeline laying, CNG station setup, and related infrastructure, while integrated land data and feasibility reports aid strategic planning. Personalized investor support and automated escalation further enhance ease of doing business. Complementing this, the Punjab CGD Policy Guidelines standardize approvals and charges for Right of Use (RoU) across state departments and local bodies. It mandates GIS-based route maps, trenchless technologies like HDD, and GPR surveys for safety, minimizing disruption during pipeline installation. Financial clarity is ensured through predefined restoration charges, annual rent of ₹50 per running meter with escalation, and bank guarantees refundable after one year. The framework also offers flexibility in restoration options, enforces time-bound inspections, and emphasizes public safety through indemnity and rapid utility restoration. Together, these measures simplify processes, reduce delays, and foster a conducive environment for CGD operators, positioning Punjab as a progressive state for clean energy infrastructure.

Consulting

Tamil Nadu:

Issued in March 2023, the Tamil Nadu City Gas Distribution (CGD) Policy and the Statewide Single Window Portal (TN-SWP) together provide a strong framework for CGD expansion. TN-SWP streamlines multi-departmental approvals for pipeline laying and CNG station construction through an end-to-end digital workflow, standardized formats, GIS-based mapping, and real-time tracking. It ensures time-bound permissions, integrated document management for land and NOCs, and multi-stage construction approvals, improving predictability and transparency for CGD projects. The CGD Policy 2023 promotes natural gas adoption across all 38 districts, targeting extensive PNG and CNG coverage. It establishes a uniform approval system, empowers TIDCO as the nodal agency, and sets up state and district-level committees for oversight. The policy encourages CNG in transport, LNG bunkering, and conversion of diesel-based systems, while revising building norms to integrate pipelines at the design stage. Financial clarity is ensured through predefined restoration charges with annual escalation, and safety compliance is reinforced through asset integrity standards and operational protocols. Together, these measures create a predictable, investor-friendly environment for CGD operators, enabling rapid infrastructure rollout and supporting Tamil Nadu's clean energy transition.

Telangana:

Enacted through the Telangana State Industrial Project Approval and Self-Certification System (TS-iPASS) Act, 2014, the state provides a unified digital portal for industrial approvals. TS-iPASS enables self-certification-based clearances via a single online application form, time-bound approvals ranging from 1 to 30 days and deemed approvals if timelines lapse. It incorporates penalties for delays and a single-query mechanism to avoid repetitive documentation, ensuring transparency and accountability. The system supports online submission, tracking, and grievance redressal, creating a predictable environment for investors. For City Gas Distribution (CGD), TS-iPASS simplifies multi-departmental permissions for pipeline laying, CNG station setup, and related infrastructure, reducing bureaucratic hurdles and accelerating project timelines. Integration with digital workflows and time-bound service delivery enhances operational efficiency and investor confidence. This regulatory clarity, combined with TS-iPASS facilitation, positions Telangana as a supportive state for CGD expansion and clean energy infrastructure development.

Gujarat:

Enacted through the Gujarat Single Window Clearance Act, 2017, the state offers a unified platform for industrial approvals, including licenses, NOCs, land allotments, and environmental consents. The system operates via District, Single Window, and State-Level Facilitation Committees to ensure coordination and expedite clearances. It mandates time-bound processing through combined application forms and self-certification, supported by the Investor Facilitation Portal (IFP), an online GIS-enabled interface for registration, tracking, and fee payments, enhancing transparency and investor convenience. For City Gas Distribution (CGD), this framework simplifies multi-departmental approvals for pipeline laying, CNG station setup, and related infrastructure, reducing delays and improving predictability. Integration with GIS tools aids strategic planning, while grievance redressal and accountability provisions strengthen compliance. At the policy level, Gujarat operates under central PNGRB guidelines and the Gujarat Gas Act, 2001, which defines the legal framework for transmission and distribution. Operational leadership by Gujarat Gas Limited, ensures extensive coverage across districts. While Gujarat does not have a standalone CGD policy like some states, its robust regulatory structure and facilitation mechanisms create a favourable environment for CGD expansion and clean energy infrastructure development.

Maharashtra:

The Maharashtra Industrial Development Corporation (MIDC) Single Window Clearance System provides a centralized digital platform to simplify and accelerate industrial and infrastructure approvals. It integrates services such as land allotment, building plan approvals, water connections, and environmental clearances under one

interface, enabling online applications, document uploads, fee payments, and real-time status tracking for greater transparency and efficiency. For City Gas Distribution (CGD), this system offers significant advantages by consolidating multi-departmental permissions required for pipeline laying, CNG station setup, and related infrastructure. Its digital workflow minimizes physical interactions and paperwork, while automated notifications and dashboards provide clear visibility into application progress. Integration with land services and GIS-based tools supports strategic site selection for CGD facilities. Time-bound approvals and grievance redressal mechanisms enhance predictability and investor confidence, creating an enabling environment for CGD operators to expand clean energy infrastructure efficiently across Maharashtra.

Owing to these policy initiatives, approval timelines have compressed at the state level. Multiple states including Rajasthan, Uttar Pradesh, Gujarat, Punjab, Tamil Nadu, Maharashtra, have operationalized single-window systems and notified CGD/Natural Gas policies, materially compressing permitting timelines.

Also, these initiatives recalibrate India's focus on cleaner atmosphere and with a revised commitment to align with global Sustainability Goals. India has witnessed a regulatory shift with prioritised focus towards environmental norms and cleaner fuel adoption. CNG and PNG are widely recognized as transitional fuels that support India's low-carbon energy goals, while ESG considerations are playing an important role in corporate fuel choices. These environmental and sustainability drivers have established City Gas Distribution as a critical solution for a cleaner, more sustainable energy transition, fuelling growth across the sector.

4. Supportive taxation visible rate cuts and other advantages

Petroleum products and natural gas are currently taxed through central excise duty and state VAT not under GST. With excise applied at the production stage and VAT at the distribution/retail stage. Historically, states lacked significant natural gas consumption and few CGD authorisations were issued, which meant CGD did not figure prominently in state revenue or policy frameworks hence work reluctant to reduced VAT on natural gas, however, as CGD penetration increased, many states have lowered VAT proactively on Natural Gas recognising its impact for a cleaner economy and growth potential of Natural Gas consumption. Recent VAT reductions across states have significantly improved the affordability of CNG and PNG. For instance, Uttarakhand Govt. in Dec 2025 reduced VAT on CNG and PNG from 20% to 5%. Further, the Government of Bihar notified a reduction in VAT on CNG and PNG from 20% to 12.5% and reduced the VAT rate on PNG for industrial use from 20% to 5%. This contributes to improved living conditions in the geographies TGL serve, enhances the reliability and affordability of energy supply, and supports the long-term sustainability of regulated utility operations. Details on VAT rates reduction in key states is given below.

Table 5: Comparison of VAT Rates across major states

State	Old Rate	Date	New Rate	Date
Rajasthan	14.50%	Sep-19	7.5% (CNG and D-PNG)	Mar-25
Punjab	14.30%	Mar-15	3.3% (D-PNG) & 14.3% (CNG)	Oct-19
Gujarat	15.00%	Jul-17	5% (CNG & D-PNG)	Oct-22
Maharashtra	13.80%	2015 onwards	3% (CNG and D-PNG)	Apr-22

Source: PNGRB

Lower VAT directly reduces the delivered cost of gas to end-users, which strengthens CGD operators' margins, enhances price competitiveness versus alternate fuels, and accelerates consumer adoption in both urban and semi-urban markets. These reforms also make CGD projects more viable in new geographical areas by improving return profiles and reducing payback periods.

From October 1, 2025, in Gujarat, CST has replaced VAT for interstate transport, reducing the tax burden from 15% to 2% and significantly lowering logistics costs for CGD operators, thereby improving supply chain efficiency. This reform is particularly advantageous for CGD companies operating in landlocked northern states such as Uttar Pradesh, Rajasthan, and Madhya Pradesh, where gas needs to be transported over long distances from coastal

terminals. The reduced interstate tax enables these operators to source LNG or natural gas more economically, optimize pipeline utilization, and offer competitive pricing to end consumers, strengthening their market penetration and profitability.

Effective from 22 September 2025, GST rates on petrol engine, CNG cars of <1200 cc and not exceeding 4 meters length and diesel cars of <1500 cc and not exceeding 4 metres length have dropped from 28% to 18%, with the 1% cess completely removed on large cars. This reduction makes CNG cars and commercial fleets more affordable, accelerating adoption among consumers and logistics operators. For CGD companies, this translates into higher CNG demand, improved station throughput, and stronger revenue streams.

Under government initiatives like SATAT and the CBG–CGD Synchronisation Scheme, Compressed Bio Gas (CBG) blended into CGD networks enjoys preferential pricing, excise duty exemptions, and customs concessions on plant equipment, making renewable gas integration economically viable. Mandatory blending targets starting at 1% in FY 2025–26 and rising to 5% by FY 2028–29 ensure steady demand, while uniform base pricing by GAIL provides margin stability. These incentives reduce input costs, secure long-term offtake, and strengthen CGD companies' transition toward sustainable energy solutions.

Tax reforms both implemented and proposed are critical levers for CGD growth. VAT cuts have already improved economics, while GST inclusion would unlock structural benefits through ITC, uniformity, and cost competitiveness. Combined with incentives for CNG vehicles and interstate transport, these measures will accelerate India's transition toward a gas-based economy.

Based on the Key initiative by PNGRB, MOPNG and State governments, the CGD sector offers a uniquely secure and profitable growth opportunity - With infra replication not feasible, priority allocation in domestic gas, complete pricing freedom, and high margins with a strong return profile.

5. Diversified gas supply stability from multiple sources and new reforms.

India's CGD sector sources gas from a diversified portfolio, reducing concentration risk and providing flexibility to serve multi segment demand:

- **Administered Pricing Mechanism (APM):** APM gas primarily comprises production from legacy nominated fields of ONGC and OIL and is allocated by the Government of India to priority sectors, including CGD (PNG–Domestic and CNG). Natural gas prices are linked to global benchmarks and crude oil prices and are subject to volatility due to global energy market conditions. Pricing is administered by the Government and is linked to the Indian Crude Oil Basket (10% Slope*Indian Crude Basket Price) ceiling cap on pricing being \$7.00/MMBTU. In response to the disruption in global LNG supplies arising from the Middle East geopolitical situation, the Government further reinforced supply security through the Natural Gas (Supply Regulation) Order, 2026, empowering it to redirect and reallocate domestic natural gas—including production from entities such as ONGC and other domestic producers, together with LNG and regasified LNG supplies—to priority sectors. The Order provides overriding powers to revise supply schedules and sectoral allocations, notwithstanding existing commercial arrangements, thereby ensuring uninterrupted availability of natural gas to priority CGD segments. Consequently, CNG (Transport) and PNG (Domestic) continue to receive protected gas supplies, while domestic gas has been supplemented through long-term RLNG and spot LNG wherever required, supporting continuity of supply despite global market disruptions. The evolving allocation framework underscores the Government's commitment to safeguarding gas availability for the CGD sector.
- **High-Pressure, High-Temperature (HPHT) and New Well Gas (NWG):** HPHT gas is produced from technically complex and deepwater fields developed by National Oil Companies and private operators. These fields were incentivised through a premium pricing regime to improve investment viability. New Well Gas refers to the incremental

gas produced by state owned companies like ONGC and OIL from existing nomination fields by drilling new wells and is priced at 20% premium over APM gas and its allocation to CNG and D-PNG consumers is done on a two-quarter advance basis. CGD gets priority for allocation for D-PNG & CNG for gas produced from these sources, and balance gas available for Industry & Commercial sectors via bidding.

- **Other domestic sources** (Coal Bed Methane - CBM, NELP, marginal fields contribute incrementally and Operated by ONGC, OIL, Vedanta, Reliance, HOEC; CGDs can bid for all segments supply)
- **Indian Gas Exchange (IGX):** India's first national-level gas trading platform, offers a transparent mechanism for short-term gas procurement under PNGRB's regulatory oversight. Primarily used for balancing short-term volumes, higher participation and increasing traded volumes on IGX will enhance market liquidity and ensure volume stability.
- **Compressed Bio Gas (CBG):** Compressed Bio Gas (CBG) is a renewable energy source derived from Bio Gas that has been upgraded and compressed to serve as an alternative to fossil fuels. CBG is emerging as a viable renewable energy source in India. With both environmental and energy security concerns on the rise, CBG is receiving increasing policy attention. In 2023, the National Biofuels Coordination Committee (NBCC) gave the green light to a phased introduction of mandatory CBG blending in the CNG (transport) and PNG (domestic) segments of the CGD sector. The mandatory blending targets are set at 1% for FY-26, 3% for FY-27, and 4% for FY-28, with a target of 5% from FY-29 onwards.

As per IEA, India has an estimated CBG production potential of approximately 87 bcm per annum; however, the current installed capacity represents less than 1% of this potential, indicating significant scope for future capacity expansion. As of FY2026, around 210 CBG plants are operational, while 300+ additional plants are under various stages of development, reflecting a rapidly expanding supply ecosystem.

Government initiatives are expected to further accelerate sector growth. The Union Budget FY2023 announced the establishment of 500 "Waste-to-Wealth" plants with an investment of approximately ₹10,000 crore, while the India–Japan Cooperative Biogas Initiative (July 2026) aims to facilitate the development of around 1,000 biogas and organic fertilizer plants through financing, technology transfer, research & development and carbon-credit support. As domestic CBG production scales up, CGD companies are expected to benefit from improved supply diversification, reduced dependence on imported LNG and declining APM gas allocations, thereby strengthening long-term fuel security and enhancing resilience of their gas sourcing portfolio, particularly in high-growth geographical areas

Table 6: CBG Sales by top entities, SCMD, FY25-26

Entity	CBG Sales (MMSCM)	CBG Sales (SCMD)	% of Total
Torrent Gas Limited	23.86	65369.86	21%
IGL	12.55	34383.56	11%
BPCL	11.78	32273.97	11%
GGL	6.69	18328.77	6%
GAIL Gas	6.07	16630.14	5%
Top 5 Subtotal	60.95	166986.30	54.7%
Remaining other entities	50.54	138465.75	45.3%

Source: PNGRB, Crisil Analysis

Torrent Gas is one of the leading CGD operators in India to utilize CBG in its operations. The company recorded CBG offtake of ~65,369.86 SCMD in FY26, accounting for about 21.4% of India's total CBG offtake, thereby positioning it as one of the largest procurers.

Table 7: Priority Sector Sales above 100 MMSCM during FY 2025-26 and their CBG Blending%

Rank	Entity	No. of operating GA's	CNG+DPNG (MMSCM)	CBG Sales (MMSCM)	Blending %
1	IGL	10	2572.79	12.55	0.49
2	MGL	3	1522.65	2.62	0.17
3	ATGL	33	861.59	5.36	0.62
4	Torrent Gas	17	699	23.86	3.41
5	Gujarat Gas	27	587.05	6.69	1.14
6	MNGL	6	525.55	1.28	0.24
7	GAIL Gas	16	480.47	6.07	1.26
8	BPCL	25	283.51	11.78	4.15
9	HPCL	13	186.16	3.65	1.96
10	GAIL (India)	6	162.14	2.21	1.36
11	Bhagyanagar Gas	3	150.58	0	0
12	IRM Energy	4	150.37	1.35	0.9
13	Vadodara Gas	1	141.32	1.78	1.26
14	AGP City Gas	12	114.68	3.96	3.45
15	Aavantika Gas	2	108.35	2.89	2.67

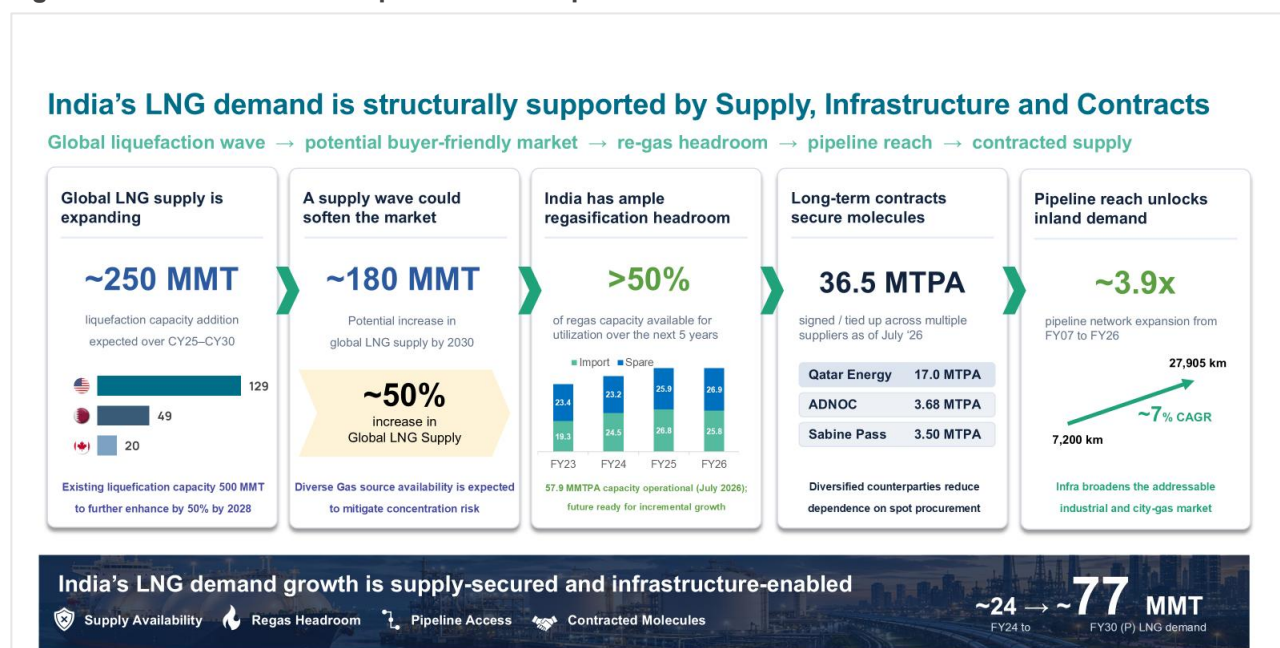
Source: PNGRB, Crisil Analysis

- **LNG Imports:** India's LNG imports have continued to rise, increasing from ~24 MMT in FY24 to ~26 MMT in FY26, underscoring the growing role of LNG in meeting domestic gas requirements. Currently, around 50% of India's total natural gas demand is met through LNG imports, making it a critical supply source for the CGD sector. Meeting this demand will require substantial regasification capacity and a well-developed R-LNG terminal network in India. India's LNG ecosystem comprises terminal operators that contract long-term regasification capacity to importers, with downstream offtake linked to demand. Key LNG importing entities include IOCL, GAIL (India) Limited, Petronet LNG Limited (PLL), Shell, and TotalEnergies, with regasification capacity supported by seven operational LNG terminals, including Dahej, Hazira, Kochi, and Mundra–Dhamra, among others. LNG is primarily utilised to meet demand from industrial and commercial PNG consumers, while also serving as a balancing and supplementary source for PNG–Domestic and CNG segments, particularly in the context of declining APM gas availability. A material portion of incremental demand for LNG to arise from CGD entities. Further, according to PNGRB Vision 2030-2040, LNG has a potential as a fuel for long haul heavy commercial vehicles and for marine usage. LCNG facilities are capable of multiple business operations, including CNG, PNG and LNG dispensation.

6. LNG Terminal and Significance for CGD Entities

India's CGD sector is expected to remain the primary driver of incremental natural gas demand over the medium to long term, supported by continued expansion of CGD infrastructure, increasing penetration of PNG and CNG, policy support and fuel switching across residential, commercial and industrial segments. According to the International Energy Agency ("IEA"), India's natural gas consumption is projected to increase from ~44.3 MMT in 2023 to approximately 77.25 MMT (converted from bcm with 0.75 factor) by 2030, representing growth of nearly 60%, with the CGD sector expected to contribute the largest share of incremental demand. Similarly, PNGRB projects total natural gas demand to increase from approximately 189 MMSCMD in FY2023-24 to 297-365 MMSCMD by 2030, while CGD demand is expected to rise from 36.9 MMSCMD to 87.1-126.1 MMSCMD over the same period, highlighting the sector's pivotal role in India's evolving gas market.

Figure 18: India's LNG and Pipeline Landscape



Source: PNGRB, PPAC, IEA, Crisil

The International Energy Agency's Global LNG Capacity Tracker indicates that global LNG supply is entering a significant expansion phase, with ~ 250 MMT of liquefaction capacity additions expected during CY25–CY30, led by the United States (129 MMT), Qatar (49 MMT) and Canada (20 MMT). These additions are expected to increase global LNG supply by ~ 180 MMT by 2030, representing nearly 50% growth over current supply levels and potentially creating a more buyer-friendly market with improved source diversification and reduced concentration risk. India is also well positioned to absorb incremental LNG volumes, supported by substantial regasification headroom. LNG imports increased from ~19.9 MMT in FY23 to ~26 MMT in FY26, while spare regasification capacity remained significant at 22.85 MMT, 23.70 MMT, 25.74 MMT and 26.72 MMT in FY23, FY24, FY25 and FY26, respectively, indicating that more than 50% of existing regasification capacity is available for utilization (Assuming 1 MMTPA = 3.63 MMSCMD of LNG). Further, India's operational regasification capacity stood at ~ 57.9 MMTPA as of July 2026, providing sufficient infrastructure to support future demand growth.

Supply security is further reinforced by long-term LNG contracts aggregating ~ 36.5 MMTPA across diversified counterparties, including Qatar Energy (17.0 MMTPA), ADNOC (3.68 MMTPA) and Sabine Pass (3.50 MMTPA), among others, reducing dependence on spot market procurement. In parallel, India's natural gas pipeline network expanded from ~7,200 km in FY07 to 27,906 km in FY26, representing nearly 3.9x growth and a CAGR of ~7%, thereby improving connectivity across industrial clusters and city gas distribution markets. Supported by increasing global LNG availability, significant regasification headroom, expanding pipeline infrastructure and secured long-term LNG supplies, India's LNG demand is projected to increase from ~ 24 MMT in FY24 to ~ 77 MMT by FY30. Accordingly, India's LNG demand growth is expected to remain structurally supported by supply availability, infrastructure readiness and contracted LNG volumes, providing a strong foundation for sustained market expansion.

Table 8: CGD Growth Opportunity

Indicators	Demand outlook
India's gas consumption	IEA projects India's natural gas consumption to increase from 44.3 MMT in 2023 to approximately 77.25 MMT by 2030, representing growth of nearly 60%, supported by infrastructure expansion and increasing gas penetration across end-use sectors.

Total gas demand	PNGRB projects total natural gas demand to increase from approximately 189 MMSCMD in FY2023-24 to 297-365 MMSCMD by 2030, and further to 495-630 MMSCMD by 2040 under the Good-to-Go and Good-to-Best scenarios.
CGD demand	CGD demand is projected to increase from 36.9 MMSCMD in FY2023-24 to 87.1-126.1 MMSCMD by 2030, and further to 216.4-270.8 MMSCMD by 2040, making CGD the largest contributor to incremental natural gas demand.
CGD growth	CGD demand is expected to grow at a CAGR of approximately 16%-25% through 2030. Further the demand is expected to grow 5.9 to 7.3 times w.r.t FY24 demand
CGD share of total gas demand	CGD is expected to account for ~29.3%-34.5% of India's total natural gas demand by 2030, increasing further to ~43% by 2040, reinforcing its position as the principal growth engine for the domestic gas market.

Source: IEA, PPAC, Crisil Analysis

While domestic gas demand continues to expand, indigenous production has not kept pace, resulting in a progressively higher reliance on imported LNG. India's natural gas consumption increased from 176 MMSCMD in FY2011-12 to 195 MMSCMD in FY2024-25, whereas domestic net production declined from 127 MMSCMD to 98 MMSCMD during the same period. Consequently, LNG imports have become an increasingly important source of supply, with import volumes rising from 49 MMSCMD to ~98 MMSCMD, increasing LNG's share in India's total gas consumption from approximately 28% in FY2011-12 to nearly 50% in FY2024-25. This structural trend is expected to continue as future demand growth is increasingly met through imported LNG, underscoring the strategic importance of LNG import and regasification infrastructure in supporting India's expanding gas ecosystem.

Against this backdrop, integrated players with established LNG sourcing capabilities, contracted regasification access and gas procurement expertise are expected to be better positioned to support long-term CGD growth. Torrent Group's existing gas-based power generation business, contracted LNG supply arrangements, regasification access and gas marketing experience provide an established platform for LNG procurement and supply management. Combined with Torrent Gas' expanding CGD footprint, these capabilities may enable greater supply diversification, improved procurement flexibility and support long-term volume growth across its PNG and CNG business

Table 9: Torrent Gas and Group-Level LNG Advantage

Strategic strength	Relevance
Diversified CGD platform	Torrent Gas is authorised to develop CGD networks across 34 districts spanning seven states and one Union Territory, providing a geographically diversified downstream gas distribution platform with a growing PNG and CNG customer base.
Growth and anchor demand	Torrent Group has identifiable gas demand across power generation and CGD businesses. Torrent Power operates approximately 2,730 MW of gas-based generation capacity, comprising the 1,147.5 MW SUGEN, 382.5 MW UNOSUGEN and 1,200 MW DGEN plants. The amended environmental compliance disclosure indicates an aggregate gas requirement of approximately 3,320 tonnes per day for the SUGEN units, equivalent to approximately 1.21 MMTPA of LNG on an annualised basis, providing a potential anchor demand base for LNG procurement and terminal utilisation. Torrent Gas Limited has shown ~33% CAGR growth in gas volume sales from FY23 to FY25, strengthening Torrent groups anchor demand
Long-term contracted LNG supply	Torrent Power has executed long-term LNG supply agreements with BP Singapore and JERA, providing potential contracted LNG supply of up to 0.68 MMTPA commencing from 2027, subject to the respective contractual terms, commencement schedules and supply profiles.
Established regasification access	Torrent Power has secured up to 1.0 MMTPA of regasification and storage capacity at Petronet LNG's Dahej terminal under a long-term arrangement commencing in April 2017 for a period of 20 years, providing established access to LNG import infrastructure.
Relevant operating experience	Torrent Power's procurement and receipt of approximately nine LNG cargoes during FY2026 demonstrates the Group's operational experience in LNG sourcing and procurement, complementing its long-term regasification capacity arrangements and expanding downstream gas business
Integrated LNG value chain	The combination of contracted LNG supply, long-term regasification capacity, established LNG procurement experience, gas-based power demand and Torrent Gas' expanding CGD network provides

	an integrated platform that may support supply diversification, procurement flexibility and long-term gas availability across the Group's downstream businesses.
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Source: Company Filings, Torrent Power, Crisil Analysis

Table 10: Potential Strategic Benefits of Torrent Group's LNG Procurement and Regasification Arrangements

Strategic merit	Potential benefit
Supply security	Long-term LNG supply arrangements together with contracted regasification capacity may enhance supply security by reducing reliance on short-term LNG procurement and uncontracted third-party regasification availability, supporting reliable gas supply across downstream businesses.
Capacity and scheduling control	Long-term LNG procurement arrangements and contracted regasification capacity may provide greater visibility over cargo planning, regasification scheduling and gas delivery, improving the ability to manage demand fluctuations and supply disruptions.
Anchor throughput from rising demand	Torrent Group's combined gas demand from its expanding CGD business and gas-based power generation portfolio may provide a stable demand base for optimising utilisation of contracted LNG supply and regasification capacity.
Infrastructure Access	Long-term booking of regasification capacity provides assured access to LNG import infrastructure, which may reduce dependence on incremental capacity availability at third-party terminals during periods of high utilisation.
LNG procurement flexibility	Long-term LNG contracts, complemented by the ability to procure additional spot or medium-term cargoes, may support portfolio optimisation and procurement flexibility under varying market conditions.
Group-demand aggregation	Aggregation of gas demand across Torrent Group's CGD and gas-based power businesses may improve procurement efficiency, strengthen contracting capability and optimise utilisation of contracted LNG volumes and regasification capacity.
Reduced terminal-congestion exposure	Dahej operated at 96.6% utilisation in FY2024-25. Dedicated capacity could reduce dependence on limited incremental availability at a highly utilised terminal.
Third-party revenue potential	Subject to contractual rights, regulatory approvals and availability of spare contracted capacity, the Group may explore opportunities to optimise utilisation of contracted LNG volumes or regasification capacity through commercial arrangements with third parties.
Expansion beyond pipeline-connected markets	LNG sourced under long-term procurement arrangements may support LNG truck-loading or virtual pipeline solutions for customers and CGD areas not immediately connected to the natural gas pipeline network, subject to commercial viability.
Integrated gas value chain	The combination of long-term LNG procurement, contracted regasification access, gas-based power demand and Torrent Gas' expanding CGD network may improve supply-chain coordination, enhance procurement visibility and strengthen operational integration across the Group's gas businesses.

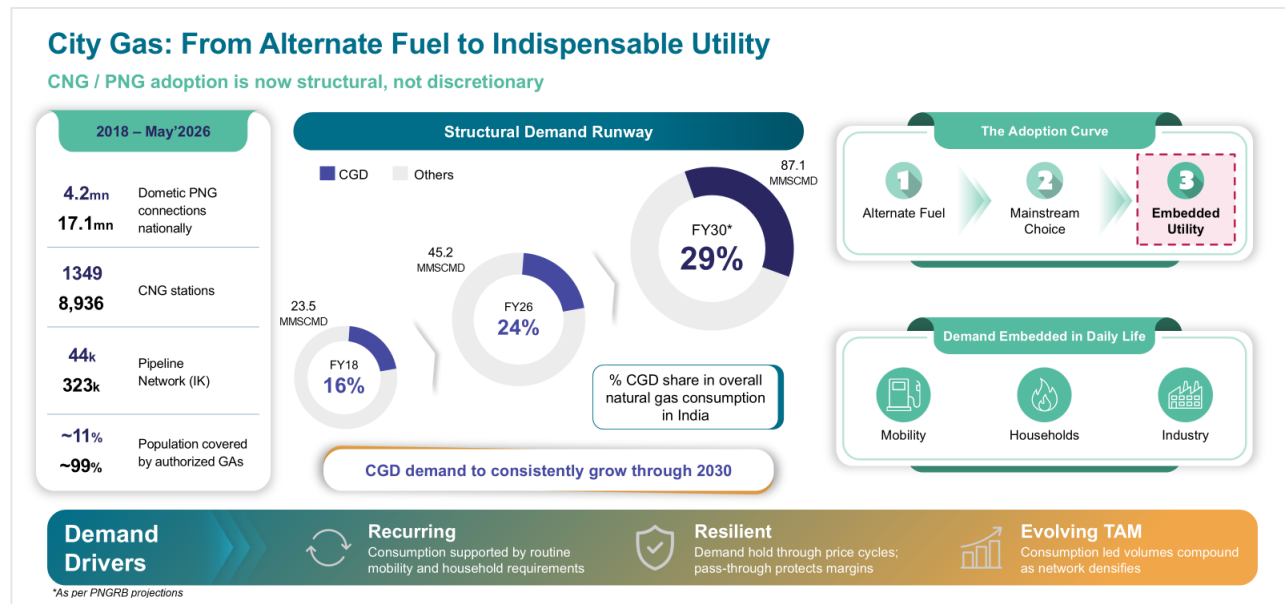
Source: Crisil Analysis

7. Natural Gas Demand Outlook

City Gas Distribution has evolved from an Alternate Fuel to an Indispensable Utility as the CNG and PNG adoption has now reached to a level where it is structural and not discretionary. Between 2018 and May'2026, domestic PNG connections increased from 4.2 million to 17.1 million nationally, the number of CNG stations rose from 1,349 to 8,936, the steel pipeline network expanded from 44,000 inch-km to 323,000 inch-km, and the population covered by authorised GAs increased from ~11% to ~99%. This expansion supports a structural demand runway, with CGD's share in India's overall natural gas consumption rising from ~16% in FY18, when demand was 23.5 MMSCMD, to ~24% in FY26, at 45.2 MMSCMD, and projected to reach 29% by FY30, at 87.1 MMSCMD. Accordingly, CGD demand is expected to grow consistently through 2030. The adoption curve has progressed from natural gas starting from an alternate fuel, which later evolved into a mainstream choice and now has emerged as an embedded utility, with demand embedded in daily life across mobility, households and industry. Key demand drivers are recurring consumption, supported by routine mobility and household requirements; resilient demand, which holds through price

cycles while pass-through protects margins; and an evolving total addressable market, as consumption-led volumes compound with increasing network density.

Figure 19: City Gas: From Alternate Fuel to Indispensable Utility



Source: PNGRB, Crisil

■ C-PNG Outlook

Commercial PNG represents a scalable growth opportunity for CGD companies across hotels, restaurants, canteens, hostels, institutional kitchens, hospitals and other commercial establishments. Compared with commercial LPG cylinders, PNG offers a continuous, metered and uninterrupted fuel supply, eliminating cylinder handling, storage and replacement requirements while reducing inventory carrying costs, working capital requirements, leakage risks and dependence on periodic cylinder deliveries. Based on standard gross calorific value ("GCV") conversion factors, 1 kg of LPG contains approximately 12,500 kcal, while natural gas has a GCV of approximately 10,000 kcal per SCM. Accordingly, a 19 kg commercial LPG cylinder contains approximately 237,500 kcal of energy, equivalent to around 23.75 SCM of natural gas. At the Delhi commercial LPG price of ₹2,930 per 19 kg cylinder (as on July 1, 2026), the implied energy-equivalent cost is approximately ₹123 per SCM of natural gas. Consequently, Commercial PNG offers a favourable economic proposition wherever the applicable PNG tariff is below this energy-parity benchmark, while also providing operational benefits associated with piped fuel supply.

Government initiatives are expected to further support Commercial PNG adoption. The National PNG Drive 2.0 was extended until June 30, 2026, to accelerate PNG penetration, and more than 3.1 lakh PNG connections, including domestic and commercial consumers, were gasified during March 2026. Simultaneously, the Government has strengthened LPG distribution through measures such as Delivery Authentication Code (DAC)-based authentication, with authenticated deliveries increasing to over 90%, alongside deactivation of inactive LPG connections to curb diversion. Supported by favourable economics, operational convenience, expanding CGD infrastructure and continued policy support, Commercial PNG is expected to witness sustained adoption, driving customer additions, higher gas throughput, improved network utilisation and recurring revenues for CGD companies.

■ I-PNG

Industrial PNG offers CGD companies a scalable, high-volume and recurring demand opportunity across industrial clusters, where fuel consumption is concentrated in boilers, furnaces, kilns, ovens, dryers and steam generation systems. Compared with conventional fuels, Industrial PNG provides continuous pipeline supply, eliminates on-site fuel storage and handling, reduces operational downtime and inventory requirements, and supports compliance with

increasingly stringent environmental regulations. While the competitiveness of Industrial PNG may vary depending on the prevailing fuel mix and gas sourcing costs, its overall value proposition extends beyond fuel price to include supply reliability, operational efficiency, lower emissions, reduced logistics dependence and improved regulatory compliance. Consequently, Industrial PNG continues to be an attractive fuel alternative across industrial applications requiring uninterrupted and efficient energy supply.

▪ Mobility

Table 11: Analysis of Market Share of CNG Vehicles at National Level, FY24 – FY26

Particulars	National		
	FY24	FY25	FY26
Market Share of CNG Vehicles	17.93%	19.63%	19.57%
Taxi	45.90%	53.44%	59.38%
PV 4W	10.16%	13.23%	14.55%
Rickshaw	30.50%	27.89%	24.61%
LGV	12.32%	14.42%	14.44%
Total Vehicle	77,71,756	79,99,228	95,02,965
Taxi	3,24,479	3,67,114	4,30,022
PV 4W	45,13,862	46,05,629	55,53,821
Rickshaw	23,34,629	24,40,776	28,35,605
LGV	5,98,786	5,85,709	6,83,517
CNG Vehicle	13,93,402	15,70,550	18,60,168
Taxi	1,48,931	1,96,172	2,55,330
PV 4W	4,58,742	6,09,160	8,08,338
Rickshaw	7,11,983	6,80,751	6,97,827
LGV	73,746	84,467	98,673

Source: Vahan Dashboard

Note: 1. Commercial four-wheeler category includes Light Passenger Vehicle (LPV) - Taxi

1. Passenger four-wheeler category includes Light Motor Vehicle (LMV) and Four-Wheeler (Invalid Carriage) (4WIC) – PV 4W
2. Auto Rickshaw category includes Three-Wheeler Transport (3WT), Three-Wheeler Non-Transport (3WN) and Three-Wheeler Invalid Carriage (3WIC) - Rickshaw
3. TGL geography represents the geographical areas where Torrent Gas Limited operates. Vehicle data has been aggregated from the relevant RTOs within the districts covered under these GAs

India's vehicle market spans diverse requirements, ranging from cost-conscious personal mobility to utility-led and premium luxury applications. Given that CNG adoption is primarily driven by lower operating costs and high vehicle utilisation, identifying OEMs with a strong presence in value and utility-oriented segments is critical. Maruti Suzuki leads the passenger-vehicle market, supported by models such as the WagonR, Swift, Dzire, Baleno, Brezza Ertiga and Victoris, and also maintains a strong leadership position in the taxi and fleet segment through models such as the Tour H1, Tour H3, Tour S and Tour M. In the light-goods-vehicle segment, Maruti is the leading OEM. Bajaj Auto remains the market leader in the three-wheeler segment, including conventional passenger auto-rickshaws.

The CNG ecosystem in India has reached a more mature stage, leading to a significant shift in consumer behaviour. This evolution has improved consumer perception regarding safety, efficiency, and reliability, supported by positive

word-of-mouth and referrals. As a result, the CGD sector benefits from a more diversified demand base, which enhances long-term revenue stability, improves volume visibility, and supports sustained growth for CGD companies.

Table 12: Analysis of Market Share of CNG Vehicles in TGL Geographical Areas, FY24 – August 2026

Particulars	TGL				Vehicle Sales of Maruti Suzuki & Bajaj Across TGL GAs*
	FY24	FY25	FY26	Apr 26 to 11-Aug-2026	Apr 26 to 11-Aug-2026
Market Share of CNG Vehicles	23.40%	25.04%	25.52%	25.52%	60.51%
Taxi	64.06%	66.96%	74.07%	72.18%	94.38%
PV 4W	14.26%	17.42%	19.34%	20.30%	48.40%
Rickshaw	44.16%	41.04%	37.03%	31.16%	74.65%
LGV	16.32%	18.99%	18.20%	19.42%	99.53%
Total Vehicle	6,14,363	6,29,012	6,98,747	2,52,902	71,432
Taxi	35,138	38,387	41,368	16,462	8,691
PV 4W	4,06,584	4,25,445	4,87,439	1,73,567	46,830
Rickshaw	1,26,066	1,19,361	1,19,538	44,354	13,989
LGV	46,575	45,819	50,402	18,519	1,922
CNG Vehicle	1,43,742	1,57,521	1,78,349	64,530	43,223
Taxi	22,508	25,705	30,642	11,882	8,203
PV 4W	57,960	74,125	94,269	35,231	22,664
Rickshaw	55,674	48,989	44,267	13,821	10,443
LGV	7,600	8,702	9,171	3,596	1,913

Note:

1. Taxi, LGV, PV 4W Sales for April – August 2026 period is for Maruti Suzuki only
2. All Rickshaw sales for Apr – August 2026 period corresponds to sales from Bajaj Auto only

Torrent Gas is an integrated city gas distribution company, connecting natural gas producers/supplier to the end user of natural gas operating in India, positioned to benefit from sustained national demand for natural gas across transportation, domestic (household), commercial and industrial uses.

TGL's operating geographies have consistently exhibited a higher penetration of CNG vehicles than the national average, indicating stronger acceptance of CNG as a transportation fuel. The share of CNG vehicles in the total vehicle population across TGL's geographies increased from 23.40% in FY24 to 25.52% in FY26, compared with an increase from 17.93% to 19.57% at the national level over the same period. The lead is particularly pronounced in the commercial four-wheeler segment, where CNG penetration in TGL's markets reached 74.07% in FY26, against 59.38% nationally, highlighting the preference for CNG among high-utilisation commercial vehicles.

Passenger four-wheelers and light goods vehicles also recorded higher CNG adoption across TGL's operating areas, with market shares of 19.34% and 18.20%, respectively, in FY26, compared with the national averages of 14.55% & 14.44% respectively for both categories. While autorickshaws continue to account for a significant share of the CNG vehicle base, their penetration has moderated over the years as adoption has broadened across other vehicle segments. The higher CNG penetration across TGL's geographies indicates a more mature gas mobility ecosystem,

supported by an established CNG dispensing network, favourable fuel economics and sustained consumer adoption across both commercial and personal mobility segments.

Figure 20: Natural Gas Demand Co-related with India's Manufacturing Growth



Source: PIB, Crisil

India's manufacturing-led growth is expected to provide a sustained demand runway for industrial natural gas, supported by rising activity across several heat-intensive sectors and increasing policy focus on domestic manufacturing. Visible growth opportunities are emerging across pharmaceuticals, textiles and auto components, where market expansion by 2030 is estimated at ~2x, ~2x and ~7x, respectively. India's manufacturing sector currently contributes ~17% to GDP, with a long-term policy objective of increasing its share to 25%, supported by the Production Linked Incentive ("PLI") programme with approved outlays of ~₹1.97 trillion across 14 sectors. Natural gas is well positioned to benefit from this expansion owing to its suitability for industrial processes requiring cleaner and reliable heat energy, particularly in sectors such as glass, ceramics, pharmaceuticals, textiles and auto components. In comparison with alternate fuels such as furnace oil, coal, pet coke and propane, natural gas offers a balanced combination of high calorific value (~12,000 kcal/kg), negligible SOx emissions, cleaner operations, lower storage and handling requirements, and improved pollution-compliance characteristics. Further, the development of ~547 thousand steel-inch-kilometres of pipeline infrastructure and continued expansion of last-mile connectivity are expected to unlock latent industrial demand and strengthen the position of natural gas as a preferred industrial fuel across India's manufacturing ecosystem.

Table 13: Economic Viability and Fuel Comparison

Alternative fuel	Industrial PNG advantage	Relevance
Furnace oil	Furnace oil has a gross calorific value of approximately 10,050 kcal/kg, broadly comparable with natural gas at approximately 10,000 kcal/SCM (GCV basis). However, furnace oil typically contains 2–4% sulphur, resulting in higher SOx emissions, ash generation and pollution-control requirements. Industrial PNG is virtually sulphur-free, while also eliminating liquid fuel storage, unloading and handling requirements.	Supports fuel conversion in industries seeking lower emissions, reduced maintenance, simplified fuel handling and improved environmental compliance.
Coal	As per the Ministry of Coal, non-coking coal grades range from G1 (approximately 7,000 kcal/kg) to G17	Increasing environmental regulations, fuel-use restrictions and operational requirements support

	(approximately 2,200–2,500 kcal/kg). Coal requires significant storage, handling and ash disposal, and generates higher particulate and other emissions than natural gas. Further, the Commission for Air Quality Management (CAQM) has restricted the use of coal and other unapproved fuels across the NCR from 1 st January 2023, except for specified applications, reflecting a tightening environmental regulatory framework.	the transition towards cleaner gaseous fuels such as Industrial PNG, particularly in urban and pollution-sensitive industrial clusters.
Pet-coke	Petroleum coke is a high-calorific-value fuel but is associated with high sulphur content and particulate emissions. In addition, the Directorate General of Foreign Trade (DGFT) permits imports of pet coke only for specified industries and actual-user applications, while imports for general fuel use remain restricted under the prevailing policy framework.	Regulatory restrictions on fuel-grade pet coke, coupled with environmental considerations, support the long-term adoption of cleaner fuels such as Industrial PNG in eligible industrial applications.
Propane	Propane remains dependent on imports, freight and bulk logistics. In the Morbi ceramic cluster, approximately 415 industrial customers relied on propane prior to the 2026 supply disruption, accounting for nearly 70% of the cluster's fuel requirement. During the disruption, rising propane costs and supply constraints affected industrial operations, while pipeline gas supported phased restoration of industrial activity, with operational ceramic units increasing from 83 units (0.36 MMSCMD) at the end of March 2026 to approximately 290 units (2.70 MMSCMD) by 22 April 2026 as gas availability improved.	Demonstrates the operational resilience of pipeline infrastructure by reducing dependence on imported fuels and logistics, thereby supporting business continuity during supply disruptions.
RLNG-linked PNG sensitivity	Industrial PNG supplied through RLNG may be influenced by global LNG prices. PPAC reported GIXI at US\$10.8/MMBtu (March 2026) and the Government-notified domestic natural gas price at US\$8.73/MMBtu (July 2026), while LNG procurement costs reportedly increased to around US\$18–20/MMBtu during the Morbi disruption. Nevertheless, CGD entities continued to source LNG from alternate origins to maintain industrial gas supply and support resumption of operations.	While Industrial PNG is not immune to international LNG price volatility, its value proposition extends beyond commodity prices to include pipeline reliability, operational continuity, lower storage and handling costs, improved safety and environmental compliance. Industrial PNG should therefore be evaluated on total delivered cost rather than fuel price alone.

Source: IEA, PPAC, Crisil Analysis

Replicating NCR's Industrial PNG Success

The National Capital Region ("NCR") demonstrates the scalability of Industrial PNG adoption, with 4,082 out of approximately 7,760 fuel-based industries (approximately 52.6%) having adopted PNG as of 2023. This transition has been supported by the convergence of pipeline infrastructure, high industrial density and an increasingly stringent clean-fuel regulatory framework. While industrial composition differs across geographies, markets such as Alwar, Jaipur, Chennai–Thiruvallur and Pune exhibit similar characteristics, including concentrated industrial demand, expanding CGD infrastructure and supportive state policies, thereby creating favourable conditions for Industrial PNG penetration.

Table 14: TGL Potential to replicate the NCR model

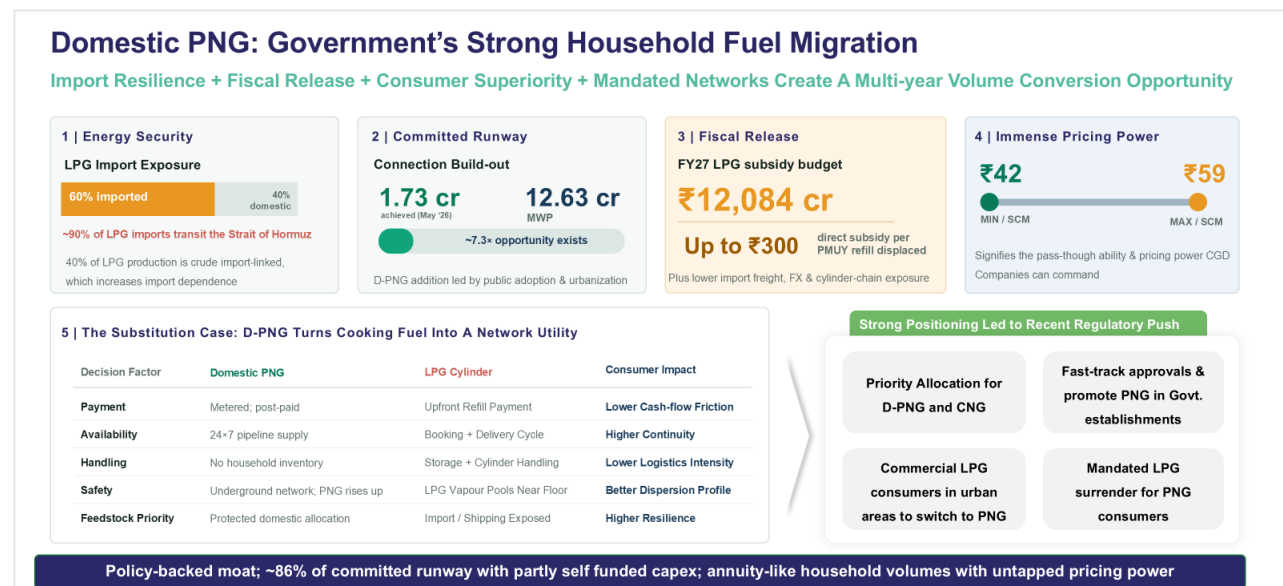
Market	Potential to replicate the NCR model
Alwar	Alwar forms part of the Delhi–NCR industrial influence zone and benefits from proximity to one of India's most mature Industrial PNG markets. The district hosts diversified manufacturing across auto components, engineering, chemicals, pharmaceuticals, textiles, food processing and metals, creating concentrated and continuous industrial fuel demand. In addition, Rajasthan's CGD policy framework and RIICO's gas pipeline

	policy facilitate Industrial PNG infrastructure within industrial estates, supporting conversion from conventional fuels.
Jaipur	Jaipur benefits from one of India's largest organised industrial ecosystems. RIICO has developed 446 industrial areas, covering approximately 102,723 acres, with over 42,344 industrial units in operation across Rajasthan. This provides a sizeable addressable customer base for phased Industrial PNG penetration. Rajasthan's CGD policy and RIICO's policy for permitting gas distribution pipelines within industrial areas are expected to facilitate faster pipeline rollout and industrial connectivity.
Chennai–Thiruvallur	Chennai–Thiruvallur is an authorised CGD geographical area with a diversified industrial base comprising automobiles, auto components, electronics, engineering, chemicals, rubber, packaging, textiles and food processing. Tamil Nadu's CGD policy promotes natural gas as a cleaner industrial fuel and supports expansion of CGD infrastructure, creating favourable conditions for Industrial PNG adoption across large manufacturing clusters.
Pune	The Pune–Pimpri Chinchwad–Chakan–Talegaon manufacturing corridor represents one of India's largest automotive and engineering hubs, with significant presence across automobiles, auto ancillaries, engineering, pharmaceuticals, plastics, food processing and precision manufacturing. High industrial density, continuous thermal energy requirements and established pipeline connectivity provide favourable conditions for scalable Industrial PNG adoption similar to mature CGD markets.

Source: RIICO, Crisil Analysis

▪ **D-PNG & Recent Policy Initiatives**

Figure 21: D-PNG Supply Security



Source: PIB, PPAC, PNGRB, Crisil

Domestic PNG benefits from four key structural factors. Firstly, India's LPG exposure comprises 60% imported and 40% domestic supply, with ~90% of LPG imports transiting the Strait of Hormuz; additionally, 40% of LPG production being crude import-linked, the LPG has an increasing import dependence. While in case of domestic PNG, India has accorded 100% allocation and top priority to domestic PNG resulting in complete indigenous gas availability for its consumers. Secondly, there exists a committed runway for domestic PNG infrastructure rollout where the connection build-out stands at 1.73 crore as of May 31, 2026, against the 12.63 crore domestic connections planned under the MWP. This further supported by urbanisation increasing from 377 million to 600 million, D-PNG roll out is expected to be led by public adoption and urbanisation. Third, the FY27 LPG subsidy budget is ₹12,084 crore, while each PMUY refill displaced can release up to ₹300 of direct subsidy, in addition to lowering import freight, foreign-exchange as compared to crude importing natural gas means that for each USD 1, we can import additional 50% energy and cylinder-chain exposure, hence every shift of LPG to D-PNG results into a fiscal release for the government resulting into consistent and focused government support for domestic PNG adoption. Fourth, as per PNGRB, D-PNG pricing ranges from ₹42 per SCM minimum to ₹59 per SCM maximum, signifying pass-through ability and pricing power, with CGD companies able to command. The substitution case positions D-PNG as converting cooking fuel into a network utility: payment shifts from upfront refill payment for an LPG cylinder to metered, post-paid domestic PNG, resulting in lower cash-flow friction; availability improves from booking plus delivery cycle to 24x7 pipeline supply, providing higher continuity; handling moves from storage plus cylinder handling to no household inventory, lowering logistics intensity; safety improves from LPG vapour pooling near the floor to an underground network where PNG rises, providing a better dispersion profile; and feedstock priority shifts from import and shipping exposure to protected domestic allocation, supporting higher resilience.

Strong positioning has led to a recent regulatory push comprising guaranteed 100% gas supply for D-PNG and CNG, fast-track approvals for CGD networks, mandated faster commissioning of PNG connections, and mandated LPG surrender for PNG consumers. Overall, the sector has a policy-backed moat, an 86% of committed MWP execution runway with partly self-funded capex, annuity-like household volumes and untapped pricing power. Hence, domestic PNG has emerged as Government's Strong Household Fuel Migration with the Import resilience, fiscal release, consumer superiority and mandated networks create a multi-year volume-conversion opportunity.

Domestic PNG represents a significant utilisation-led growth opportunity for CGD companies as a substantial portion of the distribution network has already been commissioned across authorised geographical areas. As of March 2026, approximately 1.69 crore domestic PNG connections had been installed across India, while only around 1.07 crore were active billed connections, implying that nearly 63% of installed connections were actively consuming gas. In addition, authorised geographical areas had achieved only 41% of the current notified D-PNG connection targets, indicating considerable headroom for future customer additions and higher utilisation of existing infrastructure. Accordingly, future growth is expected to be increasingly driven by customer conversion, connection activation and higher consumption per connection, rather than network expansion alone. Further, PNGRB's PACE framework mandates accelerated PNG adoption, requiring households in pipeline-served areas to transition to PNG within 90 days, supported by streamlined approvals, digital tracking, and coordinated LPG-to-PNG conversion mechanisms.

Table 15: Key policy initiatives pertaining to D-PNG

Investor-attractiveness driver	Key policy/data point	Benefit to CGD companies
Latent network utilisation	As of FY26, ~1.69 crore D-PNG connections have been installed against a pro-rata target of 4.09 crore, while only around 1.07 crore connections are currently billed, indicating that approximately 63% of installed connections are active consumers.	Provides significant headroom to improve utilisation of existing steel and MDPE pipeline infrastructure through customer activation, higher connection conversion and increased recurring gas volumes.
Accelerated pipeline approvals	The Natural Gas and Petroleum Products (Through Laying, Building, Operation and Expansion of Pipelines and Other Facilities) Order, 2026, notified on 24 March 2026 under the Essential Commodities Act, establishes a streamlined and time-bound framework for approvals, land access and pipeline development.	Expected to facilitate faster network expansion, improve last-mile connectivity and reduce project execution timelines for CGD entities.
Reduced implementation bottlenecks	The Government has introduced facilitative measures including single-window coordination, designated nodal officers, extended working hours and rationalisation or waiver of right-of-way restoration charges to expedite CGD infrastructure rollout.	Can reduce procedural delays, improve execution efficiency and accelerate commissioning of domestic PNG connections.
Policy-led LPG-to-PNG migration	A GIS-enabled national portal has been proposed to identify potential D-PNG consumers within authorised CGD areas. Rollout is expected to be coordinated by MoPNG, PNGRB, State Governments, district administrations, CGD entities and Oil Marketing Companies ("OMCs"), including customer identification, LPG-PNG mapping and awareness programmes.	Creates a structured customer conversion framework, improving household migration from LPG to PNG, increasing connection activation and supporting recurring gas demand.
Higher utilisation per connection	Customer deduplication, targeted awareness campaigns and coordinated migration initiatives are expected to reduce dual-fuel usage and improve active utilisation of existing PNG connections.	Supports higher average gas consumption per connection, improves throughput on existing infrastructure and enhances recurring revenues.
Network monetisation	Policy initiatives increasingly focus on improving utilisation of commissioned networks by accelerating household conversion alongside commercial establishment connectivity within authorised GAs.	Enhances network utilisation, operating leverage and return on invested capital without proportionate incremental pipeline capex.
Long-term policy alignment	Government initiatives promoting cleaner fuels, enhanced energy security, lower dependence on imported liquid fuels and expansion of gas-based infrastructure continue to support wider PNG adoption across authorised geographical areas.	Supports sustained medium- to long-term penetration of domestic PNG and improves demand visibility for CGD companies.

Source: IEA, PPAC, Crisil Analysis

■ India's E20 Transition: Strengthening the Long-Term Value Proposition of CNG

India's ethanol blending programme has successfully achieved the E20 target ahead of schedule, supporting national priorities of energy security, crude oil import substitution, emissions reduction, and higher farm incomes. While E20 remains strategically beneficial from a macroeconomic and environmental perspective, it also indirectly strengthens the positioning of CNG as a transportation fuel by increasing consumer focus on operating economics and fuel efficiency.

Government assessments indicate that E20 petrol can result in a 3–5% reduction in fuel economy relative to petrol due to ethanol's lower energy content. Mileage remains inferior to pure petrol. CNG, by comparison, offers significantly higher fuel efficiency and a substantially lower running cost. Petrol is sold in litres, whereas CNG is sold in kilograms. Due to its higher energy content per unit mass and the efficient combustion characteristics of methane, CNG-powered vehicles typically offer a lower running cost than petrol vehicles. The introduction of E20 fuel, which has a slightly lower calorific value than conventional petrol due to its ethanol content, may marginally reduce fuel economy, further improving the relative operating-cost advantage of CNG in many applications. Therefore, although fuel prices may remain relatively range-bound over time, it is the mileage and operating-cost economics of CNG that make it the more attractive option for consumers, especially high-mileage users and fleet operators. Additionally, CNG does not face the mileage dilution associated with increasing ethanol blending.

The impact of the E20 transition on vehicle operating economics can be illustrated using the Maruti Suzuki WagonR, one of India's highest-selling factory-fitted CNG passenger vehicles. Based on prevailing Delhi retail fuel prices and ARAI-certified fuel efficiency, the CNG variant delivers a running cost of approximately Rs. 2.4 per kilometre, compared with Rs. 4.2 per kilometre for the conventional petrol variant. Assuming the Government-indicated 3-5% reduction in fuel economy under E20, the corresponding running cost increases to approximately Rs. 4.4 per kilometre. Accordingly, the CNG variant continues to offer a fuel-cost advantage of ~42% over conventional petrol, which further widens to ~45% compared with E20 petrol. While the transition to E20 supports India's broader energy transition objectives, it does not materially alter the relative operating-cost advantage of CNG, particularly for consumers with higher annual vehicle utilisation and fleet operators.

Table 16: Running Cost Advantage of CNG vs Petrol vs E-20 Petrol

Particulars	CNG	E20 Petrol	Conventional Petrol
Illustrative vehicle	Maruti Suzuki WagonR S-CNG	Maruti Suzuki WagonR Petrol	Maruti Suzuki WagonR Petrol
Delhi retail fuel price (Rs/kg or Rs/L)	83.09	102.1	102.1
ARAI fuel efficiency (km/kg or km/L)	34.05	23.13	24.35
Mileage impact vs conventional petrol	-	3-5% lower	Base
Fuel cost (Rs./km)	2.4	4.4	4.2
Cost Advantage w.r.t. E-20 Petrol	~45% lower for CNG	-	-
Cost Advantage w.r.t. Conventional Petrol	~42% lower for CNG	-	-

Note: 1. The comparison is based only on fuel expenditure (fuel cost per kilometre) and excludes vehicle acquisition cost, maintenance, financing cost, insurance, taxes, depreciation, resale value and other ownership-related expenses

2. Petrol price represents the prevailing Delhi retail price. CNG price represents the prevailing Delhi retail CNG price as of July 2026

Beyond the direct fuel-cost advantage, factory-fitted CNG vehicles offer a consumer value proposition through a mature and well-proven OEM technology platform, strong resale acceptance, and dual-fuel flexibility. Unlike single-fuel alternatives, CNG vehicles allow users to seamlessly switch to petrol whenever required, eliminating concerns around fuel availability or range. For India's value-conscious consumers, the combination of lower running costs, fuel

efficiency, established engine reliability, and fuel-choice flexibility makes CNG an attractive mobility solution, supporting sustained demand growth for CNG vehicles and associated gas infrastructure.

▪ **Policy Push for Natural Gas in India: Rationale for PNG and CNG**

India's policy framework promotes natural gas as a transition fuel to enhance energy security, diversify the primary energy mix, improve urban air quality and support decarbonisation across residential, commercial, industrial and transportation sectors. The expansion of the City Gas Distribution network enables last-mile delivery of natural gas to households, commercial establishments, industries and transport consumers, while also facilitating the gradual integration of renewable gases such as Compressed Biogas

1. Domestic PNG (Piped Natural Gas)

Domestic PNG is promoted as a safe, reliable and convenient cooking fuel, providing households with continuous access to piped natural gas without dependence on LPG cylinder logistics. Key policy and consumer benefits include:

- **Continuous, metered fuel supply**, eliminating the need for cylinder booking, storage and replacement while enabling consumption-based billing.
- **Reliable fuel availability during supply-chain disruptions or emergency situations**, reducing dependence on physical cylinder distribution and ensuring continuity of household cooking requirements.
- **Improved household safety and convenience** by eliminating cylinder handling, transportation and storage within residential premises.
- **Diversification of household energy sources**, with PNG networks capable of supplying domestic natural gas, imported LNG and, over time, increasing volumes of renewable gases such as CBG.
- **Operational consistency through stable fuel quality and uninterrupted pipeline supply**, supporting predictable cooking performance and enhanced consumer convenience.

2. Commercial PNG

Commercial PNG is promoted as a cleaner substitute for LPG and other liquid fuels across hotels, restaurants, hospitals, educational institutions, bakeries, laundries, malls and other commercial establishments. Its key advantages include:

- **Uninterrupted fuel availability**, supporting continuous business operations without dependence on cylinder replenishment.
- **Elimination of LPG cylinder storage, handling and inventory management**, improving operational efficiency and workplace safety.
- **Optimized utilization of commercial space** by removing dedicated cylinder storage requirements.
- **Reduced logistics requirements and associated operational disruptions**, particularly for establishments with high and continuous fuel consumption.
- **Consistent fuel quality and combustion characteristics**, enabling precise temperature control, improved process efficiency and enhanced product quality in food processing and other heat-intensive commercial applications.

3. Industrial PNG

Industrial PNG supports fuel switching from coal, petcoke, furnace oil, LSHS and diesel to a cleaner gaseous fuel across multiple industrial sectors. Key benefits include:

- **Lower emissions of particulate matter, sulphur oxides, nitrogen oxides and carbon dioxide**, supporting compliance with increasingly stringent environmental regulations.
- **Consistent calorific value and cleaner combustion**, improving process stability, combustion efficiency and product quality.
- **Reduction in fuel storage, material handling and associated maintenance requirements**, resulting in simplified plant operations.

- **Support for industrial decarbonisation initiatives**, particularly across sectors such as ceramics, glass, chemicals, pharmaceuticals, food processing and textiles.
- **Enhanced operational reliability** through uninterrupted pipeline-based fuel supply, reducing dependence on bulk liquid fuel procurement and storage logistics.

4. CNG (Compressed Natural Gas)

CNG is promoted as an alternative transport fuel for passenger vehicles, commercial vehicles and public transport fleets to reduce emissions and dependence on conventional petroleum fuels. Key policy objectives include:

- **Reduction in vehicular emissions**, contributing to improved urban air quality and lower greenhouse gas emissions.
- **Lower operating costs** for high-mileage passenger vehicles, taxis, buses and commercial fleets.
- **Reduced dependence on imported crude oil and petroleum products**, strengthening India's energy security.
- **Expansion of CGD infrastructure**, enabling wider availability of CNG across urban and semi-urban markets.
- **Facilitating the integration of renewable CBG into the transport fuel mix**, supporting the transition towards lower-carbon mobility.

Delhi EV Policy (2026–2030) and Implications for CNG Demand

The Government of NCT of Delhi notified the Delhi Electric Vehicle Policy, 2026–2030, effective from July 1, 2026, with the objective of accelerating the transition towards zero-emission mobility through a combination of purchase incentives, scrappage benefits, exemption from road tax and registration fees for eligible EVs, expansion of public charging infrastructure, battery recycling initiatives and phased electrification mandates across key vehicle segments. The policy provides for the gradual transition of commercial fleets, mandates registration of only electric three-wheelers from 2027 and electric two-wheelers from 2028, promotes electrification of government and school bus fleets, and seeks to strengthen the supporting EV ecosystem through charging and servicing infrastructure.

The policy is expected to accelerate EV adoption in Delhi over the medium to long term, particularly across urban mobility segments. However, its impact on CNG demand is likely to be gradual rather than immediate, given the sizeable existing CNG vehicle base, the phased implementation timeline, replacement cycles of commercial vehicles and the time required for large-scale charging infrastructure deployment. CNG is therefore expected to remain an important transition fuel for taxis, buses and commercial fleets during the transition period, while demand from domestic PNG, commercial PNG and industrial PNG segments remains unaffected by transport electrification. As a result, the policy is expected to reshape the transport fuel mix progressively, with CNG continuing to play a meaningful role in Delhi's clean mobility ecosystem alongside increasing EV penetration.

5. Growing CBG Ecosystem Supporting Long-Term Gas Supply

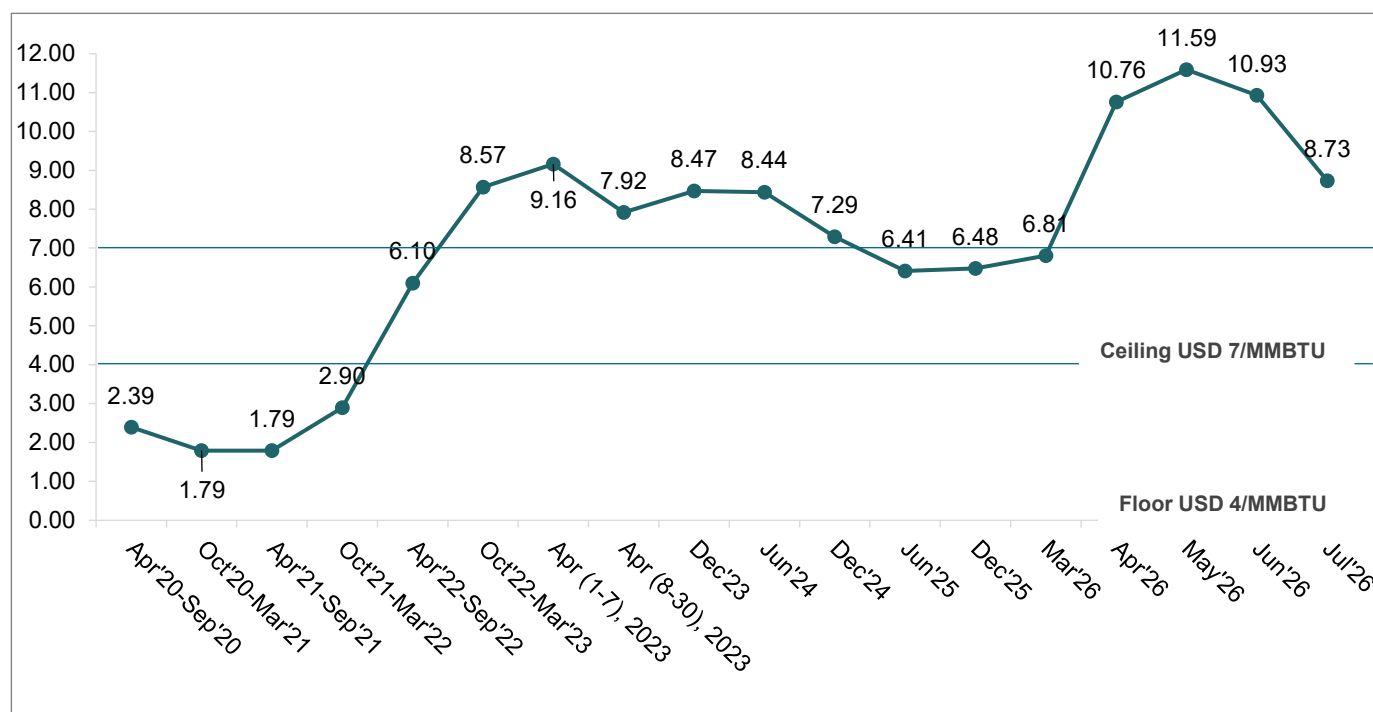
The Government has also accelerated the development of the domestic CBG ecosystem through initiatives such as the SATAT programme, enabling agricultural residues, municipal solid waste, animal waste and other organic feedstocks to be converted into renewable gaseous fuel. As of FY2026, approximately 1,825 CBG plants have been registered, of which 210 plants have been commissioned, while 1,615 plants are at various stages of development, indicating a significant project pipeline.

- The continued commissioning of these projects is expected to augment domestic renewable gas availability, support the gradual integration of CBG into CGD networks, reduce dependence on imported LNG over the long term and strengthen supply diversification for both PNG and CNG consumers

8. Policy-push on pricing and steady domestic gas trajectory.

Pricing Reforms: The Kirit Parikh Committee reforms were announced on 6 April 2023 and notified on 7 April 2023, introducing a new APM pricing mechanism that linked domestic gas prices to 10% of the monthly Indian crude basket with a floor of \$4/MMBtu and a ceiling of \$6.50/MMBtu (now revised to \$7/MMBtu from April 2026), replacing the earlier volatile formula that had pushed prices to around \$8.57/MMBtu. This immediate reduction in APM prices significantly benefited City Gas Distribution companies by lowering input costs, improving operating margins, and enabling them to pass through the benefits to end consumers, which boosted affordability for consumers and accelerated adoption. The predictable pricing regime under the floor-ceiling structure also provided long-term stability and investment confidence for CGD operators, while freer pricing for difficult fields incentivized upstream production, creating a balanced framework that ensured both supply security and consumer affordability. Price ceilings on APM and HPHT gas, reductions in value added tax of natural gas and reductions in goods and services tax on CNG vehicles have further contributed to favourable sector dynamics.

Figure 22: Domestic Pricing for Natural Gas including APM floor and ceiling, USD/MMBTU, 2020-2026



Source: PNGRB, Crisil Intelligence

Furthermore, Natural gas prices witnessed sharp volatility during FY21–FY22, with international LNG benchmarks such as JKM and India spot LNG prices spiking to unprecedented levels amid global supply disruptions, while domestic gas prices remained relatively insulated. HPHT prices stayed structurally lower and less volatile throughout the period, underscoring the competitiveness of domestically produced gas for priority consumption segments. The IGX-discovered price demonstrated partial linkage to global trends but with significantly lower volatility, reflecting the growing depth and resilience of India's domestic gas trading ecosystem. From FY23 onwards, both global and domestic gas prices moderated and converged into a narrower band, indicating easing supply constraints and a more balanced global LNG market.

Natural gas prices are subject to seasonal variability, typically exhibiting higher price levels during winter months. Further, prevailing flow-based terminal arrangements generally limit the ability to hold gas inventory for extended durations, thereby constraining trading and arbitrage opportunities

Allocation Priority: Continued prioritisation of the CGD sector for allocation of APM, NWG and HPHT gas reflects sustained government policy support for the city gas distribution companies. The Government of India formalized the prioritization of domestic PNG and CNG supply under MoPNG guidelines issued on 10 August 2022, which explicitly elevated CGD segments above power and fertilizer in domestic gas allocation ensuring CGDs receive prioritised APM gas for PNG and CNG thereby lowering input costs and keeping consumer prices competitive amid this reliable supply chain. To incentivize production from challenging HPHT, deepwater, and ultra-deepwater fields, a policy was launched on 1 January 2016, granting pricing and marketing freedom (subject to a ceiling linked to alternate fuels) for gas from these areas, enhancing investment returns and upstream output. Finally, to optimize allocation further, MoPNG introduced reforms effective Q1 FY 2025–26 (announced 18 April 2025), instituting two-quarter advance allocations for CNG/PNG and transitioning New Well Gas (NWG) from auctions to pro-rata quarterly allocation by GAIL, with pricing tied to the Indian crude basket ensuring steady, affordable gas access and predictable supply for CGD operators.

Unified Tariff: The government introduced the Unified Tariff policy effective 1 April 2023, as part of the “One Nation, One Grid, One Tariff” initiative, standardizing pipeline transportation charges across all interconnected natural gas pipelines to simplify cost structures. Initially, this policy maintained three distinct tariff zones differentiated by distance from the gas source. To further streamline rates and eliminate regional disparities, the Petroleum and Natural Gas Regulatory Board (PNGRB) issued a second amendment on 4 July 2025, reducing the unified tariff zones from three to two and extending the Zone 1 tariff (which covers distances up to 300 km) nationwide for CNG and domestic PNG users irrespective of their distance from the gas source. The two-zone unified tariff framework of the national natural gas grid is expected to facilitate optimisation across demand centres on a pan-India basis.

Additional initiatives include:

- **CBG Blending Mandates:** CGD operators are required to blend up to 5% Compressed Bio Gas (CBG) into their networks, supported by fiscal incentives and uniform pricing schemes.
- **Infrastructure Status for CGD Projects:** This enables easier access to financing and lower borrowing costs.
- **Single-Window Clearances:** Many states have adopted fast-track approval mechanisms for RoW and pipeline laying, reducing project timelines.
- **Tax Incentives:** Lower VAT rates on natural gas in several states and discussions to bring natural gas under GST, which would allow CGD operators to claim input tax credits on capital goods and services, further improving project viability.
- **Priority in LNG Infrastructure Development:** Expansion of LNG regasification terminals and pipeline connectivity ensures uninterrupted supply for CGD operators, even as domestic production grows at a projected 3% CAGR through FY30, driven by KG Basin deepwater fields, new Bay of Bengal blocks, Discoveries in Cambay, Kutch, and Mahanadi Basins; CBM output rising to 5 MMSCMD by FY27-28, and marginal field reforms.

Collectively, these measures pricing reforms, priority allocation, tariff rationalization, and infrastructure facilitation create a strong policy framework that underpins CGD growth and positions natural gas as a cornerstone of India’s clean energy transition.

9. Global LNG Market - Glut, tie-ups and expansive cross-country infrastructure.

The LNG Glut: The International Energy Agency’s Gas 2025 report (October 2025) signals a “coming LNG wave,” with global liquefaction capacity projected to rise by ~300 bcm/year by 2030, adding ~250 bcm/year of net LNG volumes, primarily from the U.S. and Qatar. Meanwhile, substantial additional LNG capacity is under construction in Russia, Canada and African nations. In 2025 alone, the U.S. sanctioned over 80 bcm/year of new LNG capacity, the

highest ever in a single year, driving global LNG supply growth by 5.5% in 2025 and 7% in 2026. This surge is expected to ease market tightness and exert sustained downward pressure on LNG prices, creating a prolonged period of affordability. For Indian City Gas Distribution companies particularly those with the ability to import LNG this represents a significant competitive advantage, enabling them to secure long-term, low-cost gas supplies, improve margins, and accelerate network expansion. The anticipated glut aligns perfectly with India's gas-based economy vision, offering CGD operators a unique opportunity to lock in favourable contracts and strengthen their market position.

Long-Term Supply Contracts and Supplier Diversification: To be well prepared and benefit from the LNG glut, India has secured long-term LNG commitments from a diverse supplier pool including Qatar Energy, ADNOC, TotalEnergies, Equinor, Shell, BP/JERA, Trafigura, and Vitol reducing single-source exposure. Buyer allocations across PLNG, IOCL, GAIL, and others ensure fair distribution and resilience. Most contracts are indexed to Brent or Henry Hub, which, combined with moderated global volatility, positions re-gasified LNG (r-LNG) as cost-competitive under long-term deals. This strategy aligns with a looming global LNG glut.

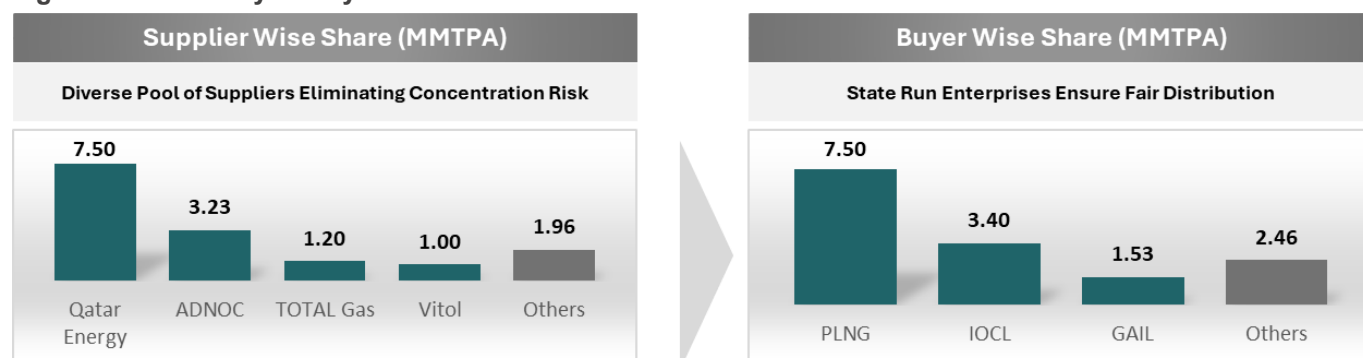
Additionally, Torrent Power Limited, a group company of Torrent Gas Limited, has entered into a long-term LNG sourcing agreement with British Petroleum and JERA separately to secure an aggregate 0.68 MTPA LNG supply for 10 years starting in January 2027. As per the press release of JERA, this agreement will also support the growing LNG requirement of the Torrent Group's City Gas Distribution (CGD) arm – Torrent Gas Ltd.'s (TGL), to ensure reliable supply of gas for households, commercial and industrial consumers and compressed natural gas (CNG) vehicles. The agreement strengthens group-level fuel security and is expected to support Torrent Gas' CGD operations by ensuring reliable LNG supply for meeting growing demand.

Table 17: India's Long Term LNG Contracts

Supplier	Buyer	Signing Year	Quantity (MMTPA)	Tenure (Years)	Supplies Start	Price Benchmark
BP	Torrent Power	Jun-25	0.41	10	Jan-27	Brent
JERA	Torrent Power	Dec-25	0.27	10	Apr-27	-
Uniper	GSPC	Feb-26	0.5	10	Jan-28	-
Trafigura	IOCL	Aug-25	0.4	4	Aug-25	Henry Hub
ADNOC	HPCL	Aug-25	0.5	10	-	-
ADNOC	IOCL	Feb-25	1.2	14	Jan-26	Brent
Total Gas	GSPC	Feb-25	0.4	10	Jan-26	Henry Hub
Shell	AMNS	May-24	0.5	10	Jan-27	Brent
ADNOC	IOCL	Aug-24	1	15	Jan-29	Brent
Equinor	DFPCL	Feb-24	0.65	15	Jan-26	Henry Hub
Qatar Energy	Petronet LNG	Feb-24	7.5	20	May-28	Brent
ADNOC	GAIL	Jan-24	0.53	10	Jan-26	Brent
Vitol	GAIL	Jan-24	1	10	Jan-26	Brent
Total Gas	IOCL	Jul-23	0.8	10	Jan-26	Brent

Note: AMNS stands for Arcelor Mittal Nippon Steel, DFPCL Stands for Deepak Fertilizer and Petrochemicals Corporation Limited

Source: Company Disclosures, Crisil Intelligence

Figure 23: Summary of Key LNG Contracts


Source: Company Disclosures, Crisil Intelligence

LNG Cost Dynamics: Natural gas contracts are primarily linked to Henry Hub (HH) or Brent benchmarks, with HH prices ranging between USD 4–5 per MMBTU and a slope of 11–13% (DES) to crude. Prices are generally quoted Ex-Indian Ports (DES), and after adding regasification costs for RLNG, the expected landed price is around USD 9 per MMBTU. Considering Brent in the range of USD 65–70, APM gas is expected to be about USD 7 per MMBTU, HHPT around USD 8.5 per MMBTU, and NWG close to USD 9 per MMBTU, making RLNG increasingly competitive in the near future.

Global LNG Capacity Wave and India's Share: According to the IGU world LNG Report 2025, LNG infrastructure is set to scale aggressively with ~210 MTPA and ~266 MTPA of incremental liquefaction and regasification capacity respectively under different phases of construction. Liquefaction capacity is expected to surge by 250–300 bcm annually by 2030, driven by mega-expansions in the U.S. and Qatar, alongside new projects in Africa and Asia. This unprecedented wave of supply is forecast to depress LNG prices well below historical highs, creating a buyer's market and reinforcing India's procurement strategy.

Table 18: Operational LNG Terminals in India, MMTPA, FY25-26

Operator	Location	Region	Capacity as on Apr - 2026 (MMTPA)	Capacity Utilization (FY2025-26) (%)
Petronet LNG Ltd	Dahej	West	22.5	95.5
Shell Energy India Pvt Ltd	Hazira	West	5.2	26.9
Konkan LNG Terminal	Dabhol	West	5	35.3
Petronet LNG Ltd	Kochi	South	5	27.9
Indian Oil LNG Pvt Ltd	Ennore	South	5	25.3
GSPC LNG Ltd	Mundra	West	5	17.6
Adani Total Pvt Ltd	Dhamra	East	5	33.7
HPCL LNG Terminal	Chhara	North	5	6.2
Total			57.7	

*Only HP stream of capacity of 2.9 MMTPA is commissioned.

Source: PPAC, Crisil Intelligence

Table 19: Upcoming/ Proposed Regas Terminal India

S.No.	Terminal Name	Capacity (MMTPA)
1	Swan LNG, Jaffrabad (FSRU)	5
2	WCPL (FSRU) Jaigarh Mah.	6
3	Karaikal	1

4	PLL Gopalpur	5
5	Kakinada (FSRU)	7.2
	Total	24.2

Source: PNGRB

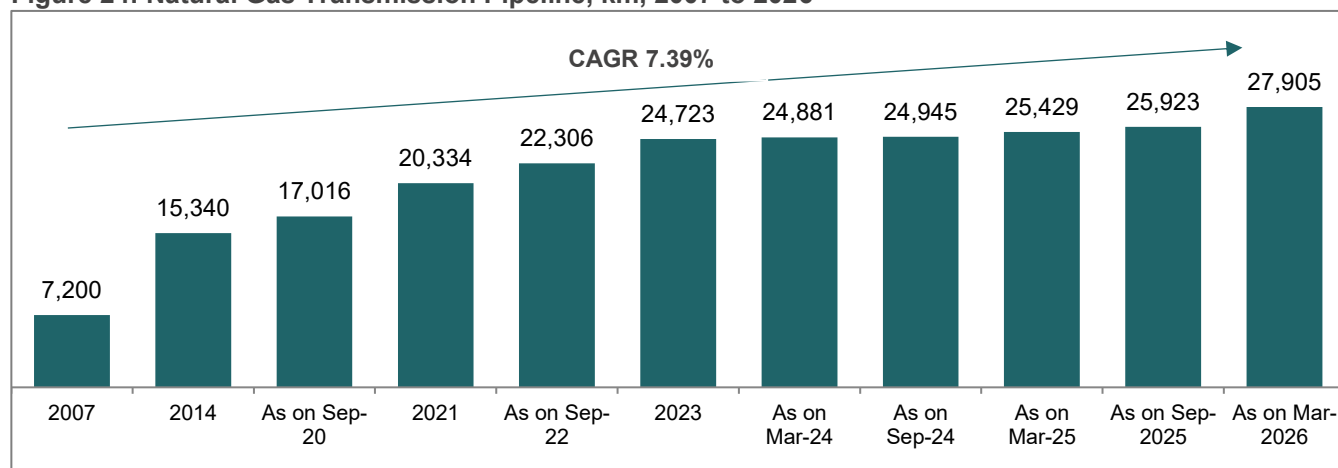
India's Investments in the Mozambique's Rovuma Basin – One of the Largest Natural Gas Resources

Globally: ONGC Videsh, Oil India, and BPCL through its subsidiary BPRL Ventures Mozambique jointly hold a 30 percent stake (16%, 4%, and 10%, respectively) in the prolific Area 1 offshore LNG project in Mozambique's Rovuma Basin, one of the world's largest gas discoveries. In addition, GAIL (India) Limited has signed a long-term LNG offtake agreement from this project, ensuring a steady supply of natural gas to India. This arrangement provides significant benefits to the City Gas Distribution (CGD) sector by securing reliable and competitively priced LNG, reducing dependence on volatile spot markets, and strengthening supply stability. The investments by ONGC Videsh, Oil India, and BPCL are strategically aimed at enhancing India's energy security by gaining access to large gas reserves and facilitating LNG imports into India, thereby diversifying supply sources and supporting the country's long-term energy requirements.

India's LNG Import: Globally, LNG export infrastructure has scaled aggressively with 210 MTPA and ~266 MTPA of incremental liquefaction and regasification capacity respectively under different phases of construction as of Dec 2024. Asia and Europe dominate import terminal additions, while the U.S. leads liquefaction capacity growth, with over 80 bcm/year sanctioned in 2025 alone. India mirrors this trend with LNG import capacity more than doubling in the last decade from ~35 MTPA in 2016 to ~52 MTPA by 2024, supported by terminals at Dahej, Hazira, Kochi, Ennore, Mundra, Dhamra, and the new Chhara terminal. Eight operational facilities now offer ~57.7 MTPA capacity (including recent expansion of Dahej by 5 MMTPA), and additional terminals are planned to meet demand that is projected to double by 2030 (to ~65 bcm annually).

India's Pipeline Infrastructure: Cross-country pipeline infrastructure has expanded significantly. Globally, 69,700 km of gas transmission pipelines are under construction, with Asia accounting for 82% of this buildout, primarily in China and India. In total, ~228,700 km of pipelines is in development worldwide, reflecting a US\$723 billion investment push to secure energy flows. India's operational national gas grid has grown from 15,340 km in 2014 to ~27,905 km as of March 2026 (~80% increase), with 8,551 km under execution to complete the grid. This expansion backed by ₹3 lakh crore investments will ensure uniform gas availability across regions and support CGD penetration. The pipeline network is projected to exceed 34,803 km in near future by enabling connectivity from LNG terminals to industrial clusters and city gas networks.

Figure 24: Natural Gas Transmission Pipeline, km, 2007 to 2026



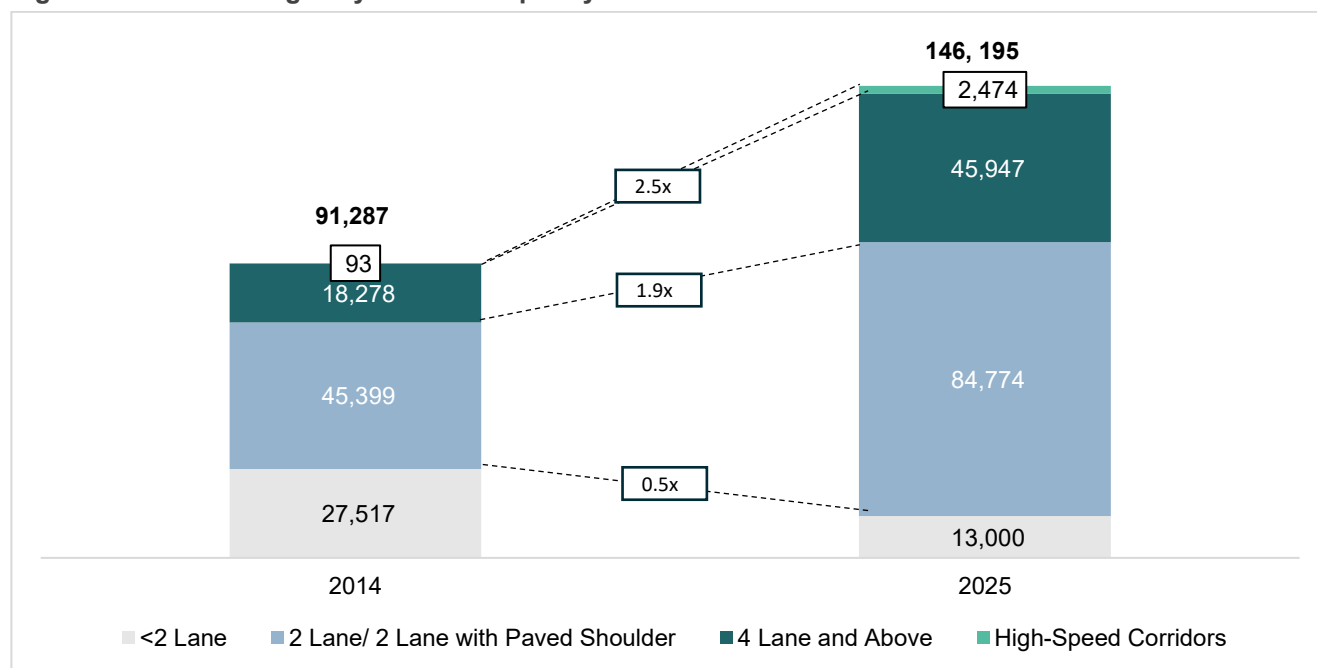
Numbers are inclusive of operational and under construction pipeline.

Source: PNGRB

10. Highways, corridors, and tourism circuits Growth - Demand anchors for CGD.

Over the last decade, India's road network has experienced unprecedented expansion, with the National Highway network growing by about 60 %, rising from approximately 91,287 km in 2014 to around 146,000 km by 2025, making it the second largest road network in the world after the United States. Expressway development has surged, with access-controlled corridors rising from 93 km in 2014 to over 5,100 km today. Simultaneously, rural connectivity under PMGSY delivered 3.5 lakh km of village roads, and overall road network now exceeds 66.7 lakh km as of 2024, making India the second- largest globally. This massive expansion has accelerated urbanisation: new highways reduce travel time, improve freight efficiency, and unlock land value along corridors.

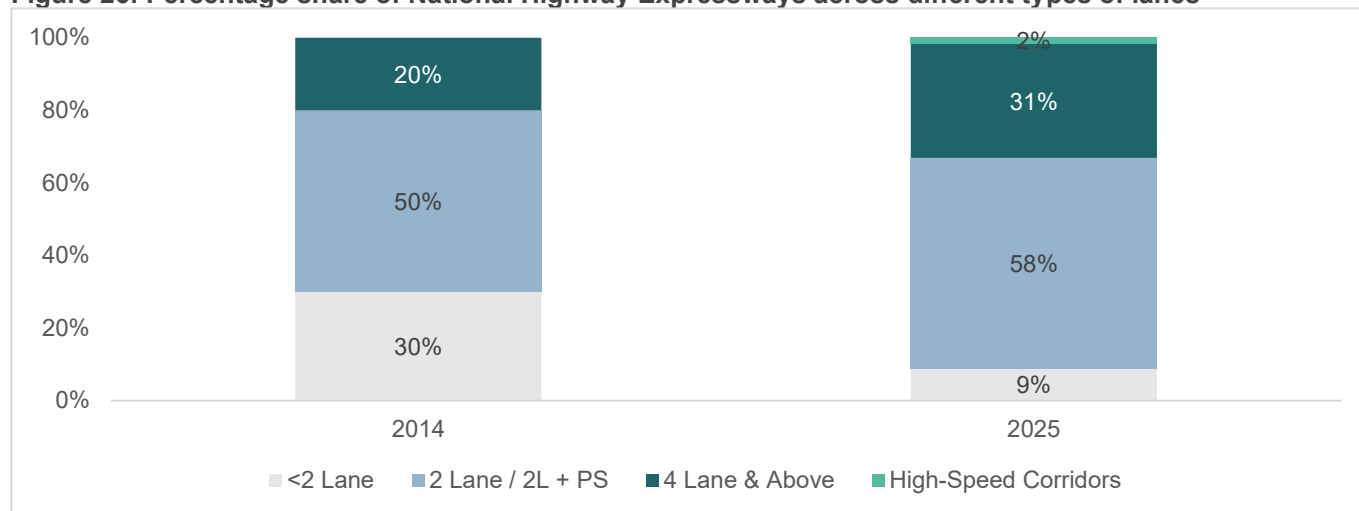
Figure 25: National Highway Corridors split by Lane



Source: PIB

New economic corridors create fresh industrial clusters and logistics hubs, boosting PNG-Industrial demand as factories, warehouses and cold chains increasingly shift to cleaner fuels. Peri-urban growth and new townships along corridors expand the addressable market for PNG-Domestic. Improved roads also reduce logistics costs for equipment and speed up CGD network rollout, while better connectivity supports CBG sourcing and virtual pipeline operations. India's transport infrastructure push is directly enlarging the CGD opportunity, improving volumes, utilisation, and long-term business attractiveness.

Studies show highways act as catalysts for land-use change, converting agricultural belts into urban zones and attracting manufacturing, warehousing, and commercial investments. The multiplier effect is evident every rupee spent on roads generates 3x economic returns, creating jobs, reducing logistics costs, and fostering inclusive growth. Lane wise Highway Breakup:

Figure 26: Percentage share of National Highway Expressways across different types of lanes


Source: PIB

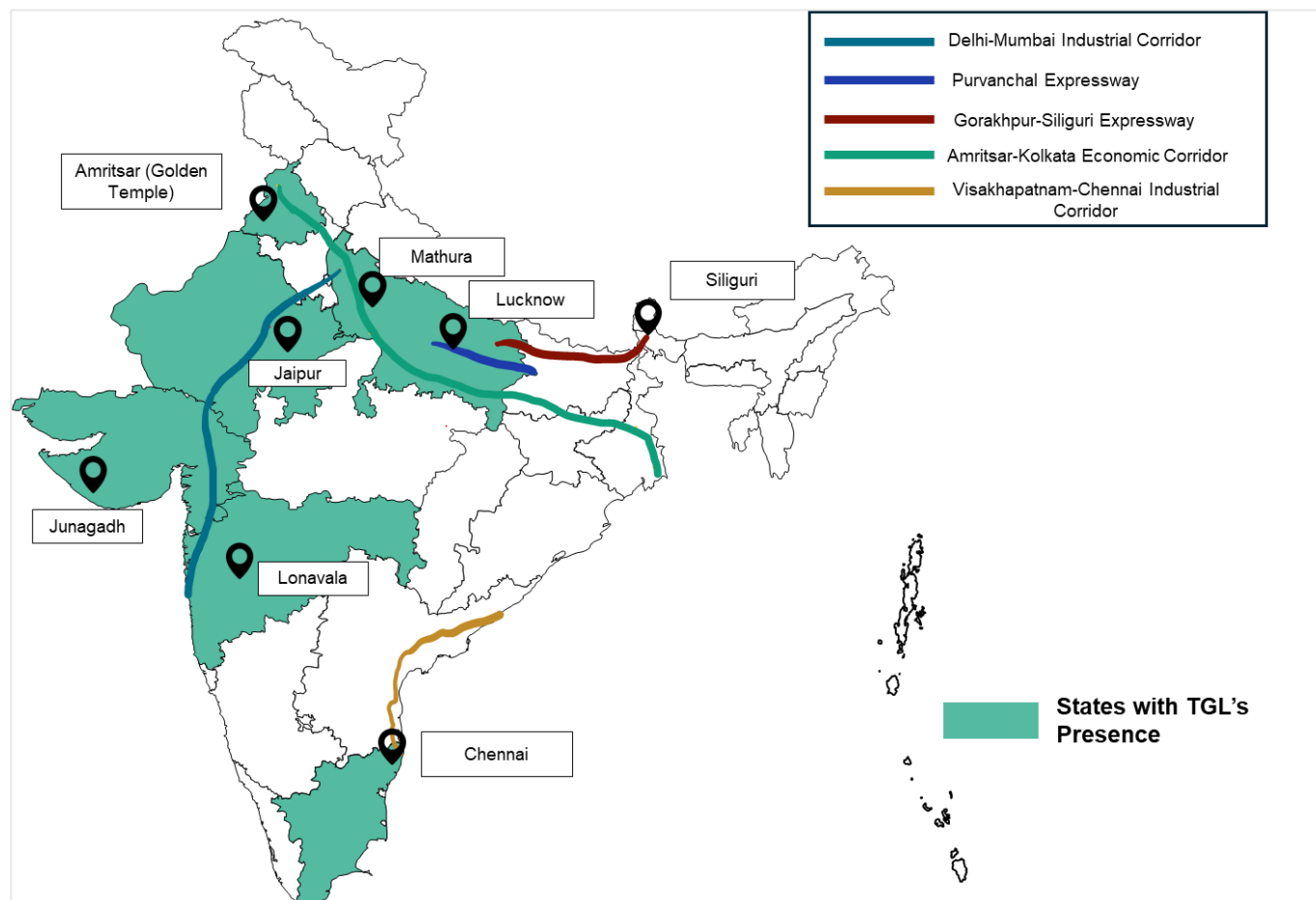
Expanding network of national highways and industrial corridors plays a pivotal role in accelerating economic development. These corridors enhance connectivity, facilitate trade, and promote industrialization, while also boosting tourism and residential growth. Their strategic alignment with major freight routes and urban clusters creates opportunities for infrastructure development and sustainable mobility solutions.

Table 20: Major Industrial and Economic Corridors

Corridor	Cities	Description
Delhi-Mumbai Industrial Corridor	Jaipur, Pune, Ahmedabad, Surat, Vadodara	High-speed freight corridors; Development of Smart Cities
Purvanchal Expressway	Gorakhpur, Mau, Azamgarh, Varanasi, Lucknow	Textiles, Handicrafts & Manufacturing; Tourism: Buddhist Circuit
Gorakhpur-Siliguri Expressway	Gorakhpur, Siliguri, Patna, Darbhanga, Muzaffarpur	Improve Integration; Boost Religious Tourism
Amritsar-Kolkata Economic Corridor	Kanpur, Amritsar, Kolkata, Allahabad, Dhanbad	Logistical Connectivity; Access to Key Markets; Residential PNG Growth
Visakhapatnam-Chennai Industrial Corridor	Chennai, Visakhapatnam, Nellore, Tirupati, Vijayawada	Drive Industrialisation; Boost Trade & Exports

Source: Crisil Intelligence

Figure 27: Indicative Map of Major Industrial Corridors & Tourist Attractions in India



Source: Crisil Intelligence

11. Tourism as a Growth Catalyst for CGD Business

India's extensive tourism ecosystem, enriched with historical landmarks, cultural heritage sites, and natural attractions, creates a strong foundation for City Gas Distribution (CGD) growth. Every state boasts well-defined travel circuits that attract millions of domestic and international tourists annually. These circuits generate significant floating traffic across highways and urban corridors, presenting a unique opportunity for CGD companies to expand their footprint and capture incremental demand for cleaner fuels like CNG.

Tourist vehicles buses, taxis, and private cars require reliable refuelling infrastructure along major travel routes. By strategically positioning CNG stations near tourist hubs and along high-traffic corridors, CGD players can:

- **Boost Seasonal Volumes:** Increased tourist inflow during peak seasons enhances throughput at CNG stations.
- **Optimize Network Expansion:** Travel circuits often align with national highways, enabling cost-efficient infrastructure rollout.
- **Enhance Brand Visibility:** Presence in tourist destinations strengthens brand recognition and positions CGD as a sustainable mobility enabler.

Table 21: Key Tourism Circuits Driving CGD Potential

State	Major Tourist Attractions / Circuits
Uttar Pradesh	Taj Mahal (Fatehpur Sikri); Prayagraj, Ayodhya, Mathura, Varanasi
Punjab	Qila Mubarak, Moti Bagh Palace; Patiala, Jalandhar, Anandpur Sahib, Amritsar (Golden Temple)
Rajasthan	Bharatpur & Jaipur; Jaipur, Khatu Shyam, Sikar, Ajmer

Gujarat	Gir, Dwarka, Somnath; Diu, Shivpur, Porbandar
Maharashtra	Mumbai, Pune, Lonavala; Ashtavinayak Circuit
Tamil Nadu	Mahabalipuram, Kanchipuram, Chidambaram; Chennai, Pulicut, Vedanthangal

Source: Crisil Intelligence

12. Segment economics each fuel to its own, CNG's sweet spots are clear and are driving adoption of CNG across segments.

CNG: Positioned as MassMarket Mobility Fuel

Value fuel for India's mobility requirement, supported by affordability, convenience, technology maturity & increasing variant availability



Source: Vahan, Crisil Analysis

CNG has now emerged as a mass-market mobility fuel, deriving value proposition for India's expanding middle class, supported by affordability, convenience, technology maturity and increasing variant availability. The CNG economics considering Pune as a region, compare favourably with alternative powertrains, supporting a cost-conscious fuel shift from diesel and petrol to CNG.

Table 22: TCO Summary for Pune, Rs/Km, July 2026

Metric*	EV	H. Oct Petrol	Petrol - E20	CNG
On-road price (₹ lakh)	13.7	8.6	8.6	9.7
Fuel RSP (₹ / Kg or ltr or kwh)	10	160.0	112.0	97.5
Fuel cost / km (₹/km)	1.1	10.0	7.4	4.0
Annual op. cost (₹k)	42.5	201.0	154.9	97.1
TCO / km (₹)	13.3	16.5	13.9	11.2

Source: PPAC, Crisil Analysis

A comparative Total Cost of Ownership ("TCO") assessment for Pune indicates that CNG offers the most economical ownership proposition among mainstream fuel options, with a TCO of ~₹11.2/km compared with ~₹13.3/km for electric vehicles, ~₹13.9/km for petrol-E20 and ~₹16.5/km for petrol vehicles. While electric vehicles benefit from the lowest direct energy cost of ~₹1.1/km, their higher acquisition cost (~₹13.7 lakh versus ~₹9.7 lakh for CNG) results in a higher overall ownership cost. In contrast, CNG provides a favourable balance between upfront vehicle cost and operating expenditure, making it a practical ownership proposition for mass-market consumers. Based on an assumed annual vehicle usage of 17,500 km, annual operating costs—including fuel expenses, routine maintenance, insurance premiums and other recurring ownership expenses—are estimated at ~₹97,000 for CNG vehicles, compared with ~₹155,000 for petrol-E20 vehicles and ~₹201,000 for petrol vehicles.

Beyond cost competitiveness, CNG offers several qualitative advantages that support consumer adoption. CNG vehicles typically require only ~3–5 minutes for refuelling, eliminating range and refuelling anxiety associated with alternative propulsion technologies, while avoiding additional ancillary capital expenditure such as charging infrastructure or battery replacement costs. Factory-fitted twin-cylinder, dual-fuel systems offered by OEMs provide operational flexibility and technology maturity, enabling seamless switching between fuels. CNG also offers environmental benefits through negligible SOx emissions and lower carbon dioxide emissions relative to conventional liquid fuels, supporting increasingly stringent emission norms and sustainability objectives. Product availability has expanded significantly, with factory-fitted CNG passenger vehicle variants increasing to 32 in FY2026 from 22 in FY2023 and commercial vehicle variants increasing to 21 from 19 over the same period, broadening consumer choice across hatchbacks, sedans, utility vehicles and commercial vehicles. Supported by an operational network of over 8,900 CNG stations and continued expansion of city gas infrastructure, CNG has strengthened its position as a preferred fuel for both intra-city and inter-city mobility, facilitating continued fuel switching from petrol and diesel while supporting long-term growth in vehicular natural gas demand.

CNG now serves well-defined use cases across multiple segments like cars (entry buyers Rs. 8–15 lakh; urban–rural commuters; long-distance journeys), taxis (fleet owners; interstate travel; “on-call” services), autorickshaws (medium distances; strong infra-availability; cost-effectiveness), LCVs (fixed routes; shuttle autos; reduced pilferage), buses (state/city transport conversions; visible penetration), and two-wheelers (emerging segment where station density and cost efficiency matter). New growth drivers include CNG commercial vehicles, supported by OEM launches, lower operating costs than diesel, and rising adoption in rural to urban logistics, urban freight, and medium-haul transport. While EVs continues to find its market in micro-segments (e.g., last mile 2W), CNG offers a compelling blend of upfront cost, range, and refuelling speed for multi-segment, multi-distance duty cycles especially as station density rises beyond metros.

With India’s national highway network expanding from 138,376 km in FY 2020–21 to 146,572 km by March 2026 (~6% increase), while CNG stations surged nearly fourfold from ~2,188 in 2020 to 8,980 by May 2026 (PPAC data). This infrastructure growth, combined with a proliferation of CNG-capable vehicle models, has transformed long-distance road travel. For example, a family of four traveling ~500 km from Delhi to Lucknow by state transport bus pays ~Rs. 4,800, whereas the same trip in a CNG car averaging 35 km/kg at Rs. 90/kg costs only ~Rs. 1,285 over 70% cheaper. Strategic placement of CNG stations along highways and tourist corridors is making eco-friendly, cost-effective travel mainstream.

Improved connectivity and fuelling convenience have shifted consumer behaviour: many commuters now prefer CNG cars over public transport for intercity travel, where cost savings and flexibility outweigh shared mobility limitations. CNG penetration is rising in personal vehicles and fleet taxis on high-traffic corridors. Institutional adoption is accelerating too municipal corporations and state transport undertakings are deploying CNG buses for city and intercity routes, citing better mileage, lower emissions, and compliance with clean-air mandates. Utility fleets and waste collection vans operated by civic bodies are also switching to CNG for cost and environmental benefits.

Running Cost & TCO Dynamics: A comparative Total Cost of Ownership (“TCO”) analysis of Tata Nexon variants in Pune indicates that CNG offers the most economical ownership proposition, with a TCO of ₹11.2/km, compared with diesel (₹12.3/km), petrol-E20 (₹13.9/km), pure petrol (₹16.5/km) and electric vehicles (₹13.3/km). While electric vehicles demonstrate the lowest running cost at ₹1.14/km owing to lower energy and maintenance expenses, their significantly higher upfront acquisition cost and potential battery replacement requirements result in a higher overall ownership cost. In comparison, CNG provides an optimal balance between purchase price and operating expenses, delivering the lowest lifetime ownership cost over a 10-year vehicle life assuming annual usage of 17,500 km. The favourable economics of CNG are further supported by expanding refuelling infrastructure, improving vehicle availability across multiple segments and sustained consumer preference for cost-efficient mobility solutions, reinforcing its attractiveness as a fuel choice for mass-market transportation.

CGD network deepening along highways and dealer-led models has driven 23% YoY growth in CNG commercial vehicles and 37% YoY growth in CNG private vehicles (FY23→FY25 across TGL areas). OEMs are betting on CNG across body styles hatchbacks, sedans, compact SUVs, and MUVs with mainstream launches and safety improvements (e.g., 5-star Bharat NCAP ratings), reinforcing consumer confidence.



Table 23: Comparative overview of TCO

Parameters	EV ³	Pure Petrol	Petrol - E20	Diesel	CNG
On road price (Rs)	1,365,000	857,377	857,377	1,044,237	967,623
Cost of fuel (Rs / litre or Rs/ kg or Rs / kwh)	10	160	112	98.5	97.5
Fuel efficiency (km / unit fuel)	8.75	16	15.2	21	24
Cost per km	1.14	10.00	7.37	4.69	4.06
Life of vehicle (years)	10	10	10	10	10
Average distance per year (km)	17,500	17,500	17,500	17,500	17,500
Running cost	42,500	201,000	154,947	108,083	97,094
Maintenance cost / year	2,500	12,000	12,000	12,000	12,000
Salvage value after 8 years	273,000	128,607	128,607	156,636	145,143
TCO (Rs /km)	13.3	16.5	13.9	12.3	11.2
CNG total cost competitiveness %	19%	47%	24%	10%	0%

*For Tata Nexon

1. Present petrol diesel and CNG prices (prevailing price in the month of July 2026) for Pune considered for calculation of TCO.

2. On road price is for base model of Tata Nexon in the respective category.

3. Fuel efficiency considered based on Maruti Suzuki WagonR Duo model. Battery replacement cost is taken as average of 30 – 40 Kwh based on various market estimates

Source: Crisil Intelligence

At an earlier stage, the adoption of CNG vehicles was limited by technological constraints on the part of OEMs. Most vehicles used a single large CNG cylinder placed in the boot, causing major loss of luggage space, poor weight balance, reduced performance, and safety concerns. Factory-fitted CNG options were limited, and reliance on after-market conversions raised issues around safety, warranty, and reliability. As a result, CNG usage was largely confined to commercial taxis, fleet operators, and public transport, keeping demand concentrated in the commercial segment and restricting volume growth. Presently, OEMs have significantly upgraded CNG vehicle technology through better R&D and safety engineering. The introduction of dual-cylinder (twin-cylinder) systems has largely eliminated boot-space loss while improving weight distribution, vehicle stability, comfort, and safety. OEMs now offer a wide range of factory-fitted CNG models across Hatchbacks, Sedans, and Compact SUVs, providing full warranty coverage, better fuel efficiency, and lower lifecycle maintenance costs.

Compliance with global safety norms has further strengthened consumer confidence and acceptance. These advancements have boosted consumer confidence, expanded CNG adoption among private buyers, and created a cycle of higher CNG vehicle penetration, rising CNG demand, and faster CGD infrastructure expansion.

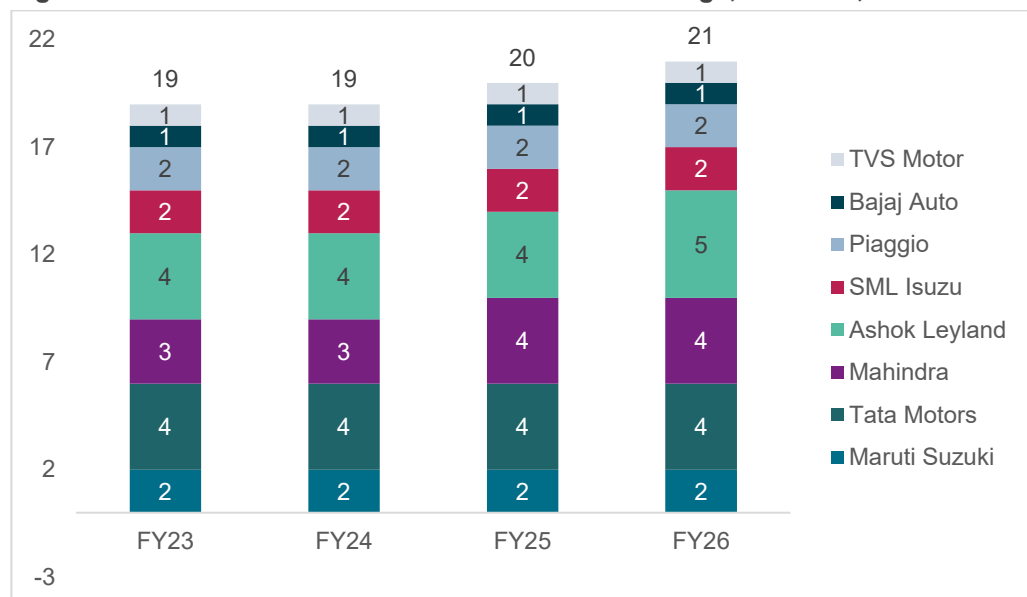
Table 24: Comparative Snapshot: CNG Vehicle Technology

Parameter	Earlier OEM Technology	Present OEM Technology
Tank Design	Single large cylinder	Dual / twin cylinder
Boot Space	Major loss	Minimal or none
Vehicle Balance	Compromised	Optimized
Safety Perception	Limited	High, OEM-certified
Installation	After-market dominated	Factory-fitted
Consumer Base	Commercial users	Mass private consumers

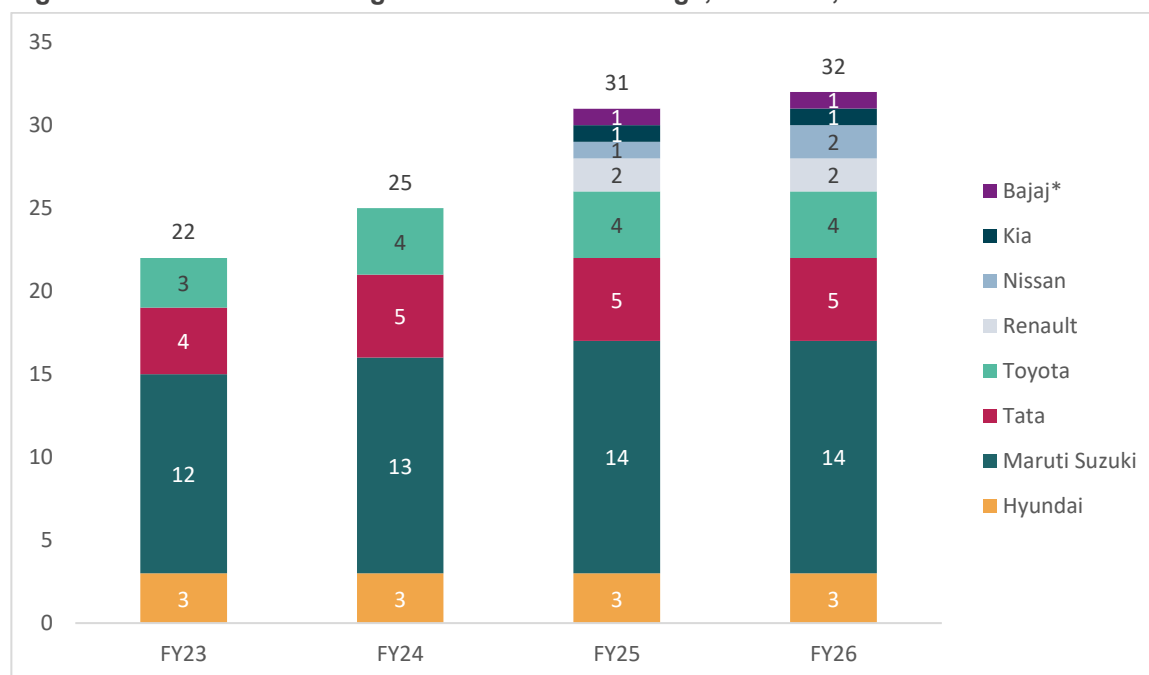
Assured by a strong regulatory support, consistent investments, increase in road and CGD refuelling ecosystem, OEMs in India have progressively expanded CNG offerings in the passenger vehicle segment over the years. A notable consumer shift from retrofitting to purchasing new CNG vehicles has further prompted OEMs to introduce dedicated factory-fitted models, reinforcing the structural growth of this segment. Parallely, cab aggregators are increasingly pivoting toward CNG fleets, driven by cost efficiency and regulatory mandates. Ola, in 2016, had announced a ₹200 crore investment to add 5,000 new CNG cabs in Delhi–NCR, expanding its CNG fleet to nearly 25,000 vehicles. Similarly, Uber, in 2018, under the “Hasiru Bengaluru” initiative incentivized drivers to adopt CNG, offering free fuel and financial benefits. Uber also confirmed that all 70,000 cabs on its Delhi–NCR platform now operate on clean fuel that is either CNG or electric. Zenplus Fleet, a fleet management company, as deployed 1,000 CNG-powered cars for Uber’s fleet operations across major cities, including Chennai, to strengthen sustainable mobility. These developments underscore a structural shift toward CNG as a practical, scalable solution for both personal and shared mobility.

As of March 2026, while the national average coverage area per CNG station stood at 368.69 sq. km per station, while the Company's Geographical Areas have an average coverage area per CNG station of 217.62 sq. km per CNG station which translates into Company's CNG station density around 69.42% higher than the national average, reflecting deeper infrastructure penetration within its operating geographies. Compared to retail outlet for petrol and diesel which has an average catchment area of 31.91 sq. km per outlet as of FY26, there exists a large unserved demand for CNG

The number of commercial CNG models remained consistent across FY23, FY24, with a marginal increase in FY25 and FY26 showcasing robust and consistent demand. Below figure shows the CNG offerings (passenger vehicle and commercial vehicle) by multiple OEMs:

Figure 28: OEM Wise CNG Commercial Vehicle Offerings, numbers, FY23-FY26


Source: Company Website, Crisil Analysis

Figure 29: OEM Wise Passenger CNG Vehicle Offerings, numbers, FY23-FY26


*Bajaj has launched a CNG 2W in FY25- Freedom 125

Source: Company Website, Crisil Analysis

The passenger CNG vehicle market in India has evolved from a niche, single-OEM segment into a broad-based, multi-OEM growth market, driven primarily by favorable fuel economics, with CNG offering approximately 35–45% lower running costs compared to petrol. Increasingly stringent emission norms and sustained cost advantages have led major OEMs such as Maruti Suzuki, Hyundai and Tata Motors to expand their CNG portfolios, alongside new model launches by global OEMs. The introduction of factory-fitted CNG variants in higher-value and premium vehicle categories reflects rising consumer acceptance of CNG as a mainstream mobility solution. With over 30 CNG

passenger vehicle models available, OEM participation continues to strengthen supply-side confidence in the segment.

Hence, CNG has evolved from a sustainable alternative to a mainstream fuel solution, delivering a unique combination of affordability, reliability, and sustainability across diverse mobility segments. Supported by robust infrastructure growth, national highways expanding to 146,572 km (March 2026) and CNG stations increasing nearly fourfold to 8,980 by May 2026, alongside OEM-led product innovation and regulatory backing, CNG now addresses multi-segment needs from personal cars and taxis to buses, LCVs, and emerging categories like commercial vehicles. Its running cost economics (~Rs. 3.7/km vs petrol at ~Rs. 5.8/km) and rapid refueling advantage position CNG as the most practical choice for intercity travel, urban commuting, and commercial fleets. With consistent double-digit growth in CNG vehicle adoption and expanding station density beyond metros, CNG is set to play a pivotal role in India's clean mobility transition, offering CGD operators a long-term, scalable opportunity to capture demand across passenger and freight ecosystems.

CNG vehicle penetration also depends on OEM production capacity, product launches and supply chain stability. Although OEMs have expanded CNG offerings in recent years with 31 passenger vehicle variants being offered in the Financial Year 2025 as compared to 9 variants being offered in the Financial Year 2020, OEM allocation decisions may shift based on internal strategies, margins, alternative fuel transition priorities or supply constraints. Additionally, delays in OEM ramp-up or reduced availability of CNG models in the future may slow new vehicle registrations. Though the Indian Government has reduced the GST rates on CNG vehicles, these rates may increase in the future, which could adversely impact the cost of such CNG vehicles. Consumer sentiment may also shift towards alternate mobility options in the future, including electric vehicles, which may be supported by government incentives and increasing OEM participation.

Government policies at the central and state levels promoting EV adoption, including incentives under schemes such as FAME, state-level EV policies, preferential registration norms, lower operating costs, and the rapid entry of domestic and international EV manufacturers, may accelerate the adoption of electric mobility across passenger, commercial and fleet segments. Further, continued improvements in battery technology, charging infrastructure availability, vehicle range and total cost of ownership may further enhance the economic attractiveness of EVs relative to CNG vehicles, especially in urban and high-density transport corridors.

EV adoption in India is still at an early stage and faces challenges such as limited charging infrastructure, higher upfront costs, charging time and range limitations. While EVs are likely to be used mainly for segments such as short-distance urban and last-mile transport, CNG continues to offer lower overall operating costs, advantages in terms of refueling time, range and infrastructure maturity over EVs and wider suitability for many passenger, commercial and public transport uses, and therefore the impact of EV adoption on CNG demand may differ across vehicle types and regions.

13. Historical Inorganic Activities

Historical inorganic activities in India's natural gas sector have played a significant role in strengthening exploration, infrastructure development and downstream distribution capabilities. Over the years, the sector has witnessed strategic mergers, acquisitions and joint ventures involving both public and private participants, aimed at expanding market reach, improving supply-chain integration and accelerating penetration of natural gas across regions. These transactions have supported the development of LNG infrastructure, city gas distribution (CGD) networks and downstream market access, thereby contributing to the evolution of a more integrated gas ecosystem in the country.

CGD companies, constrained by the pace of organic expansion and growing MWP pressures, are increasingly pursuing inorganic routes such as acquisitions, asset purchases, and strategic partnerships to strengthen their

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market position. Buying underperforming Geographical Areas or assets, partnering with financially stronger or technologically advanced players, and targeting high potential Geographical Areas offer faster, more cost-effective growth compared to fresh infrastructure rollout. The MWP regime accelerates expansion but raises financial and operational demands.

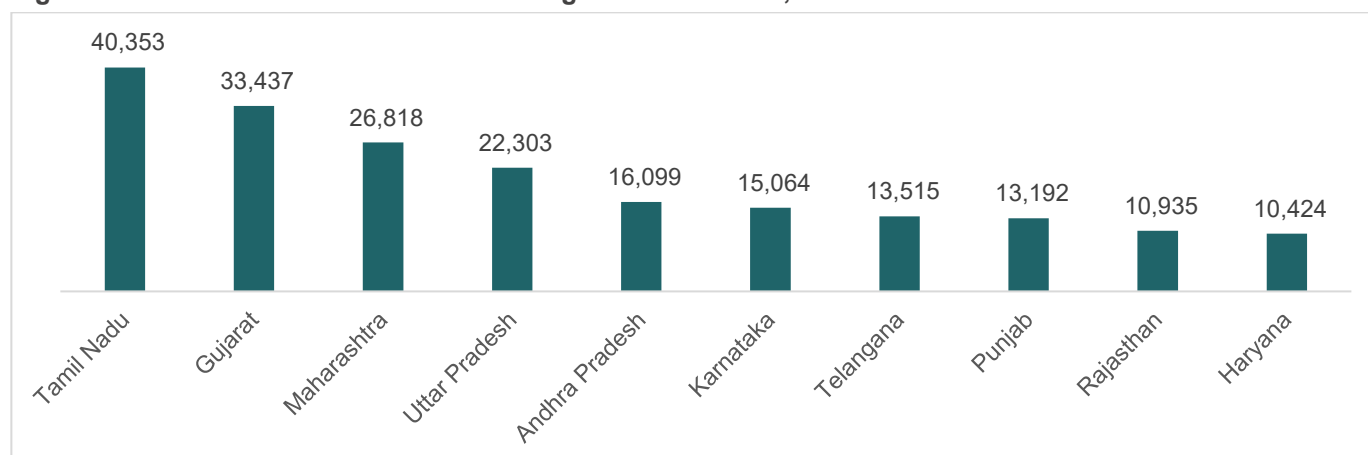
Across the industry, several CGD entities have experienced delays in achieving certain MWP parameters due to various factors including delays in obtaining requisite approvals, right-of-use challenges, coordination with local authorities, infrastructure constraints in densely populated urban areas, utility shifting requirements, supply chain constraints, consumer preferences and disruptions arising from the COVID-19 pandemic and other execution related constraints.

Between 2018 and 2025, multiple inorganic transactions were undertaken across the sector, with Torrent Gas Limited emerging as one of the more active acquirers, accounting for a significant share of CGD-related acquisitions during this period. Torrent Gas completed 100% acquisitions of entities such as Mahesh Gas, Siti Energy, Dhoolpur CGD (Essel Group) and Sanwariya Gas, primarily to expand its CGD footprint across key districts in Maharashtra, Uttar Pradesh and Rajasthan. These acquisitions enabled rapid scale-up through entry into authorized geographical areas, faster consumer onboarding and operational synergies. The company's inorganic strategy reflects a focused approach toward strengthening its presence in high-potential CGD markets and accelerating network development through brownfield expansion opportunities. This approach is supported by the Torrent Group's experience in acquisitions, integration and turnaround of regulated utility and healthcare businesses.

14. Densely Growing Factory Clusters Drive Rising PNG and LNG Demand

India's factory distribution effectively mirrors the structure of its industrial economy, and it is closely tied to PNG and LNG consumption across states. As per the Annual Survey of Industries FY24 report, the number of registered factories in largest manufacturing bases; Tamil Nadu (40,352 registered factories), Gujarat (33,437), Maharashtra (26,818), Uttar Pradesh (22,303), Andhra Pradesh (16,099), Karnataka (15,064), Telangana (13,515), Punjab (13,192), Rajasthan (10,935), and Haryana (10,424) clusters in textiles, autos, engineering goods, chemicals, pharma, food processing, electronics, and heavy industries. These sectors rely heavily on process heat, captive power, and steam generation, where PNG and LNG are steadily replacing diesel, furnace oil, LPG, and coal because of cost benefits, cleaner emissions, and compliance requirements.

Figure 30: State-wise count of number of registered factories, FY24



Source: PIB, Crisil Analysis

States with dense factory networks show both higher base gas demand and faster conversion potential, especially as new industrial corridors, expressways, and logistics hubs attract incremental capacity. LNG supplies the large,

energy-intensive segments, ceramics, glass, metals, and heavy manufacturing, while PNG networks feed small and medium units with stable, continuous supply. As industries modernise and shift toward ESG-linked operations, natural gas has become the preferred transitional fuel, supporting efficiency and lowering environmental impact. In effect, factory concentration directly shapes industrial gas demand, and the expansion of manufacturing reinforces the growth of PNG/LNG infrastructure, creating a self-reinforcing cycle between industrial activity, energy needs, and economic momentum.

Table 25: Domestic PNG Connections, FY21 – FY26

Domestic Connections (in numbers)	31-Mar-21	31-Mar-22	31-Mar-23	31-Mar-24	31-Mar-25	31-Mar-26
Gujarat	2,421,755	2,677,063	2,975,194	3,282,257	3,570,911	3,896,217
YOY (%)		10.54%	11.14%	10.32%	8.79%	9.11%
Maharashtra	1,968,976	2,327,389	2,840,638	3,429,926	4,030,722	4,708,993
YOY (%)		18.20%	22.05%	20.74%	17.52%	16.83%
Rajasthan	56,209	139,338	213,830	308,973	424,779	561,678
YOY (%)		147.89%	53.46%	44.49%	37.48%	32.23%
Uttar Pradesh	960,573	1,163,591	1,367,777	1,626,498	1,899,878	2,307,929
YOY (%)		21.14%	17.55%	18.92%	16.81%	21.48%
Telangana	143,248	162,257	193,026	211,820	235,918	263,342
YOY (%)		13.27%	18.96%	9.74%	11.38%	11.62%
Punjab	10,981	36,965	67,344	85,572	105,429	201,307
YOY (%)		236.63%	82.18%	27.07%	23.21%	90.94%
Tamil Nadu	0	0	738	25,175	72,759	145,141
YOY (%)				3311.25%	189.01%	99.48%
Puducherry & Tamil Nadu	0	0	175	329	486	728
YOY (%)				88.00%	47.72%	49.79%

Note: Data is at state level.

Source: PPAC

CGD growth driven by network expansion and demand-scale up:

Growth in the CGD sector is reflected in the steady expansion of CNG and PNG infrastructure and the corresponding increase in connected consumers across segments. The scale-up in domestic PNG connections indicates sustained household adoption enabled by network rollout, while the continued addition of CNG stations and vehicles has driven higher CNG consumption, supported by favourable cost economics relative to alternative transport fuels. The PAN India ecosystem and bottom-up demand creation is leading to emergence of new and new pocket of consumption.

Table 26: Bucketing of GAs of Torrent Gas and its benchmarked CGD companies into Tier 1/2/3 cities

Entity	Tier 1	Tier 2	Tier 3	Total
Torrent Gas Limited	2	7	8	17
Indraprastha Gas Limited	2	7	3	12
Adani Total Gas Limited	1	7	28	36

Source: Crisil Analysis

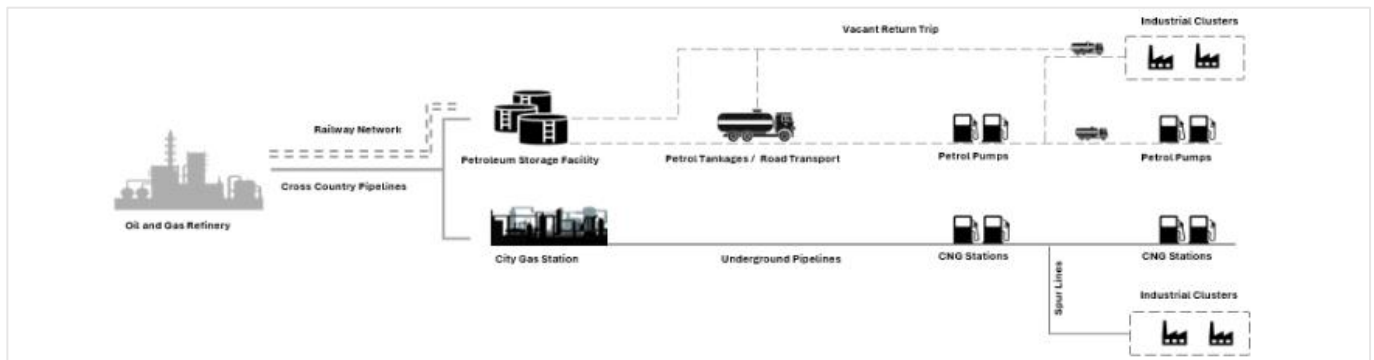
Furthermore, the distribution of geographical areas (GAs) across Tier 1, Tier 2 and Tier 3 cities indicates that future CGD demand growth is largely concentrated in lower-tier cities. Players such as Torrent Gas Limited and Adani Total Gas Limited have a significant proportion of their authorized GAs in Tier 2 and Tier 3 cities, reflecting a strategic

focus on emerging urban centres. Tier 1 markets remain relatively mature with limited headroom for incremental volume growth, whereas Tier 2 and Tier 3 cities offer structurally higher long-term demand potential. These markets are witnessing increasing urbanization, expansion in commercial and industrial activity, and rising adoption of cleaner fuels, positioning CGD players with deeper presence in such cities to capture the next phase of sectoral growth.

As several of TGL GAs remain at an early stage of the demand curve compared to more mature markets, TGL intend to drive higher demand through improved utilisation of existing infrastructure and focused consumer engagement.

15. Enhancing Safety in Fuel Delivery: The Advantage of the CGD Ecosystem

Figure 31: Comparison between Oil and Natural Gas Value Chain



Source: Crisil Intelligence

The transportation ecosystem for energy products from refinery to retail exhibits key differences between refined petroleum products (like petrol and diesel) and natural gas. While both initially utilize cross-country pipelines for transit from oil and gas refinery, petroleum products flowing to storage facilities and natural gas to city gate stations (CGS) - the subsequent "last mile" delivery methods highlight natural gas's inherent advantages in efficiency, safety and environmental impact.

Refined petroleum products typically rely on road transport via petroleum tankages to reach petrol pumps and industrial units from the storage facilities. This method contributes to the potential for accidents, generate noise pollution and greenhouse gas (GHG) emissions during transit. Furthermore, reliance on surface transport introduces opportunities for spillage or pilferage, requires regular vehicle maintenance (increasing opex) and can be affected by weather and road conditions.

In contrast, natural gas boasts a fundamentally different and more streamlined distribution model. It is distributed via extensive network of underground pipelines from CGS to CNG stations, industrial and commercial customers and domestic households. This underground infrastructure provides significant operational and environmental benefits.

Key advantages of the natural gas distribution system include:

- **Lower Emissions:** The transit process itself generates almost minimal to zero GHG emissions and noise pollution, as the fuel is moved silently underground.
- **Safer Transit:** Transport via dedicated, underground pipelines offers a safer and more secure method of fuel delivery compared to road transport, with virtually negligible chances of spillage or pilferage.
- **Cost Advantage and Reliable Transport:** Once the infrastructure is installed, the system provides uninterrupted fuel flow unaffected by weather conditions. This "one-time capex" approach leads to minimal OPEX, reduced manpower costs, and a longer asset life.

In essence, the natural gas distribution network represents a robust, efficient and environmentally considerate approach to last-mile energy delivery, ensuring a continuous, safe and clean supply to the end consumer

Table 27: Summary Table of benchmarked CGD companies on physical infrastructure, numbers, March 2026

Entity	Pipeline (inch-km)	CNG Stations	Domestic PNG Connections
Torrent Gas Limited	19,199	557	240,728
Adani Total Gas Limited	20,132	698	1,043,925
Indraprastha Gas Limited	32,873	866	3,394,974

Note: Pipeline (inch-km), CNG Stations, PNG Domestic data as of March 2026

Source: PNGRB, PPAC, Crisil Intelligence

As of FY26, TGL distribution network comprised 557 compressed natural gas (“CNG”) stations and approximately 240,728 domestic piped natural gas (“PNG”) consumers. In addition to the CNG stations, the company also owns and operates 439 stationary and 958 mobile cascades which are fungible across TGLs geographies. Further, as of November 30, 2025, TGL served 700 commercial and 618 industrial PNG consumers, resulting in a well-diversified and balanced revenue mix across retail and institutional consumer segments. Based on the number of CNG stations operated, TGL ranked as the fifth-largest city gas distribution (“CGD”) company in India.

Furthermore, Torrent Gas Limited’s CNG infrastructure exhibits materially higher network density compared to the national average. Based on the number of operational CNG stations relative to its authorised geographical area, As of June 30, 2026, the Company’s CNG station density stands at approximately 0.00460 stations per square kilometre, as against the all-India average of approximately 0.00273 stations per square kilometre. Accordingly, the Company’s CNG station density is around 68.12% higher than the national average, reflecting deeper infrastructure penetration and accessibility within its operating geographies.

16. GAs covering Metropolitan cities

A metropolitan area, defined as a region with a population of 10 lakh or more, is India’s economic engine; driving GDP growth through advanced infrastructure, skilled talent, and diverse industries. These cities foster innovation, create high-value jobs, and serve as global trade gateways. Equipped with essential urban infrastructure; power, water, transport, healthcare, education, retail, digital connectivity, and City Gas Distribution (CGD); they ensure modern living standards. CGD, in particular, provides clean, reliable, and economical energy for households, businesses, and industries, making it integral to sustainable urban development.

Table 28: Population of Metropolitan Cities in India, millions, 2025

Metropolitan City	CGD Entity	Date of Authorization	Population (millions)
Delhi	Indraprastha Gas Limited	09-01-2009	30.22
Mumbai	Mahanagar Gas Limited	21-01-2009	20.20
Bengaluru	GAIL Gas Limited	18-02-2015	13.18
Kolkata	Bengal Gas Company Limited	02-02-2016	22.55
Chennai	Torrent Gas Limited	07-09-2018	11.15

Source: United Nations Department of Economic and Social Affairs

Historically, CGD authorizations for metropolitan cities have been granted exclusively to PSUs or government-led joint ventures. This trend persisted until 9th Bidding Round (2018), when authorisation of Chennai GA to Torrent Gas Limited broke the pattern. With this the company became the only private sector CGD company having a Metropolitan region and two state capitals (Chennai and Jaipur) in its portfolio with its presence in metropolitan of Chennai along with the Chennai & Tiruvallur Districts marking a significant regulatory milestone. Among the listed CGD entities, Torrent Gas Limited ranked third in terms of operational area (sq. kms.) as of June 30, 2026

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The metropolitan advantage for a CGD company is evident from Mumbai's success story. Mahanagar Gas Limited's journey in Mumbai illustrates how city gas distribution networks evolve from slow beginnings to accelerated growth, driven by metropolitan advantages. Initial adoption was modest, domestic PNG connections rose from about 0.94 million in FY2017 to 1.03 million in FY2018. As consumer awareness and infrastructure density improved, growth picked up sharply with active connections jumped to 1.26 million by FY2020, 1.51 million by FY2023, and 1.69 million by FY2024, reaching 1.86 million by FY25. This consistent acceleration reflects Mumbai's high population density (~20.2 million) and strong economic base (₹8.01 lakh crore GDP – FY2024), which created fertile ground for sustained adoption. Chennai, with similar metropolitan characteristics population of ~11.15 million and GDP ₹3.20 (at current prices) lakh crores as of FY24 together with supportive PNGRB policies and phased infrastructure development, create structural conditions conducive to long-term growth of demand. These parallels illustrate how early investment in high-capacity pipeline infrastructure can support sustained volume growth as demand matures over time.

In mid-2021, Torrent Gas launched CNG operations in Chennai, a city that previously lacked retail availability of CNG and PNG. This marked a significant milestone, as Chennai was the only metropolitan area in the country without access to these fuels. The introduction of retail CNG services in Chennai has made it easier for CNG-powered vehicles to operate within the city. PNG penetration in Chennai is currently at an evolving stage, with gradual network expansion and increasing consumer adoption. Similarly, CNG infrastructure in cities such as Pune (outer areas) and Jaipur is expanding as part of the broader development cycle typically seen in emerging city gas distribution markets.

17. Government Action in response to Geopolitical Scenarios on Gas Supply

In response to the recent geological turmoil, the Government of India's announced priority order for natural gas allocation which is broadly positive for city gas distribution (CGD) companies, as it ensures 100% supply for CNG and domestic PNG, along with 80% supply for industrial and commercial PNG based on the past six-month average consumption. However, this consumption-based allocation framework may restrict near-term volume growth for CNG and domestic PNG. At the same time, the delivered cost of LNG has risen due to higher freight rates, which could exert pressure on margins for CGD operators.

Excluding trading volume, cumulative sales for CNG and PNG for TGL stood at 428.76 MMSCM for the half year ended September 30, 2025. During this period, CNG and domestic PNG together contributed approximately 331.24 MMSCM, while the industrial and commercial segments contributed 97.52 MMSCM. With 100% of natural gas supply for CNG and domestic PNG secured, and gas supply for industrial consumers assured up to 80%, nearly 96% as top priority (100% allocation) of TGL's existing volumes are now covered under the Natural Gas (Supply) Regulation 2026, issued under the Essential Commodities Act

Table 29: Natural Gas Supply Availability for TGL post Natural Gas (Supply) Regulation (2026), %

Particulars	H1-FY26	H1-FY25	FY25	FY24	FY23
CNG	320.09	245.03	528.08	396.96	316.22
Domestic PNG	11.14	8.06	18.31	11.99	5.58
Commercial	2.87	1.56	3.82	2.12	1.59
Industrial	94.65	58.71	139.13	83.49	52.53
Total (Ex Trading)	428.76	313.37	689.35	494.57	375.92
Reduction in Industrial and Commercial Supply as per notification	19.50	12.05	28.59	17.12	10.82
Assure Volumes (MMSCM)	409.25	301.31	660.76	477.44	365.10
Assured Volumes (%)	95.45%	96.15%	95.85%	96.54%	97.12%

Note: CNG sales include sales from CBG

Source: Company Filings

Additionally, India produced 97 MMSCMD of natural gas in the year ended March 31, 2025, of which CGD sector consumption accounted for ~42.7 MMSCMD, of which CNG and Domestic PNG amount to ~29 MMSCMD of natural gas. This indicates that the domestic gas availability for CGD sector across all segments is roughly 2x, whereas the availability of domestic natural gas for CNG and Domestic PNG segment is 3x of its requirement. Hence, with the revised priority as defined in the notification under the Natural Gas (Supply) Regulation 2026, issued under the Essential Commodities Act, domestic natural gas supplies remains adequate to meet the CGD sector's needs especially for the CNG and Domestic PNG segments.

The order further obligates all CGD operators to immediately implement revised supply schedules and diversion protocols issued by the Central Government through GAIL, with such directives overriding any conflicting provisions in existing Gas Sale Agreements or commercial contracts. Collectively, these measures reinforce CGD's strategic role by safeguarding domestic household needs, maintaining mobility through CNG, and ensuring continuity for industrial and commercial customers within an objectively regulated allocation framework.

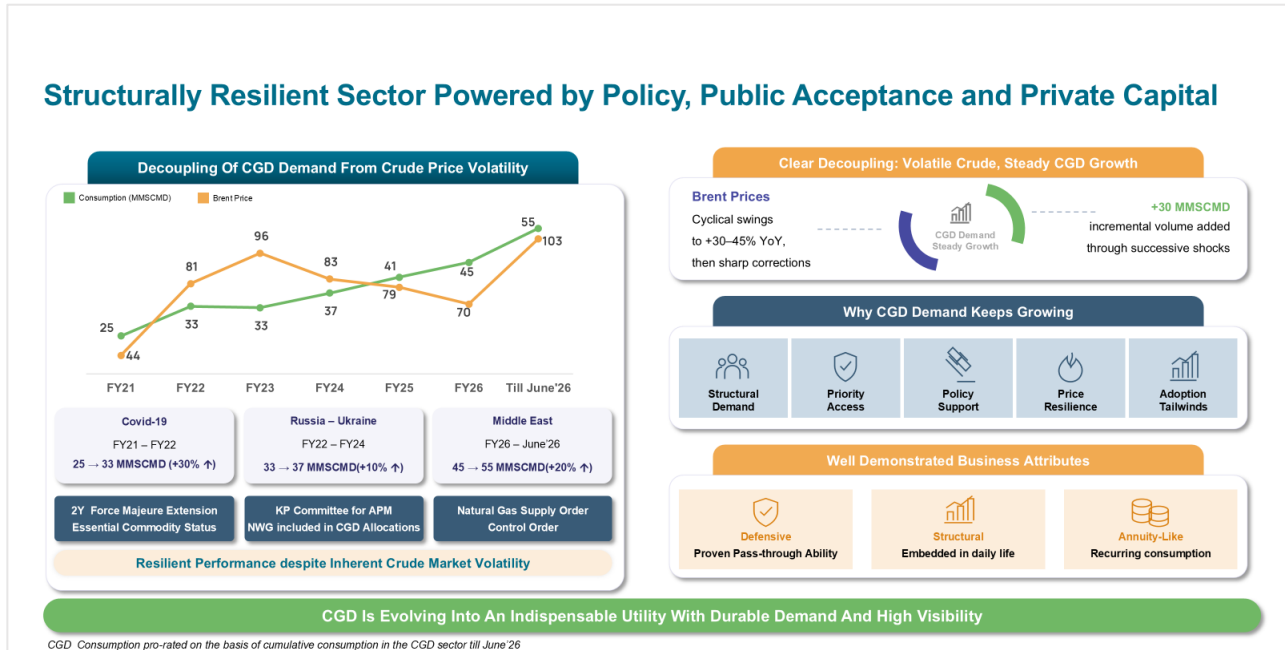
Recent geopolitical developments and supply chain disruptions have highlighted structural vulnerabilities in India's cooking fuel supply chain. India imports a significant portion of its LPG requirements, with approximately 60% of domestic LPG consumption being met through imports. A substantial share of these imports is sourced from the Middle East and transported through the Strait of Hormuz, a key global energy transit chokepoint. Consequently, geopolitical tensions or disruptions affecting this maritime route have affected the LPG supply logistics and lead to temporary supply constraints in the cylinder-based distribution system. In contrast, households connected to Piped Natural Gas ("PNG") receive cooking fuel through pipeline infrastructure developed under the City Gas Distribution ("CGD") network. The pipeline-based delivery model reduces reliance on physical cylinder logistics and international shipping routes for last-mile supply, enabling continuous fuel delivery through interconnected gas transmission and distribution networks.

The Government of India has established a policy framework that prioritizes allocation of domestically produced natural gas to priority segments such as domestic PNG and CNG used in the transport sector. A portion of this supply is sourced from APM gas, NWG and HPHT gas, which is allocated to CGD entities for supply to priority consumer segments. This, coupled with the Natural Gas Supply Regulation Order, 2026 dated March 9, 2026 ("Order"), which reaffirms this priority, and which ensures 100% allocation to the PNG and CNG (transport) sector based on the average consumption during the past six months, has strengthened supply continuity for CNG (transport) and domestic PNG consumers, particularly during such periods of ongoing geopolitical disruptions resulting in tighter gas availability. However, approximately 50% of India's natural gas demand is currently met through LNG imports. Accordingly, while such policy measures prioritize the allocation of domestic gas and imported LNG to the CGD sector, there can be no assurance that adequate domestic gas and LNG will be available to meet demand in the event of geopolitical conflicts or broader supply chain disruptions. Further, as per the prioritization framework under the applicable order, industrial and commercial PNG segments, where allocation is limited to 80% of the average consumption of the preceding six months, may be adversely affected. Any such constraints could have a material adverse impact on industrial and commercial segments of CGD companies, results of operations, financial condition, and cash flows from these segments.

While India imports LNG to meet a significant portion of its overall natural gas demand, the CGD sector benefits from priority domestic gas allocation and access to an expanding national gas pipeline network, which together support relatively stable supply for household PNG consumers. As a result, the CGD sector plays an important role in India's urban energy ecosystem by providing households with pipeline-based access to natural gas for cooking fuel, supported by government policy and infrastructure expansion.

18. Structural Resilience of CGD Demand Amid Global Energy Shocks

Figure 32: CGD Demand Resilience



Source: PPAC, EIA, PNGRB, Crisil

CGD gas consumption increased from 25 MMSCMD in FY21 to 33 MMSCMD in FY23, 37 MMSCMD in FY24, 41 MMSCMD in FY25, 45 MMSCMD in FY26 and 55 MMSCMD till June 2026. Over the same period, Brent crude prices moved from \$44 per barrel in FY21 to \$81 in FY22, \$96 in FY23, \$83 in FY24, \$79 in FY25, \$70 in FY26 and \$103 till June 2026. The data indicate steady CGD volume growth despite fluctuations in crude prices. During Covid-19 in FY21-FY22, consumption increased from 25 MMSCMD to 33 MMSCMD, or 30%; during the Russia-Ukraine disruption over FY22-FY24, consumption rose from 33 MMSCMD to 37 MMSCMD, or 10%; and amid Middle East-related volatility during FY26 to June 2026, consumption increased from 45 MMSCMD to 55 MMSCMD, or 20%. Thus, despite cyclical movements of 30-45% year-on-year in Brent prices followed by sharp corrections, CGD demand added more than 30 MMSCMD through successive shocks. Sector resilience was supported by the two-year force majeure extension and essential-commodity status during the covid period, the Kirit Parikh Committee recommendation to include new-well gas in CGD allocations during the Russia Ukraine war, and the Natural Gas Supply Order Control Order during the middle east crisis. Demand growth is supported by structural demand, priority access, policy support, price resilience and adoption tailwinds, while the sector's business attributes include defensive pass-through ability, structural demand embedded in daily life and annuity-like recurring consumption. Overall, the data indicate that CGD is evolving into an indispensable utility with durable demand and high visibility. Overall, CGD's resilience is reflected in sustained volume growth across commodity-price cycles and external disruptions, supported by recurring end-use demand, priority gas allocation, policy support and the ability to pass through input-cost movements.

The Indian CGD sector has demonstrated resilient demand growth despite significant volatility in global crude oil markets over the past several years. Brent crude prices fluctuated sharply from an annual average of approximately US\$42/bbl in 2020 to around US\$101/bbl in 2022 before moderating to approximately US\$70/bbl in 2025, reflecting the impact of successive global disruptions, including the COVID-19 pandemic, Russia – Ukraine war and supply-side uncertainties. Notwithstanding these fluctuations, CGD demand in India increased consistently from approximately 30 MMSCMD in FY20 to over 45 MMSCMD in FY26, representing growth of nearly 50%. The sustained expansion in demand, despite pronounced movements in global energy prices, highlights the structural nature of

CGD consumption, supported by continued network expansion, increasing CNG and PNG penetration, urbanisation, favourable policy initiatives and rising consumer preference for cleaner fuels, rather than short-term fluctuations in crude oil prices

Covid-19 Period (2020–2021): Strong Recovery from an Unprecedented Shock

The Covid-19 pandemic resulted in one of the sharpest declines in global energy demand, with Brent crude experiencing extreme volatility and falling by over 34% in 2020 at the peak of the crisis. During this period, CGD demand briefly moderated to around ~25 MMSCMD in FY20-21, reflecting mobility restrictions and lower industrial activity. However, demand recovered rapidly as economic activity resumed, crossing ~33 MMSCMD by FY22, a significant increase from pandemic induced lows. The speed of recovery demonstrated that natural gas remained an essential fuel for urban mobility and household consumption, reaffirming the sector's resilience even during severe economic disruptions.

Russia–Ukraine Conflict (2022–2024): Demand Expansion Despite Elevated Energy Prices

The Russia–Ukraine conflict triggered a prolonged surge in global energy prices, with Brent crude reaching approximately US\$122/bbl in June 2022 and remaining elevated for an extended period amid supply disruptions and geopolitical uncertainty. While such sustained increases in fuel prices would typically weigh on energy consumption, aggregate CGD demand in India continued to expand from approximately 9 MMSCMD in early 2022 (Jan–Mar) to around 14 MMSCMD by late 2024 (Sep–Dec), reflecting a CAGR of ~15% during the period. The continued growth in demand despite elevated crude prices underscores the structural resilience of the CGD sector, supported by expanding gas infrastructure, increasing CNG and PNG adoption, and the essential role of natural gas in India's urban mobility and retail energy ecosystem

Middle East Tensions (2024–2026): Continued Growth Amid Renewed Price Volatility

Recent geopolitical tensions in the Middle East reintroduced volatility into global energy markets, resulting in significant fluctuations in Brent crude prices, with annual growth ranging between approximately 42% and 72% YoY during the period. While spot RLNG prices remained elevated at approximately US\$18–22/MMBtu, the domestic APM gas price increased to US\$7/MMBTU. Despite these pricing pressures and geopolitical uncertainties, CGD demand continued its growth trajectory, increasing from approximately 10.7 MMSCMD during Mar–May 2025 to 11.8 MMSCMD during Mar–May 2026. Further, CGD accounted for ~30% of India's total gas consumption in March 2026. The sustained growth in demand amidst renewed global energy market volatility underscores the structural resilience of the CGD sector, supported by an expanding customer base, continued infrastructure development, and increasing adoption of cleaner fuels. Further, the amended Liquefied Petroleum Gas (Regulation of Supply and Distribution) Order, 2000 issued by the Ministry of Petroleum and Natural Gas, which restricts households with PNG connections from retaining or obtaining subsidised domestic LPG connections, is expected to further facilitate the transition from LPG to PNG within CGD-authorized areas, providing an additional structural driver for long-term demand growth

Conclusion: Evidence of a Defensive Growth Sector

The performance of India's CGD sector over the past several years demonstrates its emergence as a defensive growth sector, with demand increasingly decoupled from short-term fluctuations in global crude oil prices. Between FY20 and FY26, while Brent crude prices fluctuated from an annual average of approximately US\$42/bbl in 2020 to US\$101/bbl in 2022 before moderating to around US\$70/bbl in 2025, CGD demand increased consistently from approximately 30 MMSCMD to over 45 MMSCMD, representing growth of nearly 50%. Similar resilience was observed during successive global disruptions, including the COVID-19 pandemic, the Russia–Ukraine conflict and renewed Middle East geopolitical tensions, wherein CGD demand continued to expand despite elevated energy prices and heightened market uncertainty. This sustained growth through multiple crises highlights the sector's structural demand drivers, limited sensitivity to crude price volatility, and strong defensive characteristics, making CGD an attractive long-term investment opportunity with high earnings visibility and durable volume growth prospects.

Table 30: External Validation of Sector Resilience

Metric	Quantification
India's natural gas consumption outlook to 2030	India's natural gas consumption is expected to increase by approximately 60% by 2030 from 2023 levels, providing a favourable long-term demand outlook.
Key driver of gas demand growth	The CGD sector is expected to be the largest contributor to incremental natural gas demand, supported by continued expansion in CNG and PNG penetration.
Growth in gas infrastructure since 2019	CNG station network expanded from 1,730 stations in FY19 to 8,846 stations in FY26 (over 5x growth), while domestic PNG connections increased from approximately 5 million to over 17 million, demonstrating rapid infrastructure creation.
Current CGD infrastructure	India has established a nationwide CGD network comprising ~9,000 CNG stations and more than 17 million domestic PNG connections, providing a strong foundation for sustained volume growth.

Source: IEA, PPAC, Crisil Analysis

Table 31: Quantification of Energy Shocks

Event	Global Energy Impact
Covid-19 (2020)	Triggered an unprecedented contraction in global oil demand, resulting in extreme crude oil price volatility and significant disruptions across global energy markets.
Russia-Ukraine Conflict (2022 onwards)	Tightened global energy supplies, driving Brent crude prices above US\$120/bbl, the highest levels since 2008, and sustaining elevated energy prices over an extended period.
Middle East Tensions (2025-26)	Renewed geopolitical uncertainty and supply disruptions around the Strait of Hormuz contributed to another sharp increase in global oil prices, with Brent FOB prices rising to approximately US\$117/bbl, reinforcing volatility across international energy markets.

Source: IEA, EIA, Crisil Analysis

19. Summary of CGD Companies Comparison

Table 32: Benchmarking CGD Companies on Financial Parameters, UoM, H1-FY26 and H1-FY25

Particulars	Units	Torrent Gas Limited		Indraprastha Gas Limited		Adani Total Gas Limited	
		H1-FY26	H1-FY25	H1-FY26	H1-FY25	H1-FY26	H1-FY25
Total Sales	MMSCMD	2.54	1.78	9.22	8.83	2.99	2.58
CNG Sales	MMSCMD	1.75	1.34	6.88	6.62	2.05	1.72
PNG Sales	MMSCMD	0.79	0.44	2.34	2.21	0.93	0.86
Revenue from Operations	INR Millions	28,877.06	20,329.59	87,727.10	79,717.50	30,747.00	25,574.30
Revenue Growth	%	42.04%	-	10.05%	-	20.23%	-
Total Income	INR Millions	28,982.66	20,435.99	89,570.00	81,352.50	30,915.00	25,730.80
PAT	INR Millions	1,096.63	308.76	8,127.50	9,343.90	3,287.30	3,574.40
Gross Margin*	INR Millions	7,136.61	5,786.35	18,680.00	20,214.30	9,015.50	8,804.90
Gross Margin/ SCM	INR/SCM	15.33	17.73	11.07	12.51	16.48	18.65
EBITDA	INR Millions	3,735.11	2,918.31	12,934.30	14,418.60	6,124.30	6,256.60
EBITDA Growth	%	27.99%	-	-10.29%	-	-2.11%	-
EBITDA Margin	%	12.89%	14.28%	14.44%	17.72%	19.81%	24.32%
EBITDA/ SCM	INR/SCM	8.02	8.94	7.66	8.92	11.20	13.26
Incremental RoE	%	-76.97%	-	-18.62%	-8.85%	-4.80%	5.12%
RoCE	%	4.51%	3.38%	7.33%	9.55%	7.84%	10.13%
RoA	%	1.91%	-	5.03%	6.45%	4.01%	5.25%
Debt/Equity	Ratio	1.62	1.32	-	-	0.30	0.25
Net Borrowings	INR Millions	30,699.06	26,399.58	-	-	13,468.70	9,584.50
Net Worth	INR Millions	18,978.38	20,002.05	112,210.60	105,678.60	45,089.50	39,107.30
Working Capital Days	Days	-0.08	-0.23	-4.55	-3.52	18.18	14.36
Asset Turnover Ratio	Ratio	0.64	0.50	1.17	1.17	0.78	0.75
Incremental Asset Turnover Ratio	Ratio	1.78	-	1.14	-	0.91	-

Note: For Torrent Gas Limited, Total sales include CBG sales and IGX others. For IGL, PNG Sales also includes other CGD sales.

**For Torrent Gas Limited Gross Margin is calculated excluding Trading Margin*

Gross Margin = Revenue from Operations – Cost of material - Purchases of stock-in-trade of natural gas - Changes in Inventories – Excise Duty

Gross Margin/ SCM = Gross Margin / Total Gas Sales Volume

EBITDA = Profit Before Tax + Finance Cost + Depreciation & Amortization

EBITDA Margin = EBITDA / Total Income

*EBITDA Growth = (EBITDA in Current Year/EBITDA in Previous Year - 1)*100*

Total Income = Revenue from Operations + Other Income

*Revenue Growth = (Revenue from Operations in Current Year/Revenue from Operations in Previous Year-1)*100*

EBITDA/ SCM = EBITDA / Total Gas Sales Volume

PAT Margin = Profit After Tax / Revenue from Operations

RoCE = EBIT / Average of Capital Employed

EBIT = Profit Before Tax + Finance Cost – Other Income

Capital Employed = Tangible Net Worth + Net Debt

Tangible Net Worth = Total Equity - Goodwill - Intangible Assets - Deferred Tax Assets + Deferred Tax Liabilities

Total Equity = Equity Share Capital + Other Equity

Other Equity = Retained Earnings + General Reserve

Net Debt = Total Debt – Cash and Cash Equivalents – Bank Balances – Liquid Current Investments (Net Debt is taken as nil if the same is less than zero)

Total Debt = Non-Current Borrowings + Current Borrowings - Interest accrual on term loan + Unamortized Processing Fee

Incremental RoCE = Incremental EBIT / Incremental Capital Employed

Incremental EBIT = EBIT for current year – EBIT for previous year

Incremental Capital Employed = Capital Employed for current year – Capital Employed for previous year

Debt/Equity = Net Debt / Total Equity

Net Borrowings = Net Debt

Working Capital Days = Inventory Days +Receivable Days – Payable Days

*Inventory Days = Inventory / Revenue from Operations * 365*

*Receivable Days = Receivables / Revenue from Operations * 365*

*Payable Days = Payables / Revenue from Operations * 365*

Cost of Goods = Cost of material + Purchases of stock-in-trade of natural gas + Changes in Inventories + Excise Duty

Asset Turnover Ratio = Revenue from Operations / Total Fixed Assets

Total Fixed Assets = Property, Plant and Equipments + Right of Use + Other Intangible Assets

Incremental Asset Turnover Ratio = Incremental Revenue from Operations / Incremental Total Fixed Assets

Incremental Revenue from Operations = Revenue from Operations for current year – Revenue for Operations for previous year

Incremental Total Fixed Assets = Total fixed assets for current year – Total fixed assets for previous year

Source: Company Filings

Table 33: Benchmarking CGD Companies on Financial Parameters, UoM, FY24 – Q1 FY27

Particulars	Unit	Torrent Gas Limited					Indraprastha Gas Limited					Adani Total Gas Limited				
		Q1-FY27	Q1-FY26	FY26	FY25	FY24	Q1-FY27	Q1-FY26	FY26	FY25	FY24	Q1-FY27	Q1-FY26	FY26	FY25	FY24
Total Sales	MMSCMD	3.06	2.42	2.60	1.93	1.38	9.66	9.13	9.39	8.99	8.43	3.33	2.93	3.10	2.72	2.36
CNG Sales	MMSCMD	2.32	1.76	1.87	1.45	1.08	7.22	6.79	6.94	6.66	6.28	2.40	2.03	2.14	1.82	1.52
PNG Sales	MMSCMD	0.74	0.65	0.73	0.48	0.30	2.44	2.34	2.45	2.32	2.15	0.93	0.90	0.96	0.90	0.84
Revenue from Operations	INR Millions	17,880.11	13,967.81	59,333.92	44,017.39	31,536.28	50,434.40	43,267.50	178,463.10	164,667.30	154,565.30	19,067.90	14,983.20	64,085.30	54,116.80	48,164.90
Revenue Growth	%	28.01%	-	34.80%	39.58%	-	16.56%	-	8.38%	6.54%	-0.85%	27.26%	-	18.42%	12.36%	2.84%
Total Income	INR Millions	17,949.21	14,013.36	59,559.49	44,283.96	31,757.25	51,453.60	44,161.50	182,199.70	168,008.50	157,174.80	19,197.70	15,064.30	64,464.00	54,424.80	48,605.10
PAT	INR Millions	1,298.54	556.78	2,808.54	1,350.48	-173.49	2,379.20	4,278.10	15,435.10	17,130.10	19,834.00	1,417.20	1,652.40	6,557.20	6,544.10	6,675.00
Gross Margin*	INR Millions	5,034.11	3,630.65	15,099.12	12,265.63	9,356.88	7,760.70	9,856.50	37,816.70	38,546.20	41,868.80	4,499.20	4,466.80	18,677.90	17,265.80	16,269.60
Gross Margin/SCM	INR/SCM	18.05	16.52	15.93	17.43	18.53	8.83	11.86	11.03	11.75	13.57	14.85	16.73	16.49	17.39	18.81
EBITDA	INR Millions	3,067.44	1,851.91	8,507.94	6,687.08	4,006.52	4,526.50	6,747.80	25,183.10	26,686.90	29,656.30	2,926.60	3,055.00	12,544.60	11,790.60	11,656.40
EBITDA Growth	%	65.64%	-	27.23%	66.90%	-	32.92%	-	-5.63%	-10.01%	18.80%	-4.20%	-	6.39%	1.15%	26.14%
EBITDA Margin	%	17.09%	13.22%	14.28%	15.10%	12.62%	8.80%	15.28%	13.82%	15.88%	18.87%	15.24%	20.28%	19.46%	21.66%	23.98%

EBITDA / SCM	INR/S CM	11.00	8.43	8.98	9.50	7.93	5.15	8.12	7.35	8.13	9.61	9.66	11.44	11.07	11.87	13.48
PAT Margin	%	7.26%	3.99%	4.73%	3.07%	- 0.55%	4.72%	9.89%	8.65%	10.40%	12.83%	7.43%	11.03 %	10.23 %	12.09 %	13.86 %
RoCE	%	4.16%	2.29%	10.24 %	7.97%	3.22%	NA	NA	13.57%	16.83%	22.93%	NA	NA	14.93 %	16.64 %	20.20 %
Incremental RoCE	%	23.50 %	-	34.72 %	61.20 %	-	NA	NA	- 24.54%	- 40.87%	21.37%	NA	NA	3.43%	- 2.10%	27.52 %
Debt/Equity	Ratio	1.38	1.46	1.52	1.31	1.29	NA	NA	0.00	0.00	0.00	NA	NA	0.28	0.30	0.28
Net Borrowings	INR Millions	30,308 .78	29,021 .03	31,470 .60	27,545 .06	25,402 .67	NA	NA	0.00	0.00	0.00	NA	NA	13,713 .60	12,494 .10	10,153 .80
Net Worth	INR Millions	22,003 .58	19,820 .30	20,722 .92	21,074 .88	19,683 .14	NA	NA	115,04 4.40	106,15 7.70	96,333. 70	NA	NA	48,648 .10	42,070 .50	35,803 .20
Working Capital Days	Days	5.47	0.50	1.89	1.32	0.70	NA	NA	-1.80	-3.97	2.04	NA	NA	8.86	15.23	13.55
Asset Turnover Ratio	Ratio	0.35	0.32	1.21	1.02	0.81	NA	NA	2.22	2.28	2.34	NA	NA	1.49	1.49	1.53
Incremental Asset Turnover Ratio	Ratio	0.56	-	2.67	2.83	-	NA	NA	1.60	1.67	-0.15	NA	NA	1.50	1.24	0.16
Volume (excluding trading)	MMSCM	278.89	219.77	947.73	703.60	504.95	878.98	830.87	3427.2 1	3281.3 5	3084.4 7	303.00	267.00	1133.0 0	992.80	865.00
Growth in Volume (excluding)	%	26.90 %	-	34.70 %	39.34 %	-	5.79%	-	4.46%	6.64%	4.49%	13.48 %	-	14.12 %	15.25 %	14.87 %

trading) (%)																
Number of PNG Connect ions	Nos.	271,98 3	198,79 1	242,18 1	183,58 4	121,79 7	NA	3,108, 295	3,393,9 74	3,030,3 44	2,670,8 32	1,151, 530	998,99 3	1,109, 634	972,29 9	828,33 1
Number of CNG Stations	Nos.	557	490	557	483	439	NA	942	866	954	882	707	650	705	647	547

Note: For Torrent Gas Limited, Total sales include CBG sales and IGX others. For IGL, PNG Sales also includes other CGD sales.

*For Torrent Gas Limited Gross Margin is calculated excluding Trading Margin

NA indicates that the relevant information or data required to compute the KPI is not publicly available for the respective benchmarked entity

Gross Margin = Revenue from Operations – Cost of material - Purchases of stock-in-trade of natural gas - Changes in Inventories – Excise Duty

Gross Margin/ SCM = Gross Margin / Total Gas Sales Volume

EBITDA = Profit Before Tax + Finance Cost + Depreciation & Amortization

EBITDA Margin = EBITDA / Total Income

EBITDA Growth = (EBITDA in Current Year/EBITDA in Previous Year - 1)*100

Total Income = Revenue from Operations + Other Income

Revenue Growth = (Revenue from Operations in Current Year/Revenue from Operations in Previous Year-1)*100

EBITDA/ SCM = EBITDA / Total Gas Sales Volume

PAT Margin = Profit After Tax / Revenue from Operations

RoCE = EBIT / Capital Employed

EBIT = Profit Before Tax + Finance Cost – Other Income

Capital Employed = Tangible Net Worth + Net Debt

Tangible Net Worth = Total Equity - Goodwill - Intangible Assets - Deferred Tax Assets + Deferred Tax Liabilities

Total Equity = Equity Share Capital + Other Equity

Other Equity = Retained Earnings + General Reserve

Net Debt = Total Debt – Cash and Cash Equivalents – Bank Balances – Liquid Current Investments (Net Debt is taken as nil if the same is less than zero)

Total Debt = Non-Current Borrowings + Current Borrowings - Interest accrual on term loan + Unamortized Processing Fee

Incremental RoCE = Incremental EBIT / Incremental Capital Employed

Incremental EBIT = EBIT for current year – EBIT for previous year

Incremental Capital Employed = Capital Employed for current year – Capital Employed for previous year

Debt/Equity = Net Debt / Total Equity

Net Borrowings = Net Debt

Working Capital Days = Inventory Days +Receivable Days – Payable Days

Inventory Days = Inventory / Revenue from Operations * 365

Receivable Days = Receivables / Revenue from Operations * 365

Payable Days = Payables / Revenue from Operations * 365

Cost of Goods = Cost of material + Purchases of stock-in-trade of natural gas + Changes in Inventories + Excise Duty

Asset Turnover Ratio = Revenue from Operations / Total Fixed Assets

Total Fixed Assets = Property, Plant and Equipments + Right of Use + Other Intangible Assets

Consulting

Incremental Asset Turnover Ratio = Incremental Revenue from Operations / Incremental Total Fixed Assets

Incremental Revenue from Operations = Revenue from Operations for current year – Revenue for Operations for previous year

Incremental Total Fixed Assets = Total fixed assets for current year – Total fixed assets for previous year

Volume (excluding trading) includes compressed natural gas sales, piped natural gas sales and compressed bio gas sales volume but excludes trading natural gas sales volume and compression service volume.

*Growth in Volume (excluding trading) (%) = (Volume (excluding trading) of the current period or year/ Volume (excluding trading) of the previous period or year – 1)*100*

Number of PNG Connections includes number of industrial, commercial and domestic connections for piped natural gas.

Number of CNG Stations is the total CNG stations which includes summation of COCO (company owned company operated), DODO (dealer owned dealer operated) and OMC (oil marketing companies) stations.

Source: Company Filings, PNGRB

Table 34: Total Sales, MMSCMD, FY24 – Q1-FY27

Total Sales (MMSCMD)	Q1-FY27	Q1-FY26	FY26	FY25	FY24	2-year CAGR %
Torrent Gas Limited	3.06	2.42	2.60	1.93	1.38	37.17%
Adani Total Gas Limited	3.33	2.93	3.10	2.72	2.36	14.60%
Indraprastha Gas Limited	9.66	9.13	9.39	8.99	8.43	5.53%

Source: Company Filings

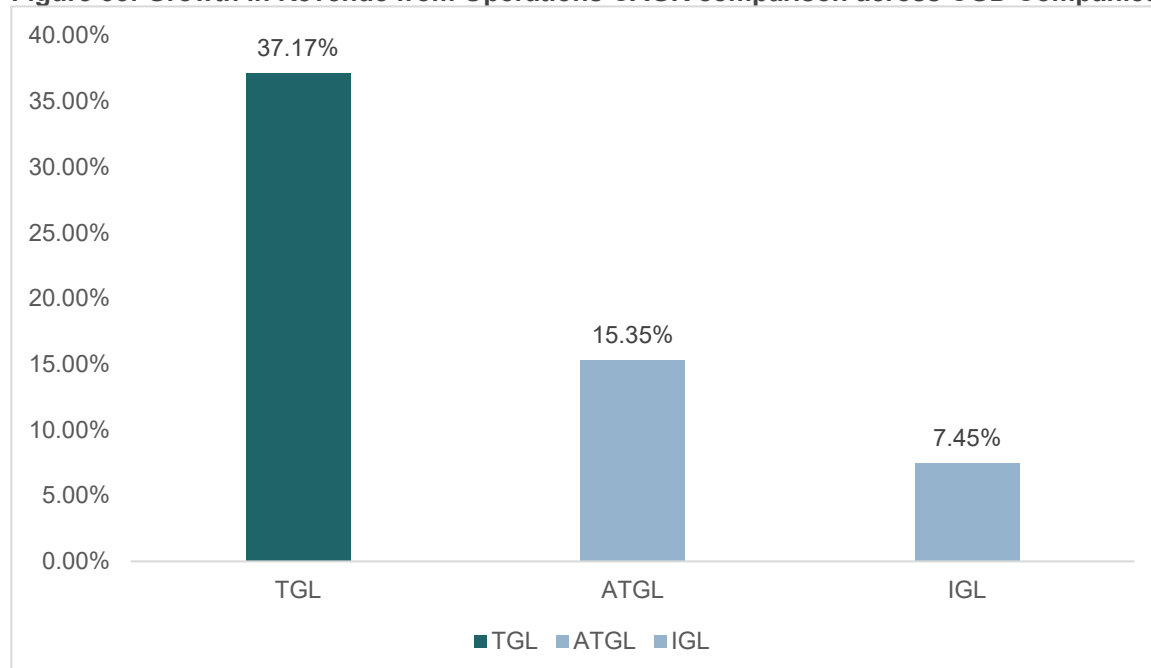
As compared to the listed CGD entities, Torrent Gas Limited recorded the highest gas volumetric growth, with sales volume increasing at a ~37% CAGR over FY24–FY26, significantly outperforming other comparable players. The pace of TGLs volume ramp-up compares favourably with industry averages, underscoring the effectiveness of TGLs execution capabilities and sales approach. Torrent Gas Limited has demonstrated a steady ramp-up in gas sales volume, achieving 1.0 MMSCMD in February 2022, 1.5 MMSCMD in October 2023, 2.0 MMSCMD in July 2024, and 2.5 MMSCMD in February 2025. This consistent growth trajectory over a relatively short period underscores the Company's strong execution capabilities, expanding distribution network, and increasing consumer adoption across its geographical areas. Furthermore, TGL has emerged as one of the fastest city gas distribution companies in India to scale up to first 1 MMSCMD of gas sales, achieving this milestone within ~4 years of commencement of operations. Furthermore, Torrent Gas 17 geographical areas have an aggregate population of ~88.39 million, constituting ~6% of India's population as of March 31st, 2026, and recorded natural gas per capita consumption of 10.74 scm per capita, as against the total national per capita consumption for City Gas Distribution companies of 13.64 scm per capita for the financial period ended March 31st, 2026 (India's total population assumed to be 1.21 billion as per Census 2011). Given the relatively lower natural gas penetration in these geographical areas compared to the national average, there is significant potential for further growth in demand for natural gas in TGLs areas of operation.

Table 35: Revenue from Operations, INR Millions, FY24 – Q1 - FY27

Revenue (INR Millions)	Q1-FY27	Q1-FY26	FY26	FY25	FY24	2Year CAGR (%)
Torrent Gas Limited	17,880.11	13,967.81	59,333.92	44,017.39	31,536.28	37.17%
Adani Total Gas Limited	19,067.90	14,983.20	64,085.30	54,116.80	48,164.90	15.35%
Indraprastha Gas Limited	50,434.40	43,267.50	178,463.10	164,667.30	154,565.30	7.45%

Source: Company Filings

Figure 33: Growth in Revenue from Operations CAGR comparison across CGD Companies, %, FY26 v FY24



Source: Company Filings, Crisil Analysis

As compared to the benchmarked CGD entities, Torrent Gas Limited recorded the highest revenue growth, with revenues increasing at a ~37.17% CAGR over FY24–FY26 and ~28.01% year-on-year growth for Q1-FY27 vs Q1-FY26, outperforming other benchmarked CGD companies. The strong growth reflects rapid scale-up of operations across its authorised geographical areas compared with relatively modest growth trends observed for benchmarked CGD companies over the same period.

Table 36: EBITDA, INR Millions, FY24-Q1- FY27

EBITDA (INR Millions)	Q1-FY27	Q1-FY26	FY26	FY25	FY24	2Year CAGR (%)
Torrent Gas Limited	3,067.44	1,851.91	8,507.94	6,687.08	4,006.52	45.72%
Adani Total Gas Limited	2,926.60	3,055.00	12,544.60	11,790.60	11,656.40	3.74%
Indraprastha Gas Limited	4,526.50	6,747.80	25,183.10	26,686.90	29,656.30	-7.85%

Source: Company Filings

As compared to the benchmarked CGD entities, Torrent Gas Limited is the only player that has recorded a sharp and sustained improvement in EBITDA, increasing by ~65.64% year-on-year for Q1-FY27 vs Q1-FY26 and a 2-year CAGR of ~45.72%, reflecting operating leverage from rapid volume scale-up. In contrast, EBITDA for other entities has remained largely stable or declined over the same period, indicating relatively mature operations and limited margin expansion

Ready to Use Asset Base

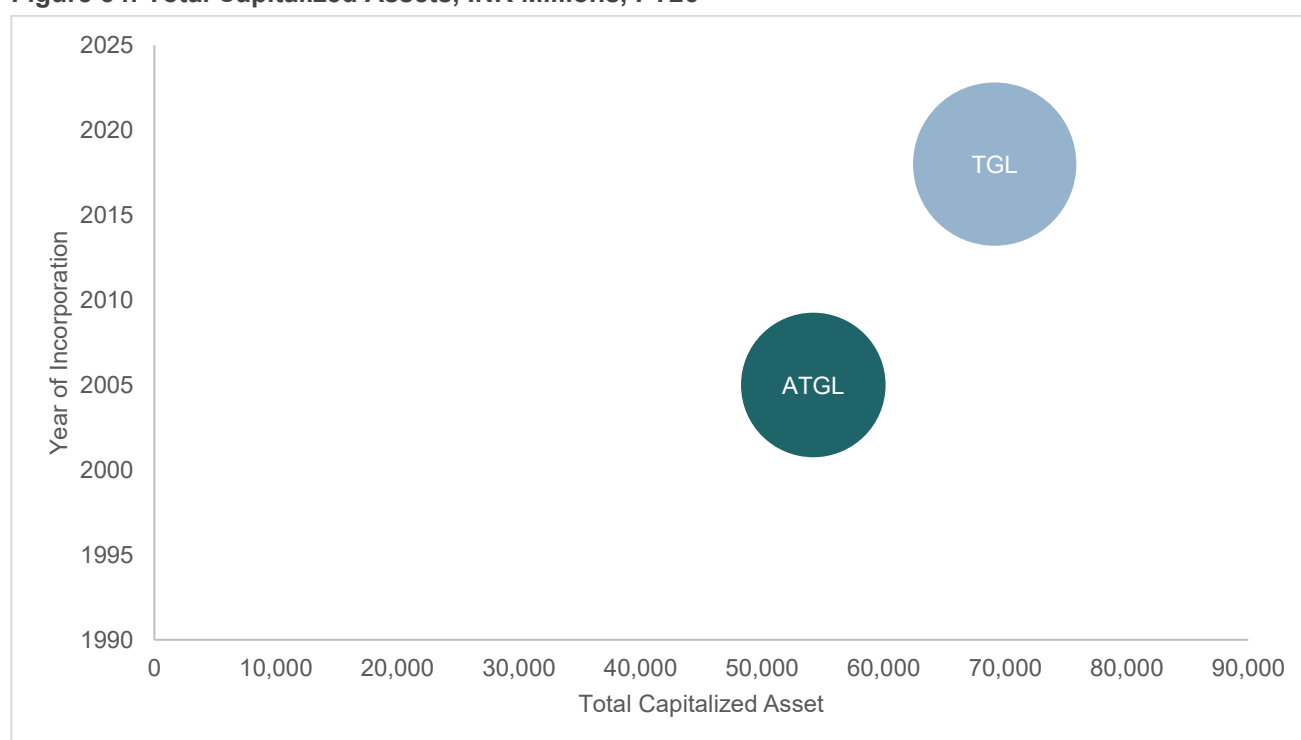
In the city gas distribution business, having a substantial base of ready-to-use or put-to-use assets is critical for meeting rising demand, particularly in the hinterland where infrastructure development can be time-intensive. A strong asset base allows companies to accelerate network rollouts, connect consumers quickly, and scale volumes without delays. This readiness translates directly into operational efficiency and the ability to capture incremental demand as markets expand. Table below depicts the Gross Assets put to use / ready to use (capitalized) for the benchmarked CGD entities for FY26.

Table 37: Total Capitalized Assets, INR Millions, FY26

Particulars – Gross Assets	TGL	IGL*	ATGL
PPE	55,982.74	-	51,391.80
ROU	8,241.61	-	2,182.90
Other intangible assets	4,317.01	-	384.90
Goodwill	597.93	-	254.90
Total Capitalised Assets	69,139.29	-	54,214.50

Source: Company Filings

*Notes to financial statements not available for IGL for computing Total Capitalised Assets as of August 13, 2026

Figure 34: Total Capitalized Assets, INR Millions, FY26


Source: Company Filings, Crisil Analysis

- While IGL was incorporated in December 1998 (27 years) and ATGL in 2005 (21 years), TGL, established more recently since May 2018, has developed its Rs. 69,139.29 millions capitalized asset base within a significantly shorter timeframe of 8 years.
- TGL holds the largest ready-to-use asset base among private sector companies and ranks fourth overall. This rapid infrastructure development has allowed TGL to convert its asset readiness into sustained volume growth, reinforcing its competitive edge in a market where speed of execution defines success.

With the evolving landscape, Torrent Gas operate the largest private sector CGD infrastructure network in India by capitalized asset base as of March 31, 2026.

CNG dispensation Infrastructure

Consulting

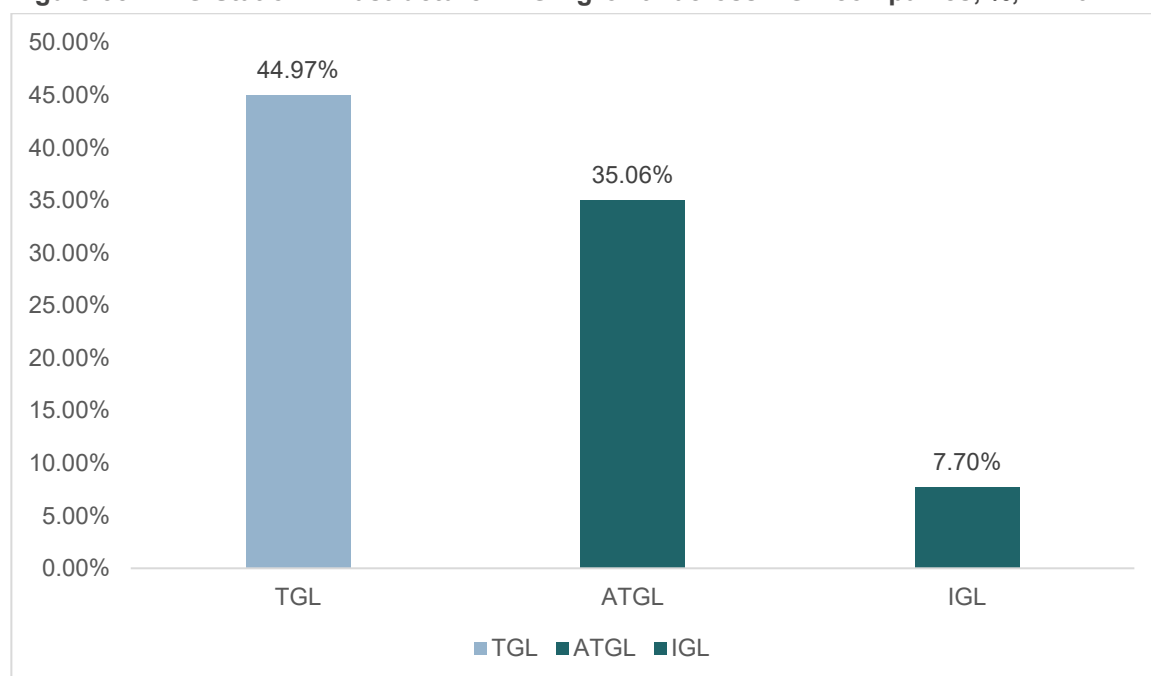
In the CGD sector, the number of operational CNG stations is a critical indicator of a company's ability to serve demand efficiently and capture market share. A larger station network not only enhances accessibility for consumers but also reflects the strength of infrastructure deployment across geographical areas.

Table 38: CNG Station Infrastructure Comparison across CGD Companies, numbers, FY20 – FY26

Particulars	UoM	TGL	IGL	ATGL
CAGR – 6 yr	%	44.97%	7.70%	35.06%
CNG Station - FY20	Nos	60	555	115
CNG Station - FY26	Nos	557	866	698

Source: PNGRB

Figure 35: CNG Station Infrastructure CAGR growth across CGD companies, %, FY20 – FY26



Source: Company Filings, Crisil Analysis

Over the past six years, most listed CGD entities have expanded their footprint at varying paces. At a CAGR level, IGL grew by ~7.70%, and ATGL by ~35.06%. Comparatively, TGL has demonstrated exceptional scalability, increasing its network from 60 stations in FY20 to 557 by FY26, representing a CAGR of ~44.97%, the highest among benchmarked entities. This rapid expansion underscores the strength of TGL's geographical areas and its ability to translate infrastructure deployment into customer reach and sustained volume growth, positioning it as a leader in network development among private sector CGD companies.

Volume Growth

In the CGD sector, robust growth in volumes is often a reflection of the quality of geographical areas and the ability to leverage put-to-use infrastructure effectively. Well-developed GAs allows CGD entities to capture latent demand quickly, translating infrastructure readiness into higher throughput. This dynamic is evident across the industry, where players with mature networks have seen steady gains; however, the pace of growth varies significantly. Since FY23, volume expansion has been strongest where infrastructure and GA quality align, enabling rapid consumer onboarding and utilization.

Consulting

Table 39: CGD Gas Volume Sales Comparison (TGL vs Others), MMSCMD, FY24 – Q1 FY27

Particulars	Q1-FY27	Q1-FY26	FY26	FY25	FY24	FY26 vs FY25	FY25 vs FY24
TGL	3.06	2.42	2.60	1.93	1.38	34.53%	39.86%
Country as a Whole	54.54	43.17	45.25	41.24	36.96	9.73%	11.57%
Other than TGL	51.47	40.76	42.65	39.31	35.58	8.51%	10.47%

Source: Company Filings, PPAC

While the country as a whole and other companies have grown volumes at a steady CAGR of 9.73% and 8.51% respectively in FY26, TGL has consistently outperformed, registering 34.53% and 39.86% y-o-y growth in FY26 and FY25 respectively. This trajectory rising from 1.38 mmcmd in FY24 to 2.60 mmcmd by FY26 underscores the quality of TGL's GAs and its ability to leverage infrastructure effectively, positioning it as the fastest-growing CGD company in the industry.

Table 40: CGD Gas Volume Sales Comparison (TGL vs Others), MMSCM, FY24 – Q1 FY27

Particulars	Q1-FY27	Q1-FY26	FY26	FY25	FY24	FY26 vs FY25	FY25 vs FY24
TGL	278.89	219.77	947.73	704.45	503.70	34.53%	39.86%
Country as a Whole	4,962.90	3,928.76	16,516.30	15,051.46	13,490.40	9.73%	11.57%
Other than TGL	4,684.01	3,708.99	15,568.57	14,347.01	12,986.70	8.51%	10.47%

Q1 figures to 3 months ended June 30th of the respective financial year

Source: Company Filings, PPAC

Table 41: Volumetric Gas Sales Comparison, MMSCMD, FY25 – Q1-FY27

Particulars	Absolute (Q1 FY27vs Q1 FY26)		Absolute (FY26vs FY25)	
	Increase in Sales	%	Increase in Sales	2 Yr
	(MMSCMD)	Growth	(MMSCMD)	CAGR (FY24-FY26)
Torrent Gas Limited	0.65	26.90%	0.67	37.17%
Indraprastha Gas Limited	0.53	5.81%	0.40	5.53%
Adani Total Gas Limited	0.40	13.48%	0.38	14.60%

Source: Company Filings

As compared to the benchmarked entities, volumetric sales growth in absolute terms during Q1-FY27 ranged from 0.40 to 0.65 mmcmd for ATGL and TGL respectively. TGL has emerged as the standout performer, recorded the highest gas volumetric growth of 0.65 mmcmd among benchmarked entities in Q1-FY27 and leading the industry in percentage growth of 26.90% in Q1-FY27 and a two-year CAGR of 37.17% over FY24 – FY26 period. This trajectory underscores the strength of TGL's GAs and its ability to convert infrastructure readiness into market-leading growth, reinforcing its position as one of the fastest-growing CGD company.

Gross Margin per SCM

Gross margin per SCM is a critical metric for city gas distribution companies as it reflects their ability to manage input costs, optimize gas procurement, and maintain competitive pricing in a regulated yet price-sensitive market. Higher margins not only indicate efficient sourcing strategies but also provide flexibility to sustain profitability while offering attractive tariffs to consumers.

Table 42: Gross Margin/ SCM, INR/SCM, FY24 – Q1-FY27

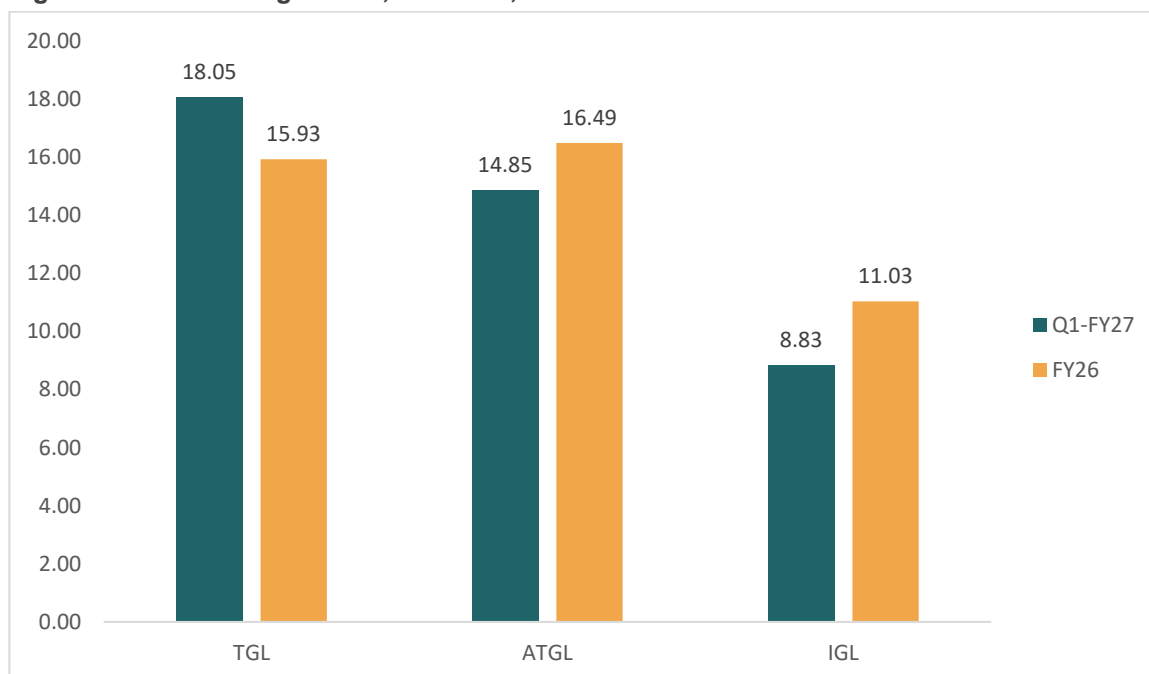
Gross Margin/SCM	Q1-FY27	Q1-FY26	FY26	FY25	FY24
Torrent Gas Limited (TGL)	18.05	16.52	15.93	17.43	18.53

Adani Total Gas Limited (ATGL)	14.85	16.73	16.49	17.39	18.86
Indraprastha Gas Limited (IGL)	8.83	11.86	11.03	11.75	13.61

Source: Company Filings

Over the past several years, Torrent Gas Limited (TGL) has consistently ranked among the leading listed CGD companies in terms of maintaining a healthy gross margin per SCM. TGL reported gross margins of ₹18.53 per SCM in FY24, ₹17.43 per SCM in FY25 and ₹15.93 per SCM in FY26, remaining ahead of Indraprastha Gas Limited (“IGL”) across the comparable periods and broadly in line with Adani Total Gas Limited (“ATGL”). In Q1 FY27, TGL further improved its gross margin to ₹18.05 per SCM, outperforming ATGL (₹14.85 per SCM) and IGL (₹8.83 per SCM). This sustained performance reflects TGL’s balanced gas sourcing strategy, disciplined cost management and ability to maintain stable unit-level profitability despite evolving gas pricing dynamics

Figure 36: Gross Margin/SCM, INR/SCM, Q1-FY27 and FY26



Source: Company Filings, Crisil Analysis

TGL maintained its leadership in gross margin per SCM among benchmarked entities, improving from ₹15.93 per SCM in FY26 to ₹18.05 per SCM in Q1 FY27.

Presence of Torrent Gas across districts

Table 43: Torrent Gas District Profile

Districts	Physical Geography	Demographics	
	Area (sq km)	Population (numbers)	Population Density (per sq km)
Mathura	3,340	2,547,184	763
Auraiya	2,016	1,379,545	684
Kanpur Dehat	3,021	1,796,191	595
Etawah Districts	2,311	1,581,810	684

Gorakhpur Districts	3,484	4,440,895	1,275
Sant Kabir Nagar Districts	1,646	1,706,706	1,037
Kushinagar Districts	2,906	3,564,544	1,227
Moradabad Districts	10,863	3,406,061	314
Azamgarh	4,054	4,612,000	1,138
Mau	1,713	2,205,170	1,287
Balia	2,981	3,239,774	1,087
Basti Districts	2,688	2,464,464	917
Ambedkarnagar Districts	2,350	2,397,888	1,020
Gonda District	4,003	3,433,919	858
Barabanki Districts	3,892	3,260,699	838
Pune District	15,643	9,426,959	603
Junagadh District	5,093	1,527,329	300
Karaikal Districts	161	200,222	1,244
Nagapattinam Districts	1,940	1,616,450	833
SAS Nagar District	1,110	994,628	896
Patiala Districts	3,222	1,895,686	588
Sangrur Districts	3,625	1,655,169	457
Jaipur District	14,068	6,663,971	474
Alwar Districts	8,383	3,671,999	438
Kota District	5,217	1,950,481	374
Baran District	6,992	1,223,921	175
Chittorgarh Districts	7,508	1,544,392	206
Dholpur District	3,034	1,207,293	398
Chennai Districts	426	6,748,026	15,840
Tiruvallur Districts	3,422	2,721,363	795
Medak Districts	2,757	767,428	278
Siddipet Districts	3,647	1,012,065	278
Sangareddy Districts	4,464	1,527,628	342

Source: PNGRB, Crisil Intelligence

Risk Assessment and Mitigation Strategies

This section discusses the potential risks of investing in the CGD business, the magnitude of impact they can have and possible mitigation measures. Remarks on the probability of the risks materializing and their impact are also made based on the experience of the Torrent Gas in the oil and gas industry. The section below summarizes the risks and recommended mitigation strategies to handle those risks.

Table 44: Key Risk and Mitigation Strategies for TGL

Factor	Risk Detailed	Mitigation
Gas Sourcing and Transportation		
Gas Sourcing	The cost of sourcing gas is influenced by multiple external factors, including over-dependence on priority sector allocated gas (APM), global price indices, international market dynamics, and fluctuations in the USD/INR exchange rate.	Torrent Gas mitigates sourcing risks through a multi-indexed, multi-source, and multi-tenor contracting strategy, leveraging both domestic and global gas supplies. CNG and domestic PNG consumers fall under priority-sector allocation, ensuring adequate APM supply. In case of any shortfall, New Well Gas (NWG) is

		provided to match the gap, maintaining supply continuity. Even if administered prices rise, CGD companies benefit from a pass-through pricing mechanism, allowing cost changes to be reflected in consumer tariffs. This structure, combined with billing in INR, minimizes margin risk and preserves affordability for consumers. The global LNG glut and expanding import/export infrastructure enhance flexibility and availability of LNG, prompting Indian gas suppliers and traders to enter long term LNG supply contracts totalling ~15 MMTPA for the foreseeable future, which enable CGD entities to source gas linked to diverse indices and tenors, ensuring cost efficiency and supply security. Torrent Gas, on an average, in last 3 fiscals has delivered ~30% year-on-year volume growth while maintaining margins among the top CGD companies, reflecting the strength of its sourcing approach mitigating the sourcing risk. Additionally, Torrent Power Limited, a group company of Torrent Gas Limited, has entered into a long-term LNG sourcing agreement with British Petroleum and JERA separately to secure an aggregate of 0.68 MTPA LNG supply for 10 years starting in January 2027. As per the press release of JERA, this agreement will also support the growing LNG requirement of the Torrent Group's City Gas Distribution (CGD) arm – Torrent Gas Ltd.'s (TGL), to ensure reliable supply of gas for households, commercial and industrial consumers and compressed natural gas (CNG) vehicles. The agreement strengthens group-level fuel security and is expected to support Torrent Gas' CGD operations by ensuring reliable LNG supply for meeting growing demand
Limited Cross Country Pipeline Infrastructure and Dependence of CGD companies on the same	Dependency on cross-country pipeline infrastructure, and any coverage breakage, congestion, maintenance shutdowns, limitations in transporter capacity or changes in zone classification or pipeline tariff structure may adversely affect ability to draw gas and consequently, business, results of operations, financial condition and cash flows.	India's Pipeline Infrastructure: Cross-country pipeline infrastructure has expanded significantly. Globally, 69,700 km of gas transmission pipelines are under construction, with Asia accounting for 82% of this buildout, primarily in China and India. In total, ~228,700 km of pipelines is in development worldwide, reflecting a US\$723 billion investment push to secure energy flows. . India's operational national gas grid has grown from 15,340 km in 2014 to ~25,923 km as of Sep 2025 (~70% increase), with 9,954 km under execution to complete the grid. This expansion backed by Rs. 3 lakh crore investments will ensure uniform gas availability across regions and support CGD penetration. The pipeline network is projected to exceed 34,600 km by 2026, enabling connectivity from LNG terminals to industrial clusters and city gas networks.

Volatility in Gross Margins Due to Market and External Factors	Gross margins of City Gas Distribution Companies are subject to volatility as the Retail Selling Price ("RSP") of natural gas which remains competitive with alternative fuels to sustain market demand.	Domestic gas supplied under legacy nomination fields (APM) continues to benefit from the Government's administered pricing framework, which prescribes a floor and ceiling price. While the formula-based domestic gas price has exceeded the prescribed ceiling in recent months, the effective APM gas price remains capped at the ceiling level, resulting in APM gas being available at a discount to the prevailing formula-based domestic gas price. This pricing mechanism cushions CGD companies from extreme upstream price volatility and supports margin stability, particularly for priority sectors such as CNG and domestic PNG that are allocated APM gas. Furthermore, pursuant to the 9th CGD bidding round, operators have expanded across multiple geographical areas, enabling a diversified consumer and demand base. Torrent Gas operates across 17 Geographical Areas, spanning metropolitan markets such as Chennai, NCR regions including Alwar, and emerging cities such as Jaipur and Pune (EAAA), while also serving multiple industrial clusters and travel corridors. This diversified portfolio mitigates concentration risk, provides demand resilience across consumer segments, and supports relatively stable operating margins.
Currency Risk	Cash flows are indirectly exposed to currency fluctuations, as the price of domestic natural gas and re-gasified liquefied natural gas that one purchase is denominated in United States Dollars, while sales are made in Indian Rupees. Any adverse movement in exchange rates may increase procurement costs and adversely affect business	CGD companies have no direct U.S. Dollar exposure as all income and expenses are denominated in Indian Rupees. Even for R-LNG, suppliers such as GAIL and other gas marketers issue invoices in INR, insulating operators from currency volatility. Historically, the sector has benefited from a pass-through pricing mechanism, allowing exchange rate variations to be absorbed in consumer tariffs, thereby minimizing financial impact. This structure ensures procurement cost stability and protects cash flows from adverse forex movements.
Demand Risk		
Risk of EV as alternative fuel for Vehicles	The growing penetration of electric vehicles (EVs) in segments such as auto-rickshaws, light commercial vehicles, and municipal fleets may reduce CNG demand. Government incentives under the FAME scheme have accelerated EV adoption; however, support is tapering. Subsidies for two-wheelers dropped from Rs. 15,000/kWh (up to 40% of cost) under FAME-II to Rs. 5,000/kWh of the battery capacity, capped at Rs. 10,000 per vehicle under EMPS 2024. Despite this reduction, continued EV adoption in CNG-dominant segments could adversely impact future volumes.	CNG adoption in India continues to grow strongly, with CNG vehicle population (including petrol+CNG variants) rising from ~5.1 million in FY22 to ~15.6 million in FY26 (~32% CAGR), and OEMs significantly expanding CNG variants across passenger and commercial segments, as of FY25, the OEM offers 31 passenger vehicle models and 20 commercial vehicle models. Multiple new SNG and CNG models from leading manufacturers like Maruti Suzuki, Tata Motors; reinforce consumer choice and affordability. Building on this momentum, CGD companies collaborate with state transport undertakings for shared CNG bus depots, promote diesel-to-CNG retrofits in ageing fleets, and focus on light commercial and municipal segments where EV adoption faces cost and range limitations ensuring sustained demand for CNG. Furthermore, EV adoption is currently concentrated in specific segments such as two-wheelers, last-mile delivery vehicles and urban fleet operations with

		predictable routes, supported by charging infrastructure availability and policy incentives. CNG, by contrast, continues to address a broader set of use cases, including private passenger vehicles, taxis, buses and long-haul commercial vehicles, where refuelling speed, range and total cost of ownership remain key considerations. Similarly, in the industrial and commercial segments, PNG competes with alternate fuels such as LPG, furnace oil, diesel, coal and electricity, with consumer choice influenced by relative fuel economics, reliability of supply, regulatory requirements and environmental considerations.
Risk of slow PNG Domestic Adoption	Domestic piped natural gas (PNG) adoption may remain below expectations despite infrastructure readiness. As of June 2024, India had ~13 million household PNG connections, far short of PNGRB's target of ~30 million by March 2025. Furthermore, as of Sep 2025, 55 of 307 licensed Geographical Areas have reported zero D-PNG connections. High installation costs, municipal clearance delays, and pricing disparities with alternate fuels continue to impede adoption, which could materially impact projected residential demand and CGD revenue growth.	Domestic PNG adoption is supported by sector initiatives and CGD strategies. India has ~13 million PNG household connections as of 2024, PNG Domestic penetration. New age CGD companies are driving growth through innovative methods like flexible payment options (EMI/rental), waiving GI charges for multi-unit buildings, and partnering with builders for mass conversions during construction. Institutional tie-ups with large residential colonies, including Defence PSUs, capex optimization for last-mile connectivity, and industry-wide awareness campaigns further accelerate adoption.
Risk of losing market share to Propane/LPG in Industrial and commercial segment	Propane and LPG could emerge as competing fuels for industrial and commercial consumers, potentially impacting natural gas demand. These fuels often offer lower upfront infrastructure costs and operational flexibility, making them attractive alternatives in certain sectors like ceramics. The experience of Gujarat Gas illustrates this risk: its heavy dependence on a single Geographical Area, Morbi, which is dominated by ceramic industries, led to a significant year-on-year volume decline of approximately 45 percent, from about ~5.2 mmscmd in Q1 FY25 to 2.5 mmscmd in Q1 FY26, primarily driven by a shift to propane as it became Rs. 3–6 per scm cheaper than natural gas. Concentration in a single GA worsened this decline, underscoring the impact of fuel-cost competitiveness and consumer clustering on CGD revenues.	CGD entities awarded after the 9th round are developing multiple Geographical Areas simultaneously, reducing dependence on any single region. For example, Torrent Gas operates in 17 GAs with a diverse profile ranging from Chennai – the only metropolitan city awarded post-8th round – to NCR regions like Alwar and emerging cities such as Jaipur and Pune (EAAA). Its portfolio also includes GAs with multiple industrial clusters and travel circuits, providing natural hedges for steady margins. This diversity mitigates concentration risk. Additional advantages include an urban focus where air pollution concerns and public sentiment favor cleaner fuels like natural gas over LPG, regulatory and environmental alignment with emission norms and sustainability goals, and strong consumer retention strategies through competitive pricing, reliable supply, and value-added services to discourage fuel switching.
Regulatory Risks		

Risk that post marketing exclusivity the 2nd marketer may gain market share	After the expiry of marketing exclusivity, a second marketer may enter the GA and attempt to capture market share. While PNGRB guidelines allow at least 20% of capacity of the CGD network and compression capacity, the lack of clarity on operational rules and economics creates uncertainty.	The risk of market entry after marketing exclusivity is mitigated by several structural and strategic factors. PNGRB guidelines allow at least 20% of capacity of the CGD network and compression capacity. New entrants also face gas sourcing challenges as they may not qualify for domestic gas allocation, limiting competitiveness without scale. Common pooled gas eliminates product differentiation, while CGD companies strengthen service differentiation through established brands and consumer experience. Strategic positioning with robust infrastructure, scale, and consumer loyalty provides a strong moat.
Risk of uncertainty after end of infra exclusivity period	After the expiry of infrastructure exclusivity, there is a risk of competitive entry.	PNGRB has a predefined process before open access is granted, requiring at least 20 percent capacity to be shared. Currently, there is a stay by the Delhi High Court on implementing open access, which delays competitive entry. Additional barriers include gas sourcing challenges, as new marketers may not qualify for domestic gas allocation, and lack of product differentiation due to common pooled gas. CGD companies counter this through strong brand positioning, consumer experience, and established infrastructure and scale, creating a robust moat against potential entrants.
Other Risks		
Capital Intensive Businesses	CGD business is capital intensive and any inability to fund the company's network expansion may adversely affect TGLs business, results of operations, financial condition and cash flows.	While CGD is capital intensive, infrastructure development is modular, enabling phased investments aligned with demand growth and reducing upfront funding pressure. Robust cash flows from existing operations and access to multiple financing avenues, including internal accruals, debt, and strategic partnerships, support sustained expansion without compromising financial stability. As per Regulation 14 of the CGD Authorization Regulations, CGD entities can collect interest-free, refundable security deposits from domestic PNG consumers to fund network rollout. Torrent Gas further benefits from a strong credit profile with a CRISIL AA/Stable rating, stable liquidity, and unutilized long-term loan limits of Rs. 3,100 crore along with over Rs. 400 crore in working capital headroom (CRISIL Rating Rationale, Nov 2025). These factors collectively ensure optimal capital deployment and mitigate funding risk.

Safety Risk	Related	Safety-related risks inherent in the city gas distribution (CGD) sector, including gas leaks and accidents, which may result in liability or damage to TGLs reputation, adversely affecting their business, results of operations, financial condition and cash flows As per PNGRB's Integrity Management System Regulations (2013, amended July 2025), CGD entities implement a risk-based IMS to ensure safe and reliable gas delivery, protect public and environment, and minimize network failure risks. Torrent Gas demonstrates best-in-class safety standards, having recently earned the British Safety Council's Sword of Honour, 2025 and a 5-Star rating for its Pune (EAAA) GA, among the earliest CGD companies in India to achieve this distinction. These measures underscore a strong commitment to operational integrity and regulatory compliance, significantly mitigating infrastructure and safety risks.
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Table 45: Company's Position in comparison with listed CGD Entities, Q1-FY27

Parameter	Company Position
Authorised Geographical Area	- Third largest authorised geographical area by square kilometres - Only private sector CGD entity having operations in two state capitals one of which being a metropolitan region
CGD Infrastructure Network	- Largest ready-to-use asset base among private sector companies. This rapid infrastructure development undertaken by TGL has allowed them to convert their asset readiness into sustained volume growth, reinforcing its competitive edge in a market where speed of execution defines success. - Highest CNG Station Growth demonstrated exceptional scalability, increasing CNG station network from 60 in FY20 to 557 station in FY26 growing at a CAGR of ~44.97% - As of March 2026, while the national average coverage area per CNG station stood at 368.69 sq. km per station, while the Company's Geographical Areas have an average coverage area per CNG station of 217.62 sq. km per CNG station which translates into Company's CNG station density around 69.42% higher than the national average, reflecting deeper infrastructure penetration within its operating geographies.
Gas Volumetric Growth	- Highest gas volumetric growth, delivering the highest absolute increase of 0.65 mmscmd and leading the benchmarked entities in percentage growth of 26.90% in Q1-FY27 and a two-year CAGR growth of 37.17% in FY26 - Consistently outperformed other companies, registering growth of approximately 26.90%, 34.53% and 39.86% for the three months periods ended June 30, 2026, for FY26 and FY25, respectively, while the country as a whole grew at approximately 26.32%, 9.73% and 11.56% for the three months periods ended June 30, 2026, for FY26 and FY25, respectively - One of the fastest growing CGD companies in the industry, demonstrated by a trajectory rising from 1.38 mmscmd in FY24 to 2.60 mmscmd in FY26 underscores the quality of the company's GAs and its ability to leverage infrastructure effectively. - One of the fastest CGD company in India to scale up to first 1 MMSCMD of gas sales, achieving this milestone within ~4 years of commencement of operations.
Revenue Growth	Highest revenue growth as compared with the benchmarked entities, with revenues increasing at a 37.17% CAGR over the Financial Year 2024 to the Financial Year 2026 and 28.01% in Q1-FY27, outperforming other comparable companies. The strong growth reflects rapid scale-up of operations across TGLs authorised geographical areas compared with relatively modest growth trends observed for benchmarked entities
Gas Sourcing Mix	- Robust sourcing mix has resulted in comparatively lower volatility in gas costs for the Q1-FY27, resulting in the highest gross margin/scm as compared with the benchmarked entities - Torrent Gas is one of the leading CGD operators in India to utilize CBG in its operations. The company recorded CBG offtake of ~65,369.86 SCMD in FY26, accounting for about 21.40% of India's total CBG offtake in FY26, thereby positioning it as one of the largest procurers.

Gross Margin	- Consistently ranked among the top company in terms of maintaining a healthy gross margin per SCM as compared with benchmarked CGD entities - As compared with the benchmarked entities, the highest gross margin/scm of ₹18.05 per scm as compared to the average of benchmarked CGD entities of ₹11.84 per scm for Q1-FY27
EBITDA Growth	Only company that has recorded a sharp and sustained improvement in EBITDA, increasing significantly by increasing by approximately 65.64% for the three months period ended June 30, 2026 as compared to the three months period ended June 30, 2025 and recorded a 2-year EBITDA CAGR of ~45.72% in FY26, reflecting operating leverage from rapid volume scale-up. In contrast, EBITDA for other benchmarked entities has remained largely stable or declined over the same period, indicating relatively mature operations and limited margin expansion
Competitive Intensity	Competitive intensity in the sector is also shaped by the ability of CGD entities to deploy infrastructure ahead of demand, secure cost-effective and reliable gas supplies, and maintain high service standards across CNG and PNG segments. Further, entities with larger contiguous Geographical Areas, stronger balance sheets, diversified sourcing portfolios and established operating track records are better positioned to scale volumes and manage input cost volatility. In this context, differentiation is driven by network density, station availability, proximity to highways and industrial clusters, consumer engagement and operational reliability

Source: Company Filings, Crisil Analysis

1 Global Macroeconomic Overview

1.1 Review and outlook of Global GDP

Global real GDP growth stood at 3.4% in 2025, reflecting the completion of the post-pandemic normalization phase and signalling that the global economy has transitioned into a structurally moderate growth environment rather than a renewed expansion cycle. According to IMF, global growth is projected to moderate to 3.1% in 2026 and remain broadly stable at around 3.1–3.2% through 2030. While inflation has eased considerably across most major economies and monetary tightening is gradually nearing its end, elevated real interest rates, weak productivity growth, ageing demographics in advanced economies, and high sovereign debt burdens continue to constrain investment, capital formation, and private consumption. Consequently, the medium-term outlook points towards a resilient but structurally lower-growth global economy compared with pre-pandemic trends.

Global trade and investment patterns continue to be reshaped by geopolitical fragmentation, evolving industrial policies, and strategic competition among major economies. Alongside ongoing supply-chain diversification and selective trade restrictions, the escalation of the Middle East conflict during 2026 has introduced an additional layer of uncertainty into the global macroeconomic environment. Although the conflict has not materially altered the IMF's baseline growth projections, it has heightened concerns surrounding energy security, maritime trade routes, and the resilience of global supply chains, particularly given the strategic importance of the Middle East in global crude oil and LNG exports. Businesses and governments have consequently accelerated efforts to diversify sourcing, strengthen regional manufacturing capabilities, and secure alternative logistics corridors. These structural adjustments continue to reinforce the transition towards a more geographically diversified and strategically resilient global trade architecture.

The moderation in global growth also reflects the fading impact of temporary post-pandemic recovery drivers. The sharp rebound recorded in 2021 (6.7%) was primarily supported by unprecedented fiscal stimulus, accommodative monetary policy, and the reopening of economies following the 2020 contraction (-2.7%). Since then, economic activity has gradually normalized amid tighter financial conditions, slower productivity growth, weaker global investment, and increasing geopolitical uncertainty. While easing inflation and gradually improving financial conditions are expected to support domestic demand over the medium term, downside risks remain elevated. Prolonged geopolitical conflicts, renewed disruptions to global energy markets or critical shipping routes, increasing trade barriers, and persistent policy uncertainty could weigh on investment sentiment and international trade. Nevertheless, continued technological innovation, digital transformation, and supply-chain realignment are expected to enhance economic resilience, supporting a stable—albeit lower—global growth trajectory over the forecast period.

Advanced Economies and Emerging Market & Developing Economies

Real GDP growth trends continue to highlight a clear and persistent divergence between advanced economies and emerging market & developing economies (EMDEs), with emerging markets increasingly acting as the principal contributors to incremental global economic growth. In 2025, EMDEs recorded growth of approximately 4.4%, compared with 1.9% for advanced economies, representing growth that is more than twice the pace observed in developed markets. This divergence reflects stronger domestic demand, favourable demographic profiles, rising infrastructure investment, expanding manufacturing capacity, and increasing participation of emerging economies in global value chains. As multinational corporations continue to diversify manufacturing and sourcing locations, several emerging economies are expected to strengthen their role within global production and trade networks.

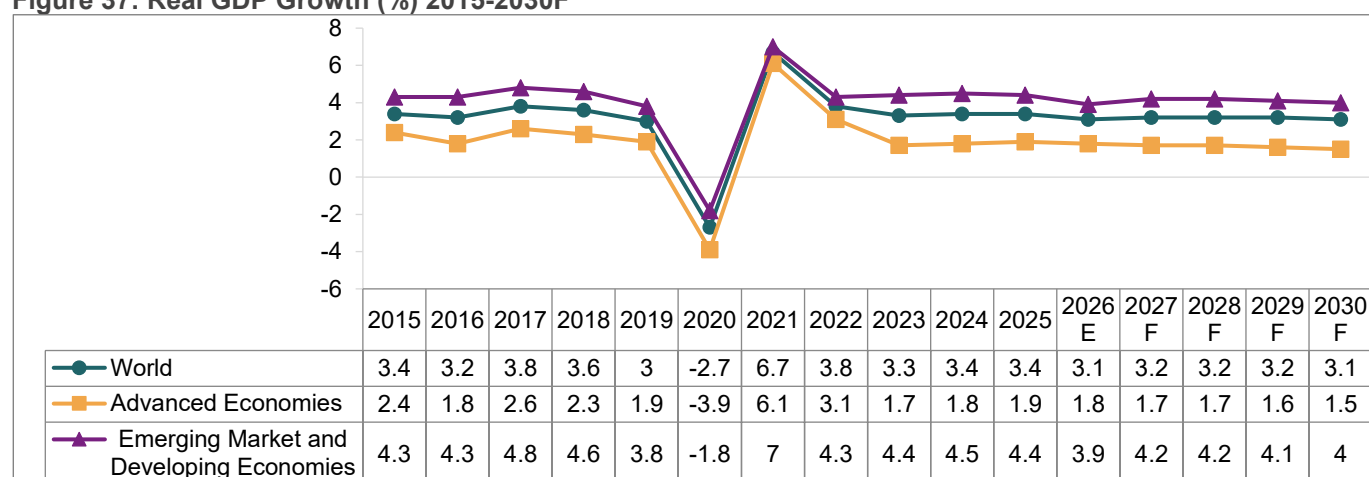
Looking ahead, EMDEs are projected to sustain growth of approximately 3.9–4.2% during 2026–2030, underpinned by continued urbanization, digital transformation, industrial expansion, infrastructure development, and rising middle-

class consumption. Supply-chain diversification strategies adopted by global manufacturers continue to benefit several Asian economies and selected countries across Latin America and the Middle East, while comparatively lower debt burdens and greater policy flexibility provide room to support domestic economic activity. Although external risks—including geopolitical tensions, commodity price volatility, capital flow fluctuations, and trade fragmentation—remain elevated, the stronger structural fundamentals of many emerging economies position them to capture a larger share of future global investment and long-term economic growth.

In contrast, advanced economies are expected to experience structurally subdued growth, with GDP projected at approximately 1.8% in 2026, gradually moderating to around 1.5% by 2030. The subdued outlook reflects persistent structural constraints, including ageing populations, slower labour force growth, weak productivity gains, elevated public debt levels, and the lingering effects of prolonged monetary tightening. Although inflationary pressures have eased significantly, higher financing costs and fiscal consolidation are expected to continue constraining business investment, housing activity, and discretionary consumption. Consequently, growth across advanced economies is expected to remain below historical averages despite improving macroeconomic stability.

Structurally, the widening growth differential between advanced economies and EMDEs increasingly reflects structural rather than cyclical factors. While advanced economies continue to prioritize inflation control, fiscal sustainability, and supply-chain resilience, emerging economies are benefiting from favourable demographics, expanding industrialization, digital adoption, infrastructure investment, and deeper integration into global manufacturing and services value chains. As the global economy becomes increasingly multipolar and geographically diversified, EMDEs are expected to remain the primary engines of incremental global GDP growth over the medium term, even as geopolitical fragmentation, evolving trade policies, and regional conflicts continue to reshape global investment and trade flows

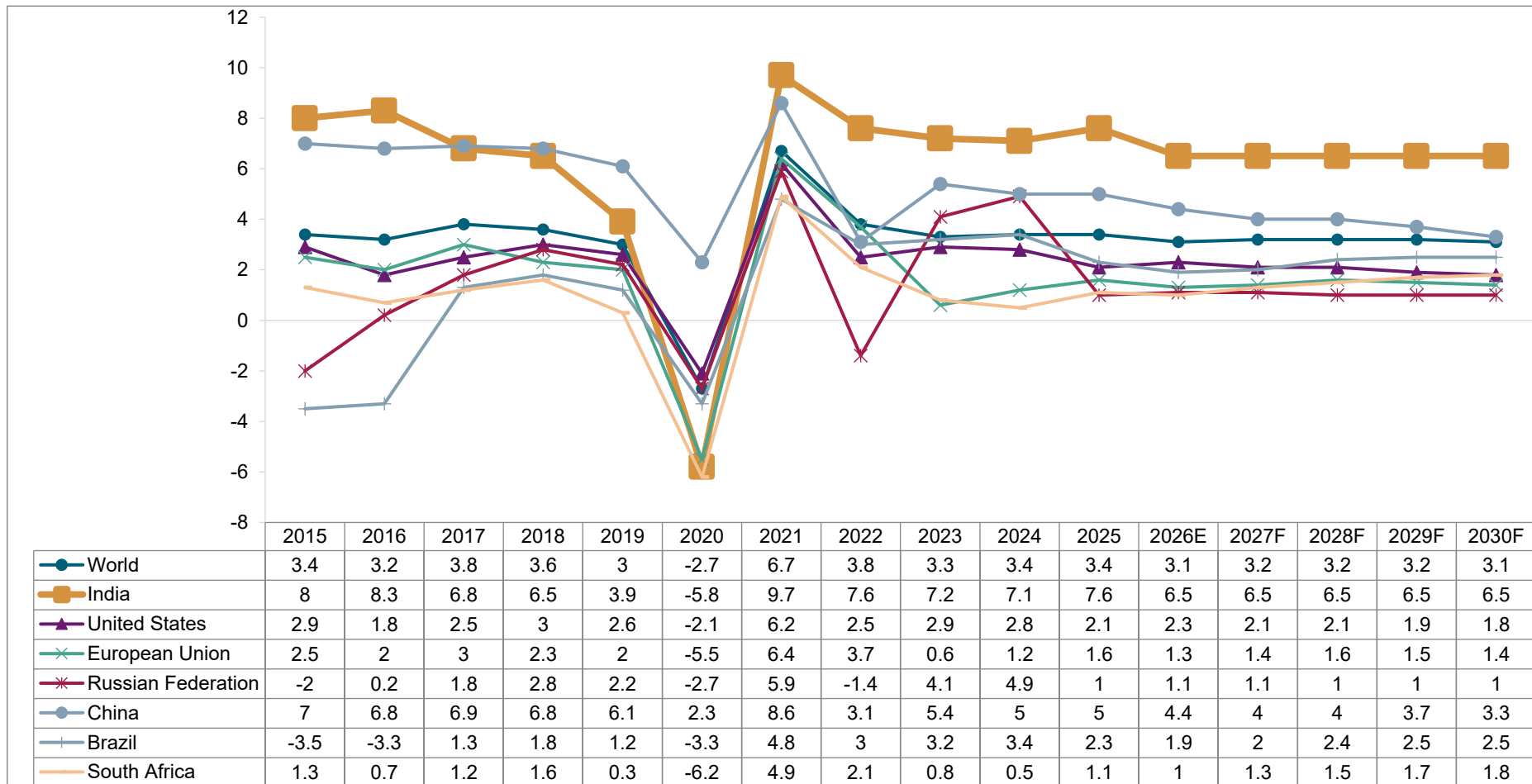
Figure 37: Real GDP Growth (%) 2015-2030F



Note: E-Estimated, F-Forecast

Source: International Monetary Fund (IMF) World Economic Outlook April 2026

Figure 38: Real GDP Growth Comparison (%) 2015-2030F



Note: E-Estimated, F: Forecast

Estimates starts from 2027 for European Union and World

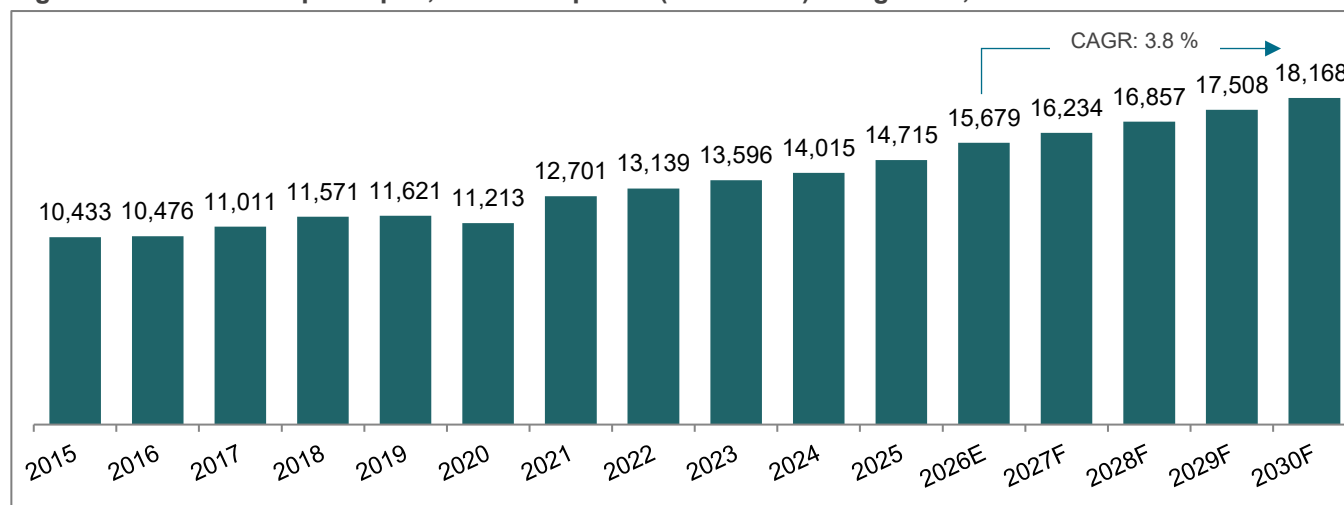
Source: International Monetary Fund (IMF) World Economic Outlook April 2026

1.2 Global GDP per capita and growth

Global GDP per capita has demonstrated a sustained long-term upward trajectory, increasing from approximately US\$10,433 in 2015 to US\$14,715 in 2025, representing a cumulative increase of over 40% during the period. The continued rise in per capita income reflects improvements in labour productivity, technological advancement, expanding global trade, and structural transformation across emerging economies. Looking ahead, global GDP per capita is projected to increase from US\$15,679 in 2026 to approximately US\$18,168 by 2030, implying a forecast CAGR of ~3.8% during 2026–2030. The projected growth is expected to be supported by continued urbanization, digital adoption, higher participation in value-added manufacturing and services, and sustained income growth across emerging markets despite a moderating global economic environment.

Rising global per capita incomes are expected to support higher energy consumption across residential, commercial, industrial, and transportation sectors through increased household purchasing power and expanding economic activity. Growing affluence generally translates into higher electricity consumption, greater penetration of consumer appliances, increased vehicle ownership, expanding mobility requirements, and higher industrial output. Concurrently, rapid urbanization and infrastructure development across emerging economies are expected to reinforce this trend. Consequently, demand for relatively cleaner fuels, including natural gas for industrial, commercial and power generation applications, as well as CNG in the transportation sector, is expected to benefit from sustained growth in global income levels, supporting the ongoing transition towards a more diversified, efficient and lower-carbon global energy mix.

Figure 39: Global GDP per capita, at current prices (US Dollars) and growth, 2015-2030F



Note: E-Estimates, F-Forecast

Source: International Monetary Fund (IMF) World Economic Outlook April 2026

1.3 Global Inflation

Table 46: Inflation Rate (Average Consumer Prices) (%) 2015-2030F

Year	World	Advanced Economies	Emerging markets & developing economies	United States	China	India
2015	2.7	0.3	4.8	0.1	1.4	4.9
2016	2.7	0.7	4.3	1.3	2	4.5
2017	3.3	1.7	4.5	2.1	1.6	3.6
2018	3.6	2	4.9	2.4	2.1	3.4
2019	3.6	1.4	5.2	1.8	2.9	4.8
2020	3.3	0.7	5.3	1.3	2.5	6.2
2021	4.7	3.1	5.9	4.7	0.9	5.5
2022	8.7	7.3	9.7	8	2	6.6
2023	6.7	4.6	8.2	4.1	0.2	5.4
2024	5.8	2.6	8	3	0.2	4.6
2025	4.1	2.5	5.2	2.7	0	2.1
2026E	4.4	2.8	5.5	3.2	1.2	4.7
2027F	3.7	2.2	4.6	2.1	1.5	4
2028F	3.4	2.1	4.1	2.2	1.8	4
2029F	3.2	2.1	3.9	2.2	1.9	4
2030F	3.2	2.1	3.9	2.2	2	4

Note: E-Estimated, F-Forecast

For World and Advanced Economies, estimates starts from 2027

Source: International Monetary Fund (IMF) World Economic Outlook April 2026

Global inflation has moderated significantly from the multi-decade highs recorded during the post-pandemic period, reflecting the combined effects of synchronized monetary tightening, easing supply-chain disruptions, lower commodity prices relative to their 2022 peaks, and improving global production capacity. Global average consumer price inflation declined from 8.7% in 2022 to 6.7% in 2023, further easing to 5.8% in 2024 and 4.1% in 2025. However, according to the IMF World Economic Outlook, global inflation is expected to witness a temporary uptick to 4.4% in 2026, primarily reflecting renewed tariff measures, persistent services inflation, and higher energy price risks associated with geopolitical tensions, before gradually moderating to 3.2% by 2029–2030. Although the broad disinflation process remains intact, inflation is expected to converge more gradually towards central bank targets than previously anticipated, reflecting continued structural and geopolitical uncertainties.

Inflation dynamics continue to differ considerably across economies. Advanced economies have largely succeeded in bringing inflation under control through sustained monetary tightening, with inflation declining from 7.3% in 2022 to 2.5% in 2025. Nevertheless, inflation is projected to rise modestly to 2.8% in 2026, reflecting higher import costs arising from renewed trade measures, resilient services inflation, and wage pressures before stabilizing at around 2.1–2.2% during 2027–2030. In the United States, inflation has moderated substantially from 8.0% in 2022 to 2.7% in 2025 but is expected to increase to 3.2% in 2026 amid the pass-through of recently announced tariffs, continued labour market resilience, and elevated shelter and services inflation. Consequently, major central banks are expected to adopt a cautious approach towards monetary easing, balancing the need to support economic growth against the risk of renewed inflationary pressures.

Inflation across emerging market and developing economies (EMDEs) continues to remain above that of advanced economies, although the medium-term trajectory points towards gradual moderation. Inflation declined from 9.7% in

2022 to 8.2% in 2023, 8.0% in 2024, and 5.2% in 2025, reflecting easing food and energy prices and the impact of tighter monetary policies implemented across several emerging economies. According to IMF projections, inflation is expected to increase temporarily to 5.5% in 2026 before moderating to approximately 3.9% by 2029–2030. While domestic demand conditions continue to normalize, inflation across EMDEs remains vulnerable to commodity price volatility, exchange rate movements, food price inflation, and geopolitical disruptions affecting global energy and agricultural supply chains.

Recent geopolitical developments have added new upside risks to the global inflation outlook. The escalation of the Middle East conflict during 2026, coupled with continued disruptions in key maritime trade corridors and heightened uncertainty surrounding global energy supplies, has increased the risk of higher oil, natural gas and freight costs. Although the IMF baseline assumes that these disruptions remain contained, any prolonged escalation could transmit inflationary pressures through higher transportation costs, supply-chain bottlenecks, and increased input costs across manufacturing and energy-intensive industries. Similarly, the expansion of tariff measures and broader trade fragmentation may increase import costs and reduce supply-chain efficiency, thereby slowing the pace of global disinflation.

Domestic factors continue to play a significant role in shaping inflation outcomes across emerging economies. Exchange rate volatility, food supply disruptions, weather-related events, fiscal policies, labour market conditions, and administered energy prices continue to influence inflation trajectories across regions. At the same time, resilient domestic demand and ongoing infrastructure investment have supported economic activity, limiting the pace at which inflation has moderated in several economies. Consequently, central banks across many emerging markets are expected to maintain a data-dependent policy approach, balancing inflation control with the need to support economic growth and financial stability.

Looking ahead, the global inflation outlook remains significantly more favourable than during the peak inflationary period of 2022–2023, although risks remain tilted to the upside. Inflation is expected to continue moderating over the medium term as supply chains normalize further, commodity markets stabilize, and the effects of earlier monetary tightening continue to feed through the global economy. However, persistent services inflation, renewed trade restrictions, geopolitical conflicts, and volatility in global energy markets may delay the return of inflation to long-term targets. Further, monetary policy is expected to remain relatively restrictive in the near term before gradually normalizing as inflation expectations become firmly anchored and price stability is restored.

1.4 Economic Outlook on Key Economies

Table 47: Real GDP Growth of Key Economies, % , 2015 – 2030F

Year	Brazil	Russia	European Union	China	USA
2015	-3.5	-2.0	2.5	7	2.9
2016	-3.3	0.2	2	6.8	1.8
2017	1.3	1.8	3	6.9	2.5
2018	1.8	2.8	2.3	6.8	3
2019	1.2	2.2	2	6.1	2.6
2020	-3.3	-2.7	-5.5	2.3	-2.1
2021	4.8	5.9	6.4	8.6	6.2
2022	3	-1.4	3.7	3.1	2.5
2023	3.2	4.1	0.6	5.4	2.9
2024	3.4	4.9	1.2	5	2.8
2025	2.3	1.0	1.6	5	2.1
2026E	1.9	1.1	1.3	4.4	2.3

2027F	2	1.1	1.4	4	2.1
2028F	2.4	1.0	1.6	4	2.1
2029F	2.4	1.0	1.5	3.7	1.9
2030F		1.0	1.4	3.3	1.8

Note: E-Estimated, F-Forecast

Source: International Monetary Fund (IMF) World Economic Outlook April 2026

Brazil's economy has gradually stabilized following the recession experienced during 2015–2016, supported by stronger domestic demand, agricultural exports, and improved labour market conditions. After contracting by 3.3% in 2020, the economy rebounded by 4.8% in 2021, before moderating to 3.0% in 2022, 3.2% in 2023, and 3.4% in 2024. According to the IMF, GDP growth moderated to 2.3% in 2025 and is projected at 1.9% in 2026, before stabilizing around 2.0–2.4% during 2027–2030. The moderation reflects tighter financial conditions, softer external demand, and slower investment growth following the post-pandemic recovery. Looking ahead, Brazil is expected to benefit from continued agricultural competitiveness, critical mineral production, expanding renewable energy investments, and resilient domestic consumption. However, fiscal consolidation, relatively high borrowing costs, and external uncertainties—including commodity price volatility, evolving global trade policies, and geopolitical tensions affecting international capital flows—are expected to moderate the pace of economic expansion over the medium term.

Natural resources have played a crucial role in Russia's economic development. As the world's largest natural gas reserves holder and a major oil producer, the energy sector has been the primary driver of economic growth. However, this reliance on natural resources has created structural challenges, including the need for economic diversification and vulnerability to commodity price fluctuations. The country also possesses vast reserves of minerals and metals, though their economic potential hasn't been fully realized. Russia's economy remains highly dependent on hydrocarbons, with oil and natural gas exports continuing to play a central role in economic activity and fiscal revenues. Following contractions in 2015 (-2.0%) and 2020 (-2.7%), GDP rebounded sharply by 5.9% in 2021, contracted by 1.4% in 2022 following the escalation of the Russia–Ukraine conflict, and subsequently recovered to 4.1% in 2023 and 4.9% in 2024, supported by elevated public expenditure, defence-related manufacturing, and resilient energy exports. Growth moderated to 1.0% in 2025 and is projected at 1.1% in 2026, before remaining around 1.0–1.1% through 2030.

The medium-term outlook remains constrained by international sanctions, limited access to global capital and technology, demographic challenges, and increasing fiscal pressures. While elevated defence expenditure continues to support short-term economic activity, lower oil prices, tighter labour markets, and ongoing geopolitical uncertainties are expected to weigh on long-term productivity and investment. Additionally, evolving geopolitical developments, including instability across the Middle East and global energy market volatility, may influence export revenues and commodity prices, creating both opportunities and risks for Russia's energy-dependent economy.

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China remains one of the world's largest contributors to global economic growth, although its growth trajectory continues to moderate as the economy transitions towards a consumption- and services-led growth model. Following growth averaging around 6–7% prior to the pandemic, GDP slowed to 2.3% in 2020, rebounded to 8.6% in 2021, and

moderated to 3.1% in 2022, before recovering to 5.4% in 2023 and 5.0% in 2024–2025. According to IMF projections, growth is expected to moderate to 4.4% in 2026, gradually easing to 3.3% by 2030.

China's medium-term outlook reflects the combined impact of slowing population growth, ongoing adjustments in the real estate sector, softer domestic demand, and increasing external trade headwinds. At the same time, continued investment in advanced manufacturing, electric vehicles, renewable energy technologies, semiconductors, and artificial intelligence is expected to support productivity and industrial upgrading. Rising geopolitical tensions, continued trade restrictions with major economies, and the reconfiguration of global supply chains remain key external risks, while greater domestic policy support is expected to mitigate some of these challenges.

The United States continues to demonstrate resilience despite moderating economic growth following the post-pandemic recovery. After contracting by 2.1% in 2020, GDP rebounded strongly to 6.2% in 2021, before moderating to 2.5% in 2022, 2.9% in 2023, and 2.8% in 2024. Growth moderated further to 2.1% in 2025 and is projected to remain around 2.3% in 2026, before gradually easing to 1.8–2.1% during 2027–2030.

The medium-term outlook continues to be supported by resilient labour markets, technological innovation, artificial intelligence-led investment, and relatively strong household consumption. However, elevated public debt, persistent fiscal deficits, slower labour force growth, and higher borrowing costs are expected to moderate economic expansion. In addition, evolving trade policies, strategic competition with China, and geopolitical developments—including continued tensions in the Middle East that could influence global energy markets and inflation—remain important sources of uncertainty. Nevertheless, the United States is expected to remain one of the primary drivers of global innovation, investment, and economic activity over the medium term.

Government policies around pollution control for major economies

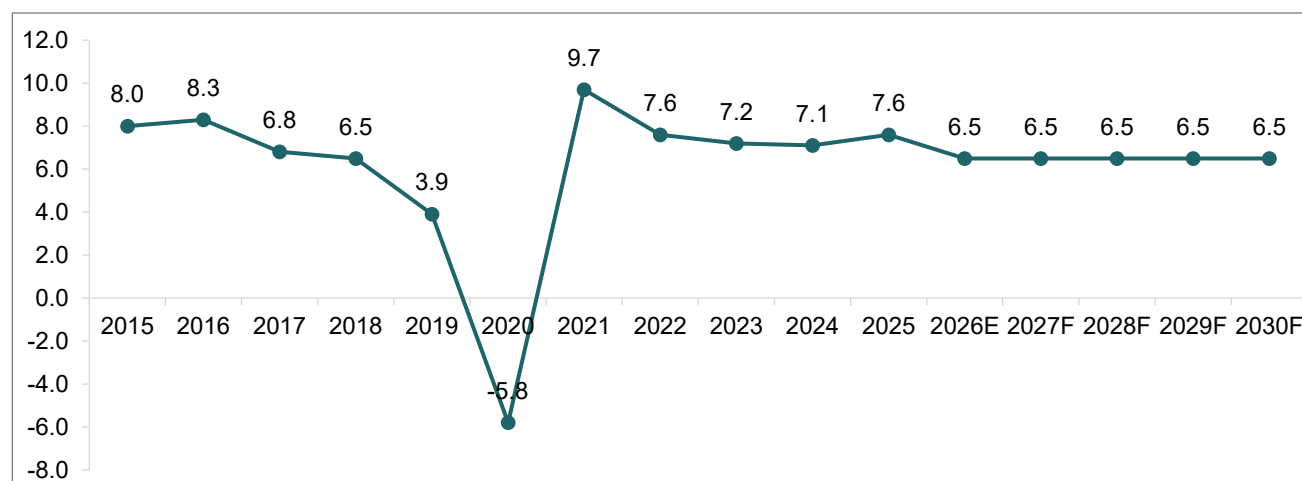
Major economies have implemented targeted pollution-control policies that materially shape industrial, transport and energy-sector behavior. The European Union has led global regulatory tightening through its Ambient Air Quality Directives, Euro-VI/VI-D vehicle standards and industrial emissions rules, driving accelerated fuel switching and efficiency improvements. China's "Blue Sky" and Air Pollution Prevention and Control Action Plans delivered significant reductions in SO₂, NO_x and PM emissions by mandating clean-fuel use, restricting coal in urban clusters, and enforcing ultra-low-emission norms for industry and power generation. The United States has strengthened air-quality compliance through the Clean Air Act, National Ambient Air Quality Standards (NAAQS), and vehicle emission norms, which have substantially lowered criteria pollutants over the past two decades.

Other key jurisdictions have also advanced impactful measures: Brazil has enforced vehicle-emission standards (PROCONVE-P8) and expanded natural-gas and biofuel use to curb transport-related pollution; Russia has implemented Euro-equivalent vehicle norms and industrial emissions controls in major cities under its environmental modernisation programs. Collectively, these initiatives have driven cleaner-fuel adoption, stricter emission compliance, and sustained improvements in urban air-quality trends across their respective regions.

2 India Macroeconomic Overview

2.1 Review and outlook of India GDP

Figure 40: India Real GDP Growth (%) 2015-2030F



Note: E-Estimated, F-Forecast

Source: International Monetary Fund (IMF) World Economic Outlook April 2026

India's real GDP growth remained among the strongest globally, expanding by 7.6% in 2025 (as per IMF), reaffirming its position as one of the fastest-growing major economies. According to the IMF World Economic Outlook (April 2026), growth is projected to moderate to 6.5% in 2026 and remain broadly stable at 6.5% through 2030, reflecting a transition from post-pandemic recovery to a more sustainable, structurally driven growth trajectory. Unlike many advanced economies facing slowing productivity, ageing demographics, and subdued domestic demand, India's growth continues to be supported by favourable demographics, robust domestic consumption, sustained public capital expenditure, rapid digitalisation, and expanding manufacturing capabilities. The economy has also continued to benefit from policy reforms aimed at improving ease of doing business, infrastructure development, and strengthening the country's position within global supply chains.

The moderation in growth from the exceptionally high levels witnessed during 2021–2025 primarily reflects the normalization of post-pandemic base effects rather than any deterioration in economic fundamentals. Following the sharp contraction of 5.8% in 2020, India recorded a strong rebound of 9.7% in 2021, followed by sustained growth of 7.6% in 2022, 7.2% in 2023, 7.1% in 2024, and 7.6% in 2025. The gradual moderation to 6.5% over the medium term reflects a more balanced growth path as government capital expenditure normalises, global demand remains moderate, and monetary conditions continue to support macroeconomic stability. Despite this moderation, India's projected growth remains substantially above the global average and continues to outpace most major economies, reinforcing its role as a key contributor to incremental global economic growth.

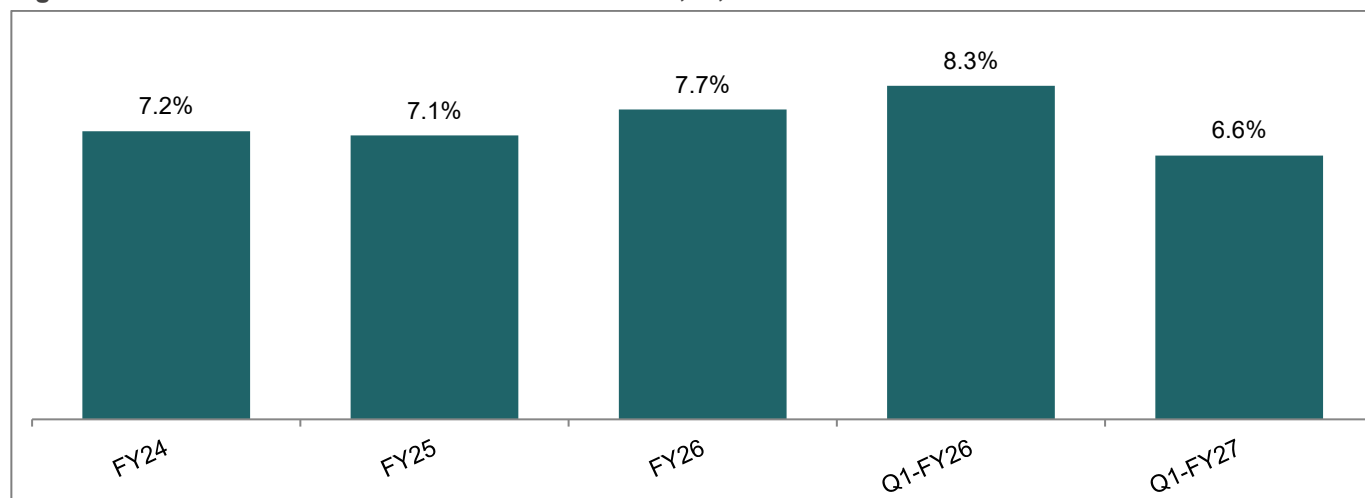
India's medium-term growth outlook is underpinned by structural reforms implemented over the past decade, including the Goods and Services Tax (GST), Insolvency and Bankruptcy Code (IBC), Production Linked Incentive (PLI) Scheme, National Infrastructure Pipeline (NIP), PM Gati Shakti National Master Plan, National Logistics Policy (NLP), and ongoing digital public infrastructure initiatives. Continued investment in transportation, logistics, renewable energy, semiconductor manufacturing, defence production, and industrial corridors is expected to enhance productivity, improve supply-chain efficiency, and strengthen India's manufacturing competitiveness. In parallel, rising urbanisation, expanding formalisation of the economy, increasing digital adoption, and favourable demographic trends are expected to support sustained domestic consumption and private sector investment over the forecast period.

Consulting

Foreign direct investment, supply-chain diversification, and the gradual shift of global manufacturing towards India continue to strengthen the country's long-term growth prospects. As multinational companies diversify production networks under the "China+1" strategy, India has emerged as an increasingly attractive investment destination supported by policy stability, a large domestic market, competitive labour availability, and improving infrastructure. Growth in services exports, Global Capability Centres (GCCs), digital technology, electronics manufacturing, and renewable energy investments is expected to further diversify the country's economic base and enhance export competitiveness. Continued improvements in logistics efficiency and connectivity are also expected to reduce transaction costs and improve India's integration into global value chains.

While the domestic macroeconomic outlook remains favourable, external risks continue to warrant close monitoring. Persistent geopolitical tensions, including the ongoing Russia–Ukraine conflict and the escalation of the Middle East conflict during 2026, have increased uncertainty surrounding global energy markets, freight costs, and international trade flows. As a net importer of crude oil and LNG, India remains exposed to volatility in global energy prices and shipping disruptions, particularly across strategically important maritime routes. However, diversified energy sourcing, strengthening foreign exchange reserves, prudent fiscal and monetary policies, and resilient domestic demand are expected to enhance the economy's ability to absorb external shocks. India is expected to maintain one of the highest growth rates among major economies over the medium term, supported by strong domestic fundamentals, continued structural reforms, and increasing participation in global manufacturing and services value chains.

Figure 41: India Real GDP Growth at Constant Prices, %, FY24 - FY26



Source: MOSPI, RBI, Crisil Intelligence

As per MOSPI, India's real GDP growth remained among the strongest globally, expanding by 7.7% in FY2025-26, supported by resilient domestic demand, sustained public capital expenditure, healthy corporate balance sheets, and continued momentum in the services sector. This performance followed growth of 7.1% in FY2024-25 and reflects the economy's ability to sustain broad-based expansion despite an increasingly uncertain global environment marked by tighter financial conditions, geopolitical tensions, and evolving trade policies. India's growth has been underpinned by robust government infrastructure spending, rising private investment, improving manufacturing activity under production-linked incentive (PLI) schemes, and resilient household consumption. The country's structural strengths—including favourable demographics, an expanding digital economy, and ongoing policy reforms—continue to reinforce its position as one of the fastest-growing major economies. While geopolitical developments, including the conflict in West Asia, have increased uncertainty around global energy markets and trade logistics, the impact on India's growth has remained contained due to strong domestic demand, diversified supply chains, and prudent macroeconomic management.

Looking ahead, growth is expected to moderate to a more sustainable trajectory, with the Reserve Bank of India (RBI) projecting real GDP growth of 6.6% for Q1 FY2026-27, largely reflecting a higher base effect rather than any weakening in underlying economic fundamentals. According to the RBI, domestic economic activity continues to be supported by resilient private consumption, sustained public investment, healthy financial sector balance sheets, improving capacity utilisation, and robust services exports. The central bank has also highlighted that the progress and spatial distribution of the southwest monsoon will play a crucial role in supporting agricultural output, rural incomes, food inflation, and overall domestic demand during FY2026-27. Nevertheless, external risks persist, including geopolitical tensions in West Asia, volatility in crude oil prices, potential disruptions to global shipping routes, and heightened uncertainty in global trade arising from tariff measures and policy fragmentation. Despite these headwinds, India's strong macroeconomic fundamentals, stable banking system, comfortable foreign exchange reserves, and continued focus on fiscal consolidation and infrastructure development are expected to support sustained medium-term economic growth, reinforcing India's position as a key driver of global economic expansion.

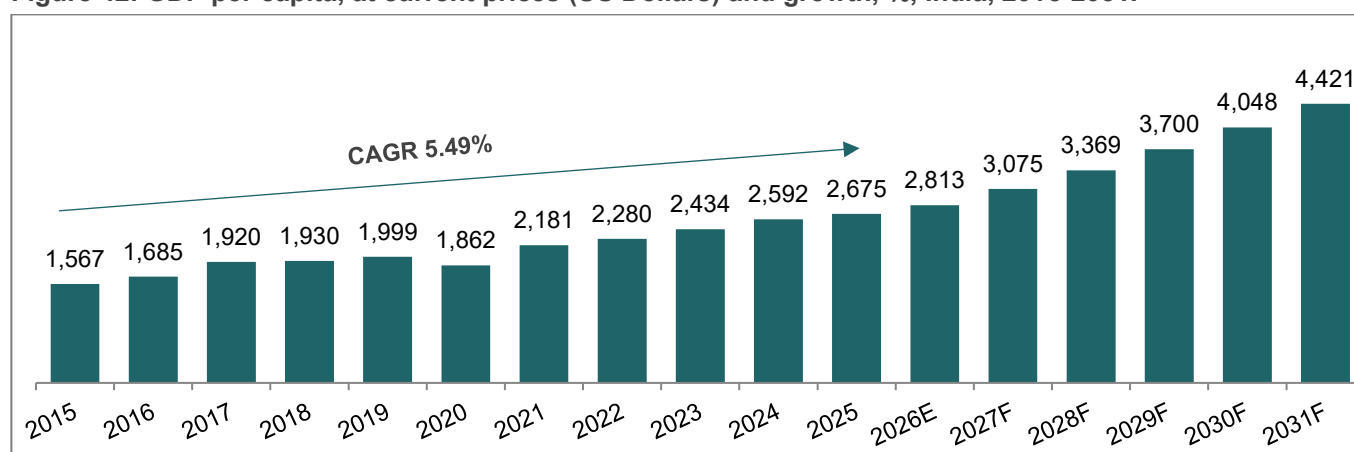
2.2 GDP per capita at current prices and its growth

India's GDP Per Capita (at current prices) is likely to reach ~USD 4,421 by 2031, growing at a CAGR of ~12% between 2025 and 2029. This boost in per capita GDP levels will play a crucial role in propelling India's vision to become a USD 5 trillion economy by 2030. This upward trend in per capita GDP levels will be supported by domestic structural reforms, fiscal prudence, monetary policy stability, reduced input costs, falling price pressures, political stability, and rapid urbanization.

Expansion of capacity utilisation and productivity across critical sectors such as manufacturing, transport, infrastructure, construction, chemicals, telecom, and financial services will lead to a sustained growth in GDP per capita levels, with positive spillovers being witnessed in India's economic growth.

Increased infrastructural investment inflows, an accelerating green transition, strengthening energy and commodity supply chains, and building multi-industry economies of scale for the digital economy will boost competitiveness, enhance efficiency, and create new job opportunities, thus promoting India's transition to an upper-income country over the coming decade. However, geopolitical tensions, extreme climate events, and international financial sector volatility can present short-term to medium-term challenges to this growth outlook.

Figure 42: GDP per capita, at current prices (US Dollars) and growth, %, India, 2015-2031F

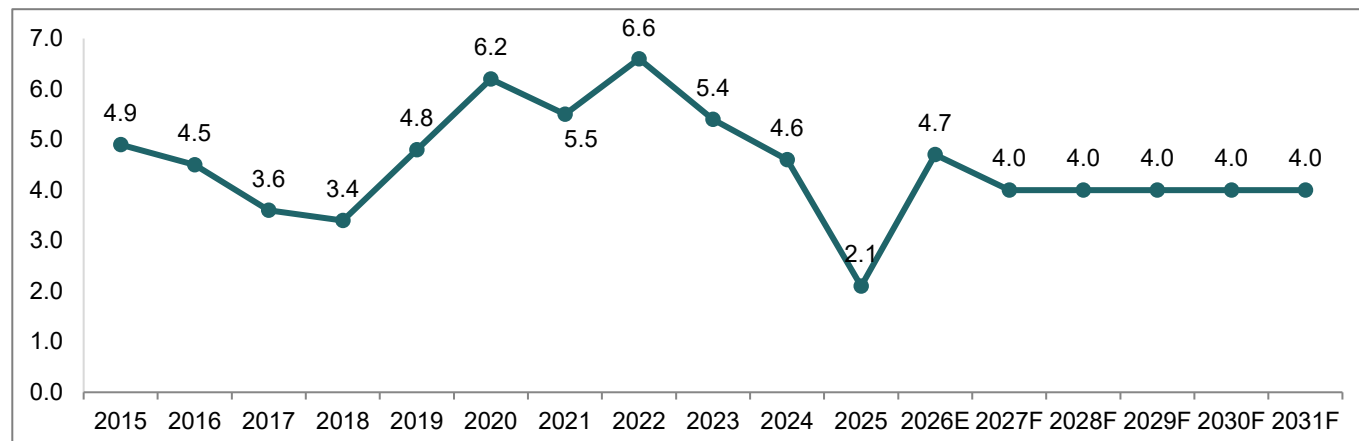


Note: F-Forecast

Source: International Monetary Fund (IMF) World Economic Outlook (April 2026)

2.3 India's Inflation

Figure 43: India Inflation Rate (Average Consumer Prices) (%) 2010-2031F



Note: E-Estimated, F-Forecast

Source: International Monetary Fund (IMF) World Economic Outlook April 2026

Inflation rose to 6.2% due to Covid-19 in 2020 and dropped to 5.5% later in 2021. Following a surge in India's annual inflation to 6.7% in 2022 amidst the adverse impacts of the Russia-Ukraine war on global commodity prices and supply chain disruptions, inflation for 2023 stood at 5.4%. International Monetary Fund estimated inflation at 4.6% in 2024. Food inflation has been taking a toll on the Indian economy since 2023, with several categories witnessing significant inflation. This includes oils and fats at +17.8% YOY, fruits at +12.6% YOY, cereals and products at +3.7% YOY, sugar and confectionary at 3.5% YOY, non-alcoholic beverages at 4.3% YOY in June 2025. The inflation for personal care and effects rose by 14.8% YOY in June 2025.

India's retail inflation declined sharply in 2025, reaching its lowest level since the CPI series began, primarily due to a broad-based moderation in food and fuel prices, which together account for over half of the CPI basket. Favorable agricultural output, improved supply conditions, easing global commodity prices, and stable fuel costs helped reduce price pressures across essential commodities. Additionally, timely government interventions to manage food supplies and stable monetary conditions supported price stability. As a result, average headline inflation fell to 1.7% during April–December 2025, providing significant relief to consumers.

Inflation edged up again in 2026, largely because of a base effect and a gradual increase in food prices, particularly vegetables, pulses, meat, fish, and eggs, following the unusually low inflation recorded in 2025. Strong domestic demand and a pickup in economic activity also contributed to the moderate increase in prices. Looking ahead, the inflation is expected to remain benign, supported by healthy agricultural production, adequate foodgrain stocks, stable domestic supply conditions, prudent monetary policy, and easing global commodity and energy prices, which are expected to contain both food and core inflation.

2.4 Interests Rates

Table 48: India Interest Rates

Time Period	Interest Rates
From March 2020 to May 2022	4.00%
June 2022 to July 2022	4.90%
August 2022	5.40%
September 2022 to November 2022	5.90%

December 2022 to January 2023	6.25%
February 2023 to January 2025	6.50%
February 2025 to March 2025	6.25%
April 2025 to May 2025	6.00%
June 2025 to November 2025	5.50%
December 2025 Onwards	5.25%

Source: MOSPI, Crisil Intelligence

From March 2020, the repo rate stood at 4.00%, reflecting the RBI's accommodative stance during the COVID-19 pandemic to support economic recovery. This low rate helped inject liquidity into the economy, encouraging borrowing and investment amid economic uncertainties. However, as inflationary pressures started building up due to global supply chain disruptions and rising commodity prices, the RBI initiated a rate hike cycle. In June 2022, the interest rate was raised to 4.90%, marking the beginning of a tightening phase aimed at controlling inflation while ensuring economic stability.

The rate continued to rise in August 2022, reaching 5.40%, indicating a more aggressive stance by the RBI as inflation remained a concern. This increase was followed by another hike in September 2022, bringing the rate to 5.90%, reflecting the RBI's strong response to rising global inflationary pressures, currency depreciation, and persistent supply chain bottlenecks. In December 2022, the repo rate had climbed to 6.25%, reinforcing the RBI's commitment to controlling inflation despite concerns about economic growth. In February 2023, RBI increased the interest rate to 6.50% and remained unchanged till January 2024.

In December 2025, RBI decreased the interest rate by 25 bps to 5.25% for the fourth consecutive policy review, taking the cumulative cut by 125 bps this year, indicating a potential stabilization. This reduction suggests that inflationary pressures have eased, allowing the RBI to support economic growth without compromising financial stability. The broader economy will benefit from reduced borrowing costs, which typically stimulates consumer spending and business investment. Real estate and construction stand to gain significantly from the rate cut cycle. Lower home loan interest rates typically stimulate housing demand, particularly in the affordable and mid-segment markets. Reduced borrowing costs for developers will ease financial pressures on ongoing projects and potentially accelerate new launches.

For the CGD sectors, rate cuts would deliver multiple advantages. These capital-intensive industries require substantial investment in pipeline infrastructure and distribution networks. Lower interest rates will reduce their financing costs for expansion projects, potentially accelerating the development of gas distribution networks to previously unserved areas. Companies in this sector may find it more economically viable to extend PNG connections to more households, supporting the government's push for cleaner cooking fuel alternatives.

2.5 Forex Reserves

Table 49: Movement in Foreign Exchange Reserves of India, USD Million, Sep-2023 to Sep-2024

Month	FCA	Gold	SDR	RTP	Forex Reserves
Sep-23	521,366	43,342	17,990	5,016	587,714
Oct-23	519,281	46,449	17,945	4,787	588,462
Nov-23	533,424	47,596	18,295	4,856	604,171
Dec-23	551,239	47,956	18,365	4,892	622,452
Jan-24	548,939	47,967	18,207	4,849	619,962
Feb-24	554,152	48,048	18,164	4,801	625,165
Mar-24	570,950	52,675	18,132	4,662	646,419

Apr-24	561,778	55,888	18,049	4,486	640,201
May-24	572,564	56,501	18,118	4,326	651,509
Jun-24	572,881	56,528	18,014	4,573	651,996
Jul-24	589,316	58,525	18,156	4,619	670,616
Aug-24	597,415	61,742	18,451	4,622	682,230
Sep-24	617,075	65,749	18,566	4,391	705,781

Note: FCA (Foreign Currency Assets): FCA are maintained as a multi-currency portfolio comprising major currencies, such as, US dollar, Euro, Pound sterling, Japanese yen, etc. and are valued in terms of US dollars.

FCA excludes (a) investment in bonds issued by IIFC (UK) (b) SDR holdings of Reserve Bank, which is included under SDR and (c) amount lent under SAARC and ACU Currency Swap Arrangements.

SDR (Special Drawing Rights): Values in SDR million have been indicated in parentheses

RTP refers to the Reserve Tranche Position in the International Monetary Fund (IMF)

Source: RBI, Crisil Intelligence

The total reserves saw a significant upward trajectory, rising from USD 587.7 billion in September 2023 to USD 705.8 billion in September 2024, marking a 20.1% increase. This steady growth suggests strong foreign inflows and valuation gains.

The Foreign Currency Assets (FCA), which form the largest portion of the reserves, showed an overall increasing trend despite minor fluctuations. FCA initially dipped slightly in October 2023 but rebounded strongly in the following months. A particularly sharp rise was observed from March 2024 onwards, with FCA reaching USD 617.1 billion by September 2024. This surge could be attributed to increased foreign investments, a trade surplus, or currency revaluation effects. The accumulation of FCA reflects India's strengthening external position and improved investor confidence. Another key highlight is the steady accumulation of gold reserves, which rose from USD 43.3 billion in September 2023 to USD 65.7 billion in September 2024. The most significant growth in gold holdings occurred from March 2024 onwards, indicating that the Reserve Bank of India (RBI) may have actively increased its gold reserves as a hedge against global uncertainties, inflation, and currency volatility. This trend aligns with a broader global movement where central banks have been diversifying their reserves by increasing gold holdings to reduce dependency on fiat currencies. Meanwhile, Special Drawing Rights (SDR) and the Reserve Tranche Position (RTP) remained relatively stable throughout the period. SDR fluctuated within a narrow range around USD 18 billion, showing minimal changes in India's allocations with the International Monetary Fund (IMF). The RTP, which represents India's position in the IMF's reserve system, saw a slight decline from USD 5.01 billion in September 2023 to USD 4.39 billion in September 2024. These relatively minor variations indicate a stable relationship with the IMF and no major shifts in India's international monetary commitments.

The increase in reserves enhances the country's external resilience, providing a buffer against global economic uncertainties, currency fluctuations, and potential external shocks. The sharp growth in reserves during specific months, particularly from March 2024 to September 2024, indicates higher foreign investments, valuation gains due to currency movements, or an improved balance of payments position. The rising gold reserves further reinforce India's strategy of diversifying its assets to safeguard against economic volatility. As a result, this strong reserve position will enable better exchange rate stability, improved economic confidence, and a greater ability to manage external financial risks in the coming months.

Table 50: Forex Reserves Comparison, billion USD

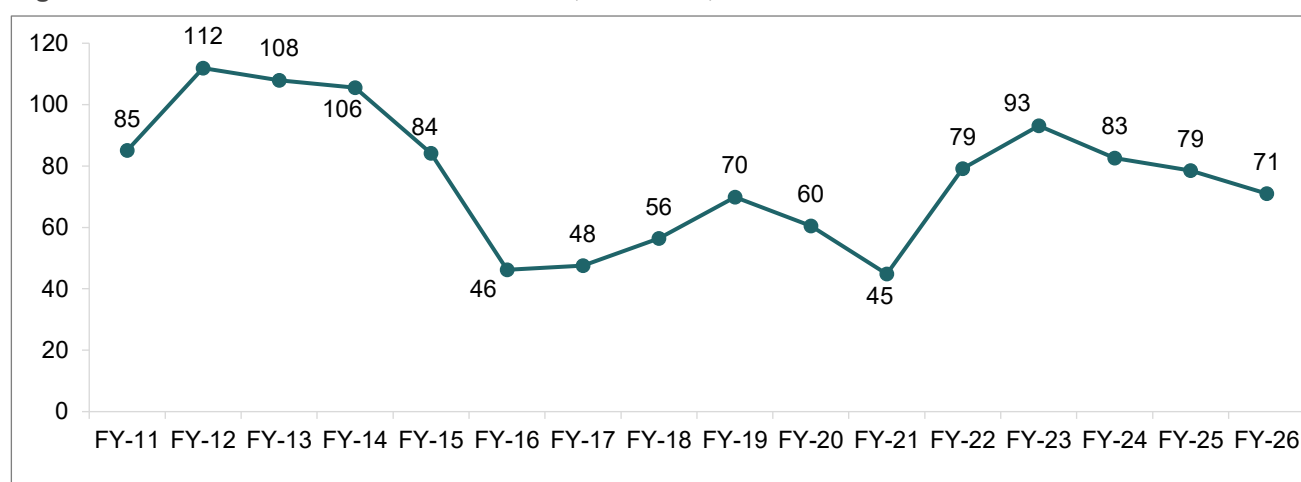
Country	Sep-23	Sep-24
Brazil	340	372
USA	240	251
China	5,222	5,513
UK (Gross Official Reserves)	182	194
Japan	1,237	1,255

Australia	90	94
India	587	705

Indian reserves expanded at a significantly higher rate as compared to other major economies during Sept 2023 to Sept 2024 period. This growth can be attributed to the increased foreign investments, particularly due to the inclusion of Indian bonds in global indices, and strategic interventions by Reserve Bank of India to stabilize the rupee. Meanwhile, foreign exchange reserves of the other large peer economies also experienced growth albeit at a slower pace than Indian economy. Brazil, the largest Latin American economy, witnessed its forex reserves grew at 9% during Sept 23 – Sept 24 period owing to higher capital inflows and strong export performance. Japan experienced a tepid 1% growth in forex reserves as the government's intervention to counteract yen's depreciation through purchase of yen limited the overall growth in the forex reserves.

2.6 Crude Oil Prices

Figure 44: Crude Oil Prices India FOB Prices, USD/BBL, FY-11 to FY-26



Source: PPAC, Crisil Intelligence

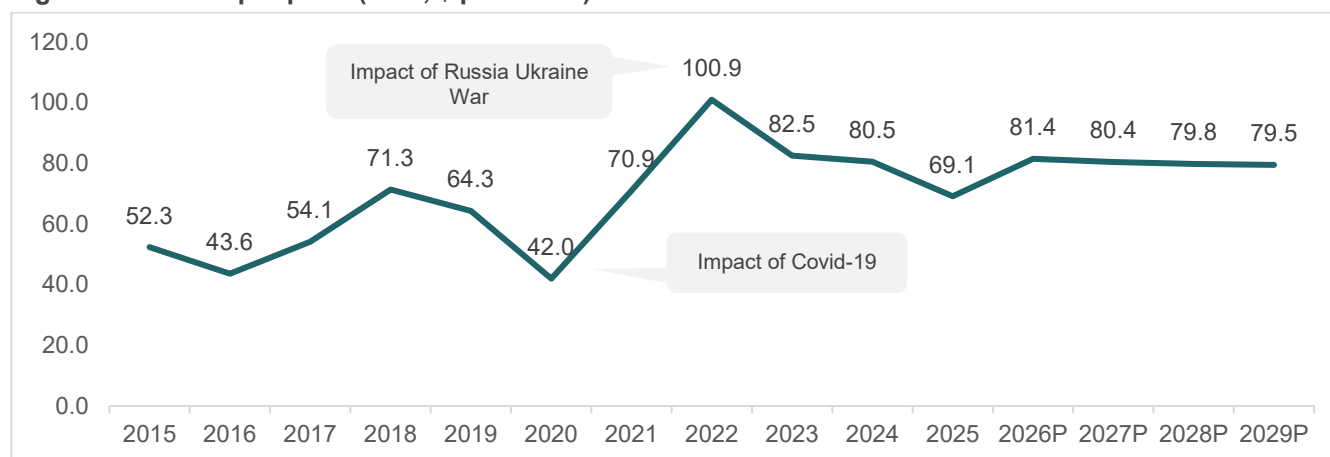
The period from FY-11 to FY-14 witnessed a significant surge in prices, starting at USD 85 per barrel in FY-11 and peaking at USD 112 per barrel in FY-12, remaining high at USD 108.0 per barrel in FY-13 before slightly declining to USD 106 per barrel in FY-14. This period was marked by robust global crude demand, supply constraints, and geopolitical uncertainties, which contributed to elevated oil prices. However, a sharp downturn followed in the subsequent years. Prices dropped from USD 84 per barrel in FY-15 to USD 48 per barrel in FY-17, reaching a low of USD 46 per barrel in FY-16. This drastic decline was primarily driven by the global oil price crash, caused by OPEC's decision to sustain high production levels despite increasing shale oil output from the US, leading to an oversupply in the market.

Following this sharp decline, crude oil prices experienced a moderate recovery between FY-18 and FY-20. The price climbed to USD 56 per barrel in FY-18, further rising to USD 70 per barrel in FY-19 before declining to USD 60 per barrel in FY-20. This recovery can be attributed to production cuts by OPEC+ and improvements in global oil demand. However, the COVID-19 pandemic in FY-21 led to an unprecedented crash in oil prices, bringing them down to USD 37 per barrel during H1 of FY-21. The global lockdowns, travel restrictions, and industrial slowdowns resulted in a significant drop in demand, leading to a supply glut. As economies reopened and demand rebounded, crude oil prices surged again, reaching USD 52 per barrel and USD 79 per barrel in FY-22 and further peaking at USD 93 per barrel in FY-23. This sharp increase was driven by supply chain disruptions, geopolitical tensions—especially the Russia-Ukraine war—and production adjustments by OPEC+.

In FY-24 and FY-25, crude oil prices declined to USD 83 and USD 79 per barrel respectively, indicating market stabilization after the post-COVID economic recovery and adjustments to geopolitical risks. The trend shows that India's crude oil prices are highly sensitive to global supply-demand dynamics, OPEC+ production policies, geopolitical uncertainties, and economic crises. The extreme volatility observed over the years underscores the need for India to strategically manage its crude oil imports and energy security. Given the historical price movements, future crude oil prices will likely continue to be influenced by geopolitical developments, shifts in global energy policies, and emerging trends in alternative energy sources.

Crude oil prices declined in 2026 to 71 USD/ BBL at a rate of ~10% from 2025 due to a combination of ample global supply and subdued demand growth. A significant build-up in global oil inventories during 2025 which was ~470 million barrels, coupled with increased production from OPEC+ and non-OPEC producers such as the UAE and the U.S., created a well-supplied market. At the same time, slower economic growth, particularly in China, weakened global oil demand, prompting OPEC to lower its demand growth forecast. The recovery of key supply routes, including the Strait of Hormuz and the Suez Canal, further eased geopolitical supply risks, while market expectations of balanced supply-demand conditions limited upward pressure on crude prices.

Figure 45: Brent spot price (FOB, \$ per barrel)



Note: E-Estimated, P-Projected

Source: US Energy Information Administration

The forecast for Brent crude prices indicates a relatively range-bound and moderated trajectory over the medium term, with prices easing from around USD 80.5 per bbl in 2024 to an estimated USD 72.1 per bbl in 2025, followed by a gradual normalization and stabilization close to USD 79–81 per bbl during 2026–2029. This outlook suggests that crude prices are expected to remain broadly under check rather than enter a sustained upcycle. Such a price environment is structurally positive for CGD companies, as a significant portion of their gas procurement particularly under long-term and legacy contracts is Brent-linked. Lower and stable Brent prices directly translate into reduced input gas costs, improving affordability of PNG and CNG, supporting volume growth, and limiting the need for frequent price pass-throughs to end consumers.

However, this benign outlook is not without material downside risks. Escalation of geopolitical tensions in the Middle East could disrupt key supply corridors and trigger sharp price spikes, while current geopolitical situations between US and Venezuela can show volatility in crude oil prices for short term. In addition, any intensification or unexpected supply shocks stemming from the Russia-Ukraine conflict, particularly involving energy infrastructure or export restrictions could invalidate the current price assumptions. Therefore, while the base-case forecast supports margin stability for CGD companies, it remains highly sensitive to geopolitically driven supply disruptions that could quickly reintroduce volatility into Brent prices.

2.6.1 Upstream Companies

Indian upstream companies like ONGC and Oil India, which are involved in the exploration and production of crude oil, are directly influenced by global crude prices. As per the forecast, crude oil prices are expected to decline from 81.0 USD/BBL in 2024 to a low of 73.9 USD/BBL in 2026. This dip would negatively impact on their earnings, as lower prices reduce the revenue realized per barrel of oil produced. This could potentially delay investment in new exploration projects or reduce their capital expenditure plans. However, the price recovery forecasted from 2026 onwards, rising to 78.4 USD/BBL by 2029 may revive their margins and improve overall profitability, enabling renewed investment in upstream activities.

2.6.2 Downstream Companies

Refining and marketing companies in India, such as Indian Oil Corporation, Bharat Petroleum, and Hindustan Petroleum, are affected by crude oil prices in a more nuanced way. Moderately lower crude prices between 2024 and 2026 can be beneficial, as they help reduce raw material costs without significantly affecting demand for petroleum products. This could lead to stable or improved refining margins, especially if international Gross Refining Margins (GRMs) remain favorable. The subsequent gradual rise in crude prices until 2029 may increase input costs, but if end-product prices keep pace and demand remains steady, downstream companies can maintain healthy margins.

2.6.3 Aviation Turbine Fuel

Since ATF prices in India are closely linked to crude oil prices, any fluctuations in Brent crude directly affect the cost structure of the airline industry. Between 2024 and 2026, the projected drop in crude prices could lead to reduced ATF costs, offering a respite to Indian airlines by lowering their fuel expenses, which form a significant part of their operating costs. This could help improve profitability or allow for competitive pricing. However, the upward trend in crude prices beyond 2026 is likely to push ATF prices higher again, potentially squeezing margins unless airlines are able to pass on the increased costs to consumers through higher fares.

2.6.4 Fuel Intensive Vehicle Segments

Industries that rely heavily on fuel such as logistics, trucking, and public transport stand to benefit from lower fuel prices expected between 2024 and 2026. Reduced diesel and petrol prices can lower operating costs, leading to improved margins for companies in these segments. This could also translate into lower transportation costs across the economy. However, as crude prices rise post-2026, these sectors may again face cost pressures. Companies might need to either absorb the higher expenses, thereby reducing margins, or pass them on to consumers through price hikes, which could affect competitiveness and demand.

2.6.5 Petrochemical Industry

Crude oil is a key feedstock for the petrochemical industry, especially for products like naphtha and natural gas liquids. As such, any reduction in crude prices tends to lower input costs for petrochemical producers. Between 2024 and 2026, the downward trend in prices could help enhance profit margins for Indian petrochemical companies, provided product prices remain stable. However, as crude prices rise again from 2026 to 2029, feedstock costs are likely to increase, which might squeeze profit margins unless end-product prices (like those for polymers, resins, or olefins) also increase in tandem with input costs.

2.6.6 Paint Industry

The paint industry is another segment that is significantly influenced by crude oil prices, as many of its raw materials—such as resins, solvents, and additives—are derived from crude derivatives. A decline in crude prices through 2026 would lower raw material costs, potentially boosting gross margins for paint manufacturers like Asian Paints and Berger Paints. This could also provide room to maintain competitive pricing or invest more in marketing and

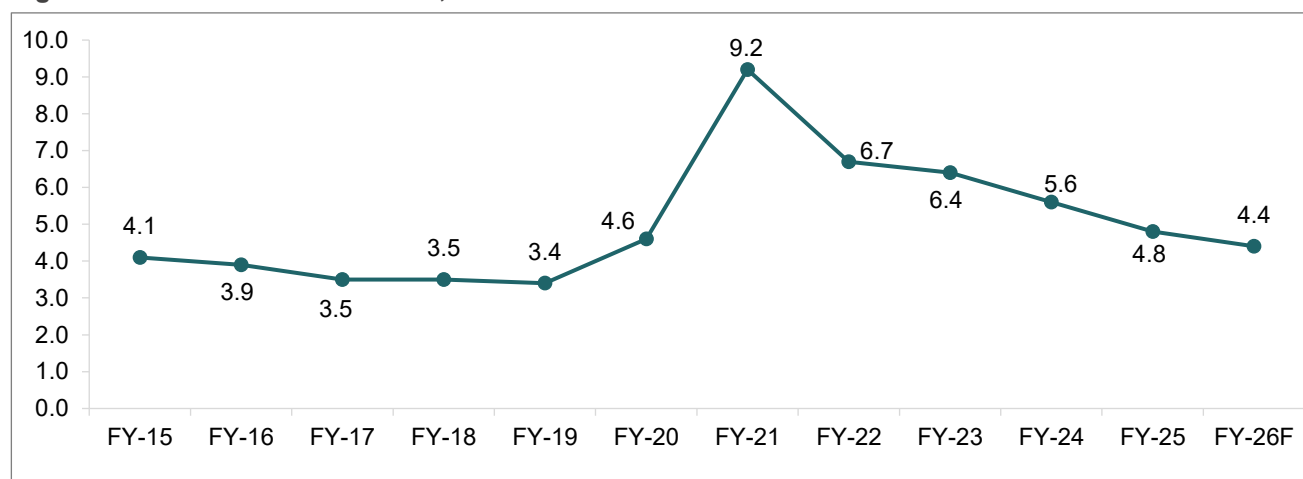
expansion. However, rising crude prices in the later years could lead to higher input costs, which may either reduce margins or force companies to raise product prices, depending on market dynamics and their pricing power.

2.7 RBI BAI & BEI Index

The assessment for the Q1 FY-25 revealed a moderation in the growth of demand conditions in the Indian manufacturing sector, as indicated by various key indicators such as production, order books, capacity utilization, employment, and overall business situation. Although the growth remained positive, it was slower compared to the Q4 FY-24. The manufacturers reported a slight easing in the pressures from the cost of finance, but on the other hand, they experienced increased pressures from input costs and salary outgo during the same period. The assessment of growth in selling prices remained relatively stable, similar to the previous survey, but the profit margins were reported to have deteriorated. This overall moderation in business sentiment was reflected in the Business Assessment Index (BAI), which decreased to 110.8 in Q1 of FY-25 from 114.2 in the Q4 of FY-24.

2.8 Fiscal Deficit

Figure 46: Fiscal Deficit % of GDP, FY-15 to FY-26F



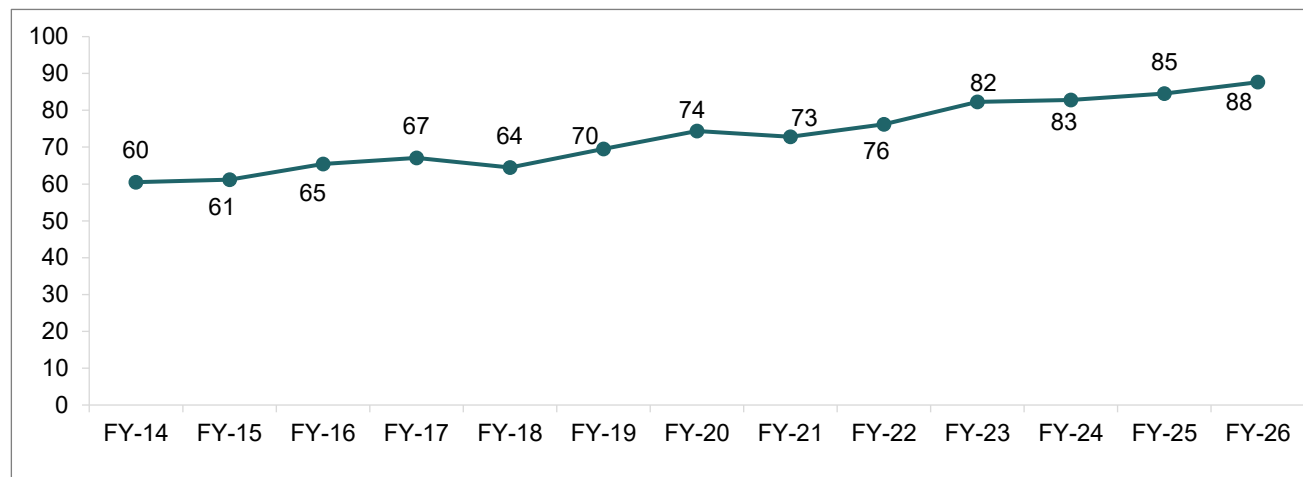
Note: F-Forecast

Source: National Portal of India, Crisil Intelligence

India's fiscal deficit as a percentage of GDP has varied over the years. From FY15 to FY19, it remained stable (3.4-4.1%). However, it increased to 4.6% in FY20 due to economic slowdown and 9.2% in FY21 due to the COVID-19 pandemic. Post-pandemic, the deficit has declined steadily: 6.7% in FY22, 6.4% in FY23, and a projected 5.6% in FY24. The government aims to continue this trend, targeting 4.8% in FY25 and 4.4% in FY26, through revenue enhancement and controlled spending, indicating a return to fiscal discipline.

2.9 Exchange Rate

Figure 47: Exchange Rate USD to INR, FY-14 to FY-26



Source: Reserve Bank of India, Crisil Intelligence

In FY14–FY15, the exchange rate was relatively stable around INR 60–61 per USD, reflecting a period of improving macroeconomic stability, lower inflation, and supportive capital inflows after policy reforms and tighter monetary management. Between FY16 and FY18, the rupee traded in a narrow band of INR 64–67 per USD, supported by moderate crude oil prices, controlled current account deficit, and steady foreign portfolio and direct investment inflows. However, from FY19 onward, the rupee began a more pronounced weakening, moving to around INR 70 per USD and then depreciating further to INR 74 per USD by FY20. This phase coincided with rising global uncertainty, higher crude oil prices (which significantly impact India as a net oil importer), widening trade deficits, and capital outflows from emerging markets amid tightening global financial conditions.

The depreciation trend accelerated during FY21–FY23, with the exchange rate moving from around INR 73 to ₹82 per USD. This period was heavily influenced by the COVID-19 pandemic, which disrupted global trade, reduced risk appetite for emerging markets, and led to aggressive monetary tightening by the US Federal Reserve. Higher US interest rates strengthened the dollar globally, causing capital outflows from India and putting downward pressure on the rupee. Additionally, elevated commodity prices following the Russia–Ukraine conflict further worsened India's current account balance. In FY24–FY26, the rupee continued to weaken gradually toward INR 85–88 per USD, reflecting persistent structural factors such as India's dependence on energy imports, sustained trade deficits, and the long-term strength of the US dollar as a global reserve currency. While the Reserve Bank of India has actively intervened to smooth volatility and prevent sharp movements, the overall trend suggests a managed but gradual depreciation driven by inflation differentials, global monetary policy divergence, and external sector pressures rather than sudden macroeconomic instability.

2.10 India's Population Growth

India's population has grown by more than 1 billion since 1950. India's population stood at 1.2 billion in 2010 and has grown with a CAGR of 1.1% till 2023 to reach 1.4 billion surpassing China to become the most populous country in the world. It is estimated that India's population will surpass 1.5 billion people by the end of the decade and will continue to slowly increase until 2064, when it will peak at 1.7 billion people.

People under the age of 25 account for more than 40% of India's population. The estimated median age of current population in India is 29.8, whereas for US and China it is 38.9 and 40.2, respectively. Adults with age 65 and above comprise only 7% of India's population, compared with 14% in China and 18% in the US. As per United Nations

projections, the share of Indians who are 65 and above is likely to remain under 20% until 2063 and will not approach 30% until 2100.

Table 51: Population (billions of people) 2010-2029F

Year	World	Advanced Economies	Emerging markets & developing economies	China	India
2010	6.9	1.0	5.8	1.3	1.2
2011	6.9	1.0	5.9	1.3	1.3
2012	7.0	1.0	6.0	1.4	1.3
2013	7.1	1.0	6.1	1.4	1.3
2014	7.2	1.1	6.2	1.4	1.3
2015	7.3	1.1	6.2	1.4	1.3
2016	7.4	1.1	6.3	1.4	1.3
2017	7.5	1.1	6.4	1.4	1.4
2018	7.6	1.1	6.5	1.4	1.4
2019	7.6	1.1	6.6	1.4	1.4
2020	7.7	1.1	6.6	1.4	1.4
2021	7.8	1.1	6.7	1.4	1.4
2022	7.8	1.1	6.8	1.4	1.4
2023	7.9	1.1	6.8	1.4	1.4
2024	8.0	1.1	6.9	1.4	1.5
2025E	8.0	1.1	6.9	1.4	1.5
2026F	8.1	1.1	7.0	1.4	1.5
2027F	8.2	1.1	7.0	1.4	1.5
2028F	8.2	1.1	7.1	1.4	1.5
2029F	8.3	1.1	7.2	1.4	1.5

Note: E-Estimated, F-Forecast

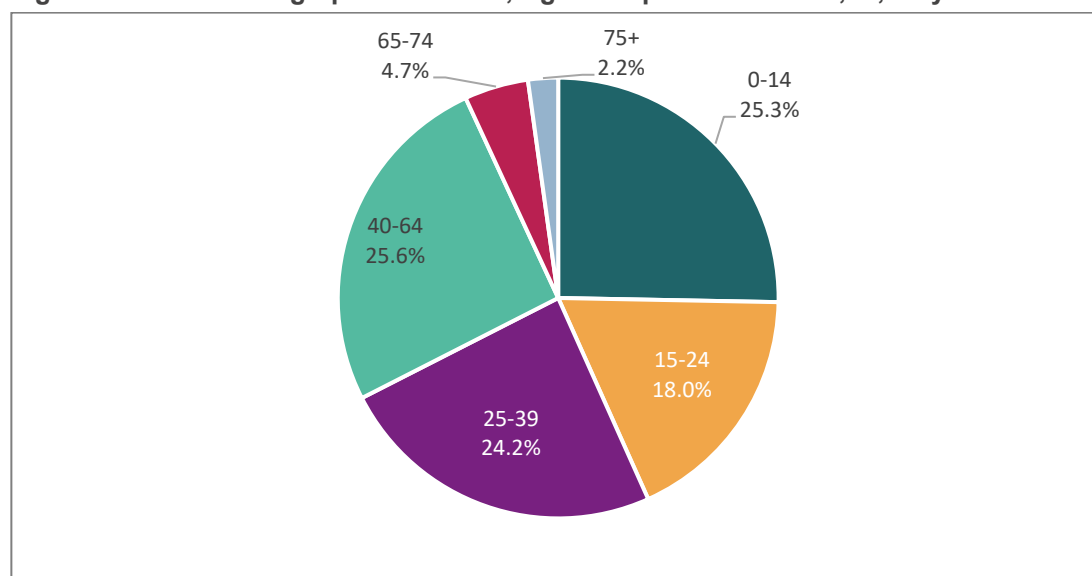
Source: International Monetary Fund (IMF) World Economic Outlook October 2025

India has one of the youngest populations globally compared to other leading economies. The median age in India is estimated at 28.4 years for FY-24 as compared to 38.3 years and 39.6 years in the United States and China, respectively, and is expected to remain under 31 years until Fiscal 2030. As a result, India is witnessing a rapid growth in urbanization as more youths join the workforce.

India has experienced a significant increase in the number of households, with 302.4 million households recorded in 2021, marking a 24.3% growth since 2010. The increase in the number of households in India is driven by a combination of demographic, socio-economic, and cultural factors. Population growth and rapid urbanization have significantly contributed to the demand for more housing units, as more people migrate from rural to urban areas in search of better employment opportunities and living standards. This migration also leads to the formation of separate households as individuals and families establish new units in cities. Changing family structures play a crucial role as well, with a clear shift from traditional joint families to nuclear families, resulting in an increase in the total number of households, often smaller in size. Additionally, the rise of one-person households, particularly among elderly women and young migrants, reflects broader social and economic transitions toward independence and individualism.

Urbanization in India is leading to a growing middle class with increasing disposable incomes. This demographic is more likely to adopt modern appliances and lifestyles that require gas, for cooking purposes. Urbanization is driving infrastructure development, including the expansion of city gas distribution (CGD) networks. This will increase access to gas for households, industries, and transportation, leading to higher consumption. Urbanization is also leading to increasing concerns about air pollution and environmental degradation. Gas is a cleaner fuel compared to traditional fuels, and its use can help reduce emissions and improve air quality in urban areas. Structurally, the growth in urbanization in India is expected to drive gas consumption in the country, driven by increasing demand for energy, growing middle class, infrastructure development, government initiatives, and environmental concerns.

Figure 48: India Demographic Dividend, Age Group Classification, %, July 2022



Source: United Nations Trade and Development

Age group 0-14 years (25.3%): This represents the youngest segment of the population, accounting for 25.3%. A large portion of the population is under 15 years old, indicating a significant youth population. While this group does not yet contribute to the workforce, they represent the future labour pool, implying potential long-term economic growth if provided with adequate education and healthcare.

Age group 15-24 years (18.0%): The population within this age group, 18%, includes those in late adolescence and early adulthood. These individuals are either entering or preparing to enter the workforce or pursuing higher education. This relatively smaller proportion, compared to the younger group, may suggest lower future workforce inflow relative to past periods, highlighting the need for skill development and job opportunities.

Age group 25-39 years (24.2%): This age group constitutes 24.2% of the population. This segment is part of the working-age population, likely comprising a significant portion of the workforce. These individuals are in their prime working years, contributing substantially to the economy. Their income generation and spending are crucial for economic stability, as they support both themselves and, potentially, the younger age groups.

Age group 40-64 years (25.6%): The largest group, making up 25.6% of the population, includes individuals in their mature working years. This age group, close to or at the peak of their professional experience, is crucial for productivity. They also represent a key demographic in terms of savings and investments, which can have broader implications for economic growth and demand for financial services.

Age Group 65-74 (4.7%) and 75+ (2.2%): Together, these older age groups constitute a small portion of the population. As life expectancy increases, the demands on healthcare and social security systems for these groups are expected to grow. This signals the need for future policies on elder care and social protection

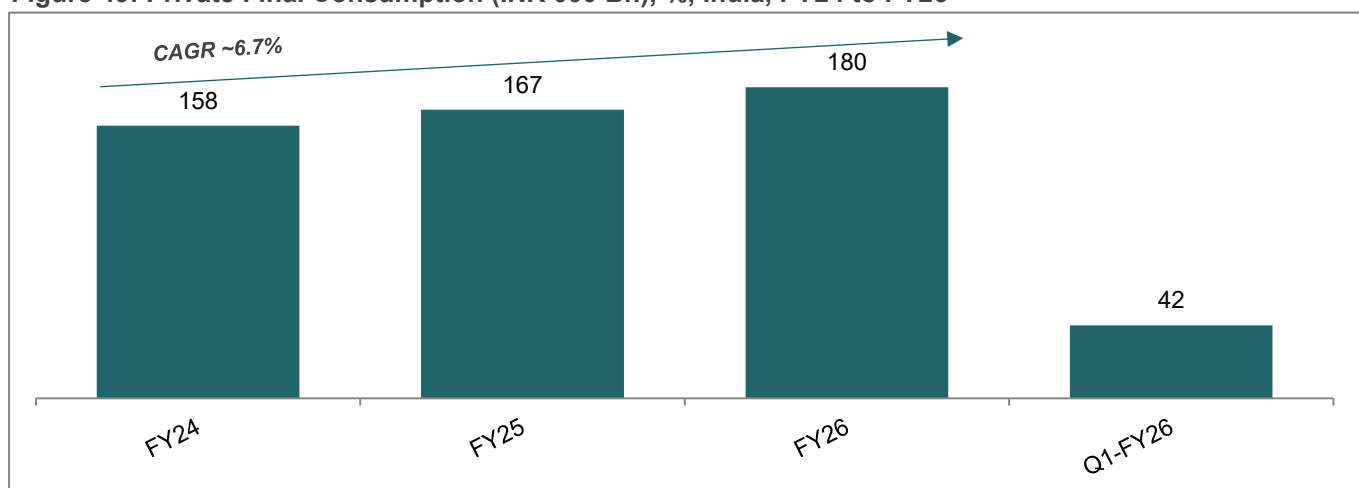
A significant portion of the population is still young (0-24 years), showing that India has a large future workforce. This highlights the importance of investment in education and skills development. The working-age population (25-64 years), comprising nearly 50% of the total population, is key for economic growth, with their participation crucial for the country's productivity. As the population ages in the coming decades, the challenge will be balancing between supporting the growing elderly population and ensuring continued economic growth with a potentially shrinking younger workforce.

2.11 Private Final Consumption Expenditure

Private Final Consumption Expenditure (PFCE) continues to be the largest component of India's GDP, accounting for over 60% of overall economic activity, and remains a key pillar supporting the country's resilient domestic growth. PFCE increased from approximately INR 158 trillion in FY2024 to INR 167 trillion in FY2025, further rising to around INR 180 trillion in FY2026, reflecting sustained growth in household consumption amid improving employment conditions, rising disposable incomes, easing inflationary pressures, and resilient urban demand. The continued expansion in private consumption has played an important role in supporting India's economic growth despite a challenging global environment marked by geopolitical uncertainties and moderating external demand.

Consumption trends also indicate a gradual broadening of demand across sectors, supported by improving rural economic conditions, robust services activity, and sustained government capital expenditure. While discretionary spending on premium products and services has remained relatively strong, consumption across mass-market and entry-level categories has also shown signs of gradual improvement, supported by moderating inflation, higher agricultural output, and strengthening rural incomes. Going forward, favourable demographic trends, increasing formalisation of the economy, expanding digital penetration, and continued infrastructure investment are expected to support sustained growth in private consumption, reinforcing PFCE as a key driver of India's medium-term economic expansion.

Figure 49: Private Final Consumption (INR 000'Bn), %, India, FY24 to FY26



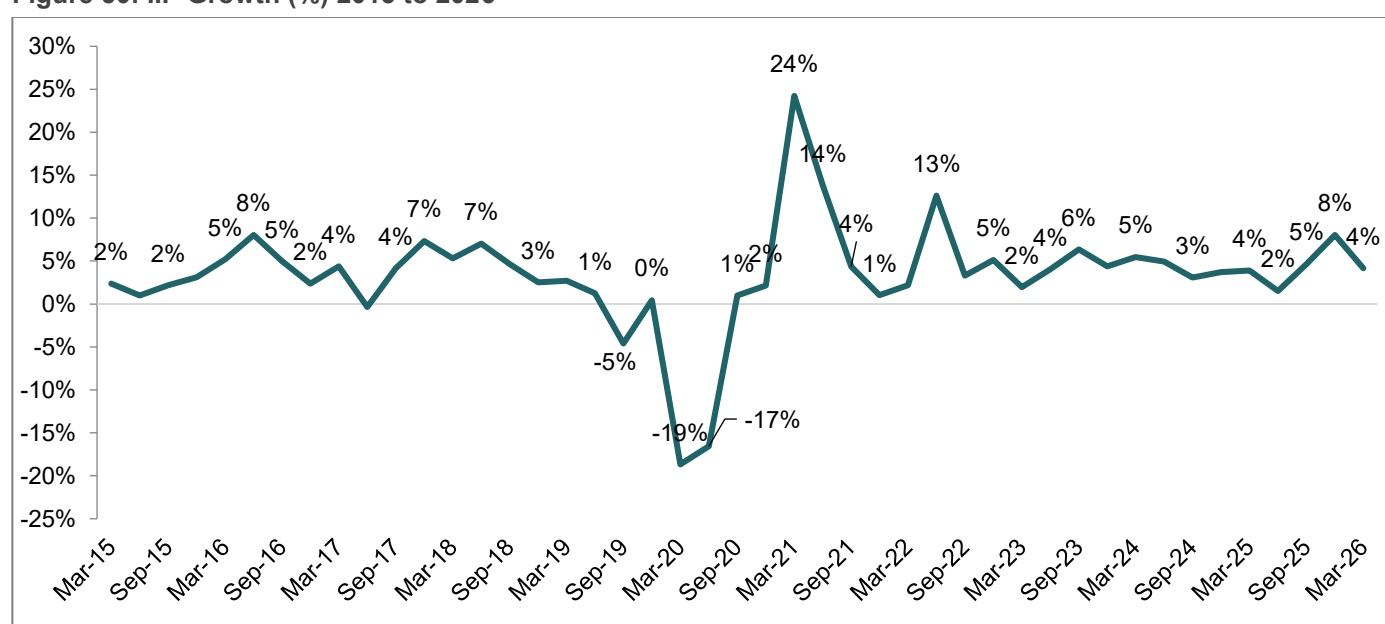
Note: PFCE numbers are at constant prices

Source: MOSPI

2.11.1 Index of Industrial Production IIP & its growth

India's industrial activity remained resilient during FY2025-26, with the Index of Industrial Production (IIP) recording cumulative growth of 4.1%, supported primarily by the manufacturing sector, which expanded by 5.0%, while the mining and electricity sectors grew by 1.4% and 1.0%, respectively. In March 2026, IIP increased by 4.1% year-on-year, led by manufacturing (4.3%) and mining (5.5%), although electricity growth moderated to 0.8%. On a use-based classification, capital goods registered the highest growth of 14.6%, followed by infrastructure/construction goods (6.7%), consumer durables (5.3%) and intermediate goods (3.3%), indicating continued investment activity alongside resilient domestic consumption. Furthermore, 14 out of 23 manufacturing industry groups recorded positive growth during March 2026, reflecting broad-based industrial expansion and sustained momentum across key sectors.

Figure 50: IIP Growth (%) 2015 to 2026



Note: Data is based on base year (2011-12)

Source: MOSPI

2.12 Factors Driving and Dragging the Indian Economy

India's economic trajectory has emerged as one of the most compelling success stories in the global economic landscape. The country has consistently maintained its position among the world's fastest-growing economies, with GDP growth rates that regularly outpace those of many developed economies. This growth momentum demonstrates exceptional resilience, as evidenced by India's strong recovery following significant challenges such as the COVID-19 pandemic, consequences of Russia Ukraine war. The country has transformed itself into a global technology powerhouse, fostering a startup ecosystem that continues to attract substantial investment across diverse sectors. The innovation-driven landscape has given rise to numerous unicorns in fields ranging from financial technology to education technology and e-commerce, while revolutionary digital infrastructure initiatives like the Unified Payments Interface (UPI) have enhanced financial inclusion and transformed the way of transactions throughout the country.

Table 52: Factors Driving Indian Economy

Factors	Description
Stable Government and Political Landscape	- Structural reforms improving ease of doing business and reducing bureaucratic hurdles - Enhanced transparency measures building investor confidence - Competitive federalism encouraging states to create business-friendly

	environments - Strategic international partnerships strengthening India's global economic position
Strong Domestic Consumption	- 1.4 billion population creating one of the world's largest consumer markets - Rising disposable incomes driving demand across multiple sectors - Shifting consumption patterns toward premium and discretionary spending - Growing rural consumption complementing urban market strength
Infrastructure Development	- Massive expansion of national highway network reducing logistics costs - Modernization of railways including dedicated freight corridors - Development of industrial corridors linking manufacturing hubs - Port modernization enhancing maritime trade capabilities - Urban infrastructure projects including metro systems in multiple cities
Manufacturing & Make in India	- Production-Linked Incentive schemes across 14 key sectors attracting investments - Focus on self-reliance (Atmanirbhar Bharat) reducing import dependencies - Development of specialized manufacturing clusters creating industrial ecosystems - Rising domestic capabilities in electronics, pharmaceuticals, and defense manufacturing - Skill development initiatives preparing workforce for advanced manufacturing - Emphasis on quality standards and certification to enhance export competitiveness
Digital & Technology Growth	- Digital public infrastructure (Aadhaar, UPI, ONDC) reducing transaction costs - Evolution of IT services sector toward higher-value innovation and AI applications - Rapid growth in digital payments revolutionizing financial transactions - Expanding e-commerce penetration reaching smaller cities and rural areas - Government's Digital India initiative bridging the digital divide
Expanding Energy, Gas, and EV Sector	- Ambitious target of 500 GW non-fossil fuel capacity by 2030 - Rapid scaling of solar and wind energy installations - Expansion of national gas grid improving clean energy access - Growing LNG terminal capacity supporting industrial transition to cleaner fuels - Electric vehicle manufacturing ecosystem development through FAME initiatives - Energy efficiency programs reducing consumption across industrial sectors

Table 53: Factors Dragging Indian Economy

Factors	Description
Global Economic Uncertainty	- Vulnerability to international trade fluctuations despite domestic consumption focus - Foreign investment volatility during global economic turbulence - Supply chain disruptions from geopolitical tensions affecting input costs - Potential capital outflows triggered by monetary tightening in advanced economies
High Inflation Risks	- Food inflation vulnerability to weather disruptions and agricultural supply chains - Energy price sensitivity due to high import dependence - Disproportionate impact on lower-income households' purchasing power - Input cost pressures for businesses affecting competitiveness
Unemployment & Labor Market Issues	- Limited formal sector employment opportunities relative to workforce size - Skills mismatch between education system outputs and industry requirements - Demographic dividend potentially becoming a liability without adequate job creation - Quality of employment concerns including job security and wage growth

Infrastructure Bottlenecks	- Elevated logistics costs compared to developed economies - Power supply reliability issues affecting industrial productivity - Inadequate last-mile connectivity limiting rural market integration - Water management challenges affecting agricultural and industrial productivity - Implementation delays in planned infrastructure projects - Land acquisition difficulties slowing infrastructure development
Dependence on Imports	- Advanced manufacturing equipment and technology import requirements - Vulnerability to exchange rate fluctuations impacting import costs - Supply chain disruptions during global crises affecting manufacturing continuity
Fiscal Deficit & Government Debt	- Elevated combined fiscal deficit of central and state governments - Significant portion of government revenues consumed by interest payments - Rigid subsidy and non-discretionary spending commitments limiting fiscal flexibility - Rising debt levels potentially leading to higher future borrowing costs - Capital expenditure often sacrificed during fiscal consolidation efforts
Weak Rural Demand	- Agricultural income vulnerability to monsoon variability and climate change - Rural wage growth lagging behind urban areas, widening income disparities - Limited non-farm rural employment opportunities in many regions - Infrastructure gaps constraining rural productivity and market access

2.13 Long Term Potential Drivers

Investment Climate

India's economic expansion is projected to remain robust at around six to seven percent, propelled by favourable demographics and evolving global supply chains. Significant focus has been placed on extending CGD networks nationwide, targeting 407 districts with the aim of providing gas access to more than 70% of the population. These distribution systems will deliver cleaner cooking options such as PNG to residential, industrial, and commercial consumers, while also supplying CNG as a transportation fuel. The initiative anticipates investments of approximately Rs 120,000 crore over the next decade.

Passage of Key Bills

The Petroleum and Natural Gas Regulatory Board Act, 2006 is a key bill driving the City Gas Distribution (CGD) sector in India. It established the Petroleum and Natural Gas Regulatory Board (PNGRB) as an independent regulator for CGD, enabling bidding for authorizations to develop CGD networks in specific geographical areas. The Oilfield (Regulatory and Development) Amendment Bill, 2024 also contributes to the CGD sector by promoting exploration and production of oil and gas, simplifying processes, and reducing regulatory burdens.

Infrastructure Spending

India needs USD 2.2 trillion in infrastructure investment to reach its goal of becoming a USD 7 trillion economy by 2030, requiring a 10.1% compound annual growth rate (CAGR) between 2024 and 2030. The Indian government plans to invest approximately INR 120,000 crore over the next 10 years in the CGD sector. This investment will focus on expanding CGD networks to cover 407 districts and make gas accessible to over 70% of the population.

Manufacturing Thrust

The CGD business in India can have significantly benefitted to steel pipe manufacturers, gas equipment manufacturers, valves & fitting manufacturers. Steel pipe manufacturers have seen increased demand for transmission and distribution networks, while gas equipment producers supply essential components for CNG stations, including compressors, dispensers, and storage systems. The valve and fitting industry provides specialized gas valves and regulators, complemented by meter manufacturers who produce both smart and traditional gas meters. Other beneficiaries include compressor manufacturers, automotive component makers producing CNG kits and fuel systems, instrumentation and control systems providers, and safety equipment manufacturers.

2.14 India Energy Sector

India's energy mix presents a complex landscape dominated by fossil fuels, particularly coal, but is simultaneously undergoing one of the world's most ambitious transitions to renewable energy. As the world's 3rd largest energy consumer, India's choices are critical for both its economic development and global climate goals.

Table 54: Energy Mix

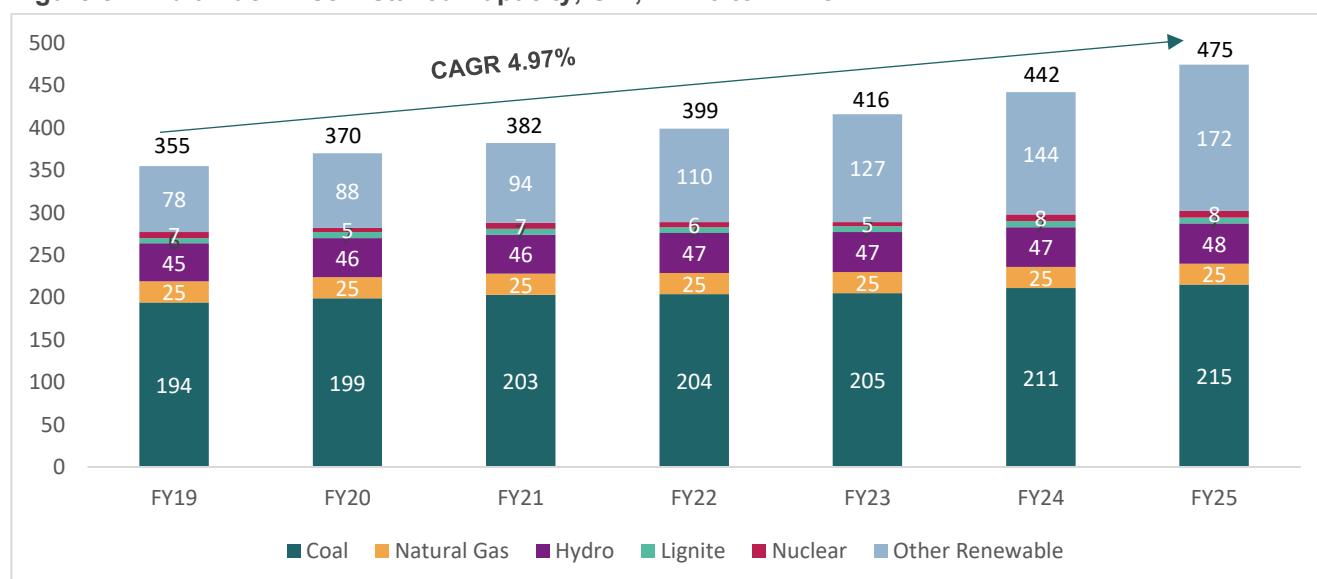
Energy Aspect	Global	India's Position
Primary Energy Mix	Fossil Fuels Dominant (~80%), led by oil, coal, and natural gas. Renewables are the fastest-growing source.	Heavy Coal Dependence: Fossil fuels supply ~92% of primary energy. Coal alone is 56%, with oil at ~30% and natural gas at ~6%.
Electricity Generation	Increasing share for renewables (solar, wind); coal is still a major baseload fuel in many regions.	~48% of electricity is generated from coal

India's energy profile is marked by a heavy and persistent dependence on coal. Fossil fuels collectively supply the vast majority of India's primary energy, with coal alone accounting for ~56%, oil for ~30%, and natural gas for ~6%. This reliance is most evident in electricity generation, where coal-fired power plants. This dependency is rooted in both the abundant domestic coal reserves, which provide a sense of energy security, and the need for a stable, dispatchable power source to balance the intermittent nature of solar and wind energy.

2.14.1 India's Electricity Supply

The total installed generation capacity at the end of March 2025 was 475 GW. The overall installed generation capacity has grown at a CAGR of 5.0% between FY-19 and FY-25. Coal and lignite-based installed power generation capacity has maintained its dominant position over the years and accounts for ~46% as of March 2025. However, renewable energy (RE) installations (including large hydroelectric projects), have reached ~220 GW capacity as of March 2025, constituting ~46% of total installed generation capacity. The renewable capacity addition (excl. large hydro) has grown at a CAGR of 14.1% over the last six years between FY-19 and FY-25.

Figure 51: India Fuel Wise Installed Capacity, GW, FY-19 to FY-25

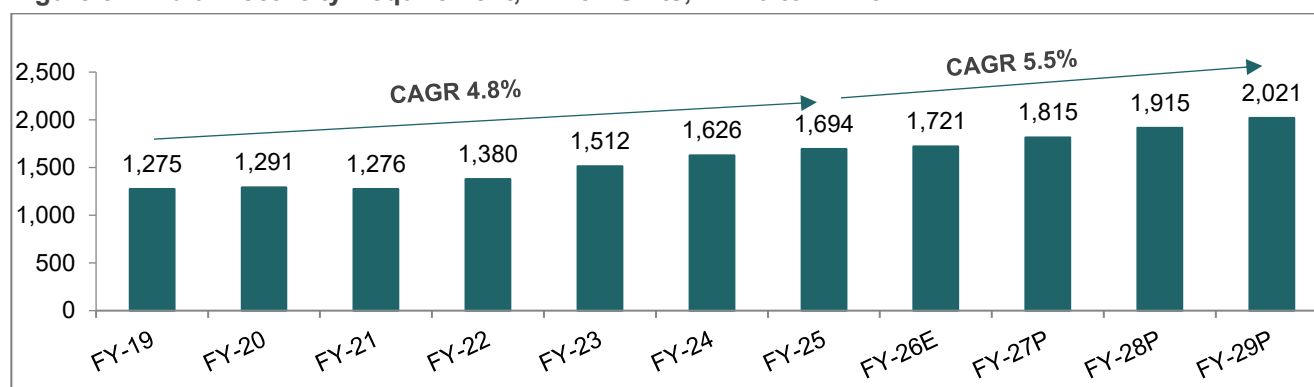


Source: CEA, Crisil Intelligence

2.14.2 India's Electricity Demand

India's electricity requirement has risen at a CAGR of ~4.8% between FY-19 and FY-25. However, in FY-20, power demand grew at a slower 1.3% due to weakening economic activity on account of Covid-19 and extended monsoon. After a minor 1.2% decline in FY-21, power demand saw a strong rebound in FY-22, registering a ~8.2% on-year growth on the back of healthy revival in economic activity, and as demand picked up with the lifting of Covid-19 restrictions. In FY-23 and FY-24, the energy requirement increased by 9.6% and 7.5% y-o-y, respectively. This demand push is largely supported by high economic activity with a gradual pick-up in manufacturing activity, jump in agricultural activity, infrastructure spending by government along with erratic weather driven by climate changes.

Figure 52: India Electricity Requirement, Billion Units, FY-19 to FY-29



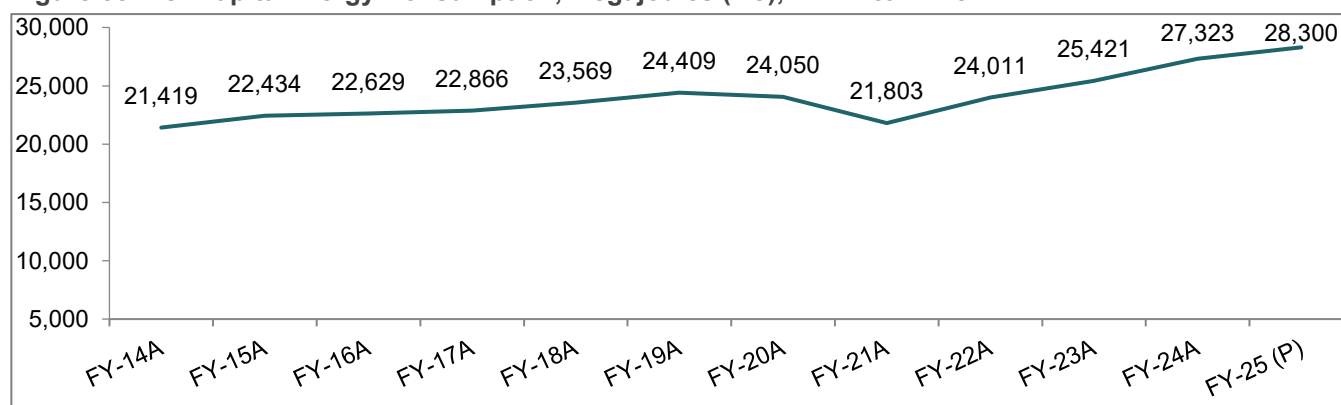
Note: E-Estimated, P-Projected

Source: CEA, Crisil Intelligence

Power demand maintained a strong growth momentum in FY-23 logging growth of ~9.6% albeit a moderate base of FY-22 due to extreme seasonal vagaries, sustained buoyancy in economic activities along with robust industries activities accelerated power demand. GDP is expected to grow at 6.5% in FY-25 supporting power demand. Despite the high base of preceding three years, CRISIL Intelligence-Consulting expects power demand to grow by 5.5-6.0% in the next five years which will be supported by infrastructure-linked capex, strong economic fundamentals along with expansion of the power footprint via strengthening of T&D infrastructure, coupled with major reforms initiated by the GoI for improving the overall health of the power sector, particularly that of state distribution utilities, are expected to improve the quality of power supply, thereby propelling power demand.

2.15 Per Capita Energy Consumption

Figure 53: Per Capita Energy Consumption, Megajoules (MJ), FY-14 to FY25



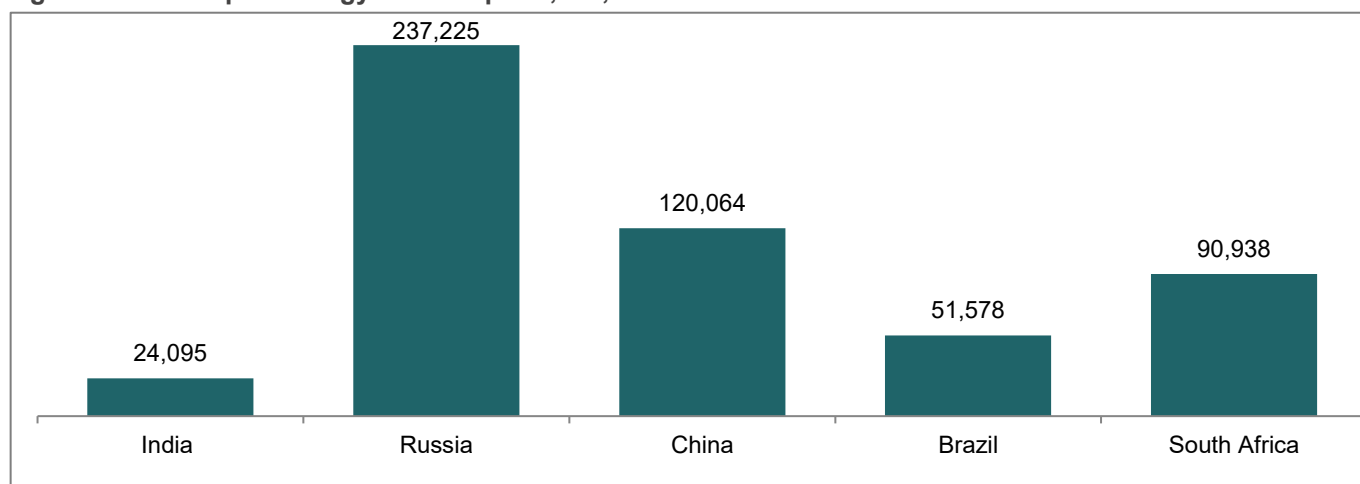
Note: A-Actual, P-Provisional

Source: MOSPI, Crisil Intelligence

India's per capita energy consumption has steadily increased over the past decade, from 21,419 MJ in FY14 to 28,300 MJ in FY25, driven by economic growth, urbanization, industrial expansion, and better electricity access. The pandemic caused a temporary dip in FY20 and FY21, but consumption rebounded strongly, reaching 27,323 MJ in FY24. This upward trend reflects ongoing industrial activity, rising household energy demand, and a shift toward cleaner fuels like LPG, PNG, and electricity, which improve energy efficiency while increasing overall consumption. India's per capita energy consumption is expected to increase substantially, driven by expanded rural electrification through schemes like Saubhagya, which has connected millions to the grid, and rapid industrial growth under 'Make in India' and PLI initiatives. This shift includes a move from biomass and kerosene to cleaner fuels such as LPG, PNG, and electricity, boosting energy efficiency while raising overall demand.

Compared to other countries (120 GJ in China, 51 GJ in Brazil and 270 GJ in US) and world average of 77 GJ, India's per person energy consumption of 28.3 GJ is still low, indicating significant headroom for future demand expansion as the economy continues to develop

Figure 54: Per Capita Energy Consumption, MJ, 2023



Source: MOSPI, Central Intelligence Agency, Crisil Intelligence

In 2023, Russia exhibited the highest per capita energy consumption at 237,225 MJ, largely due to its energy-intensive industries such as oil and gas, metals, and manufacturing, as well as the high energy demands driven by its harsh climate. Being one of the world's largest energy producers and exporters also adds to its elevated consumption figures per individual. China has a per capita consumption of 120,064 MJ, driven by its massive industrial base, rapid urbanization, and infrastructure development. Despite its large population, China's consistent efforts to electrify rural areas and shift towards higher living standards have resulted in a steep rise in per capita energy use. South Africa, with a per capita consumption of 90,938 MJ, demonstrates relatively high energy usage for a developing economy. This is primarily due to its reliance on energy-intensive industries such as mining (particularly gold, platinum, and coal), metallurgy, and manufacturing. Additionally, South Africa's dependence on coal-fired power generation contributes significantly to its overall energy demand, despite issues of energy inequality and supply shortages.

Brazil, with 51,578 MJ per capita consumption, shows moderate energy usage. It has a mixed energy profile with a significant contribution from hydropower, which provides a relatively sustainable source of electricity. However, disparities in income and access to infrastructure between urban and rural areas limit energy consumption growth. India has per capita energy consumption at 24,095 MJ. India's per capita consumption remains low due to widespread energy poverty, lower per-household usage, and limited penetration of energy-intensive appliances and technologies.

2.16 Gross Value Added (GVA)

As per the latest PIB-released Annual Survey of Industries (ASI) for FY24, India's manufacturing Gross Value Added (GVA) increased by 11.9% year-on-year to approximately INR 24.6 lakh crore, with value addition concentrated in a few energy-intensive sectors like basic metals, chemicals & chemical products, etc. Basic Metals alone accounted for about 11.56% of manufacturing GVA, followed by Motor Vehicles, Trailers & Semi-trailers (9.1%), Chemicals & Chemical Products (8.8%), Food Products (7.4%) and Pharmaceuticals (7.2%). Collectively, these five segments contribute over 44% of total manufacturing GVA and are characterized by high demand for process heat, steam, captive power and, in several cases, gas-based feedstock. Geographically, manufacturing activity remains concentrated in Maharashtra (~16.0% of manufacturing GVA), Gujarat (14.2%), Tamil Nadu (10.3%) and Karnataka (7.5%), together accounting for nearly half of India's manufacturing value addition. The growing scale of output and capital formation in these sectors and states is expected to translate into structurally rising industrial energy demand. In this context, natural gas — owing to its cleaner combustion profile, higher efficiency and versatility across thermal, power and feedstock applications becomes critical to meet incremental energy requirements, support environmental compliance and enable sustainable growth of India's manufacturing ecosystem.

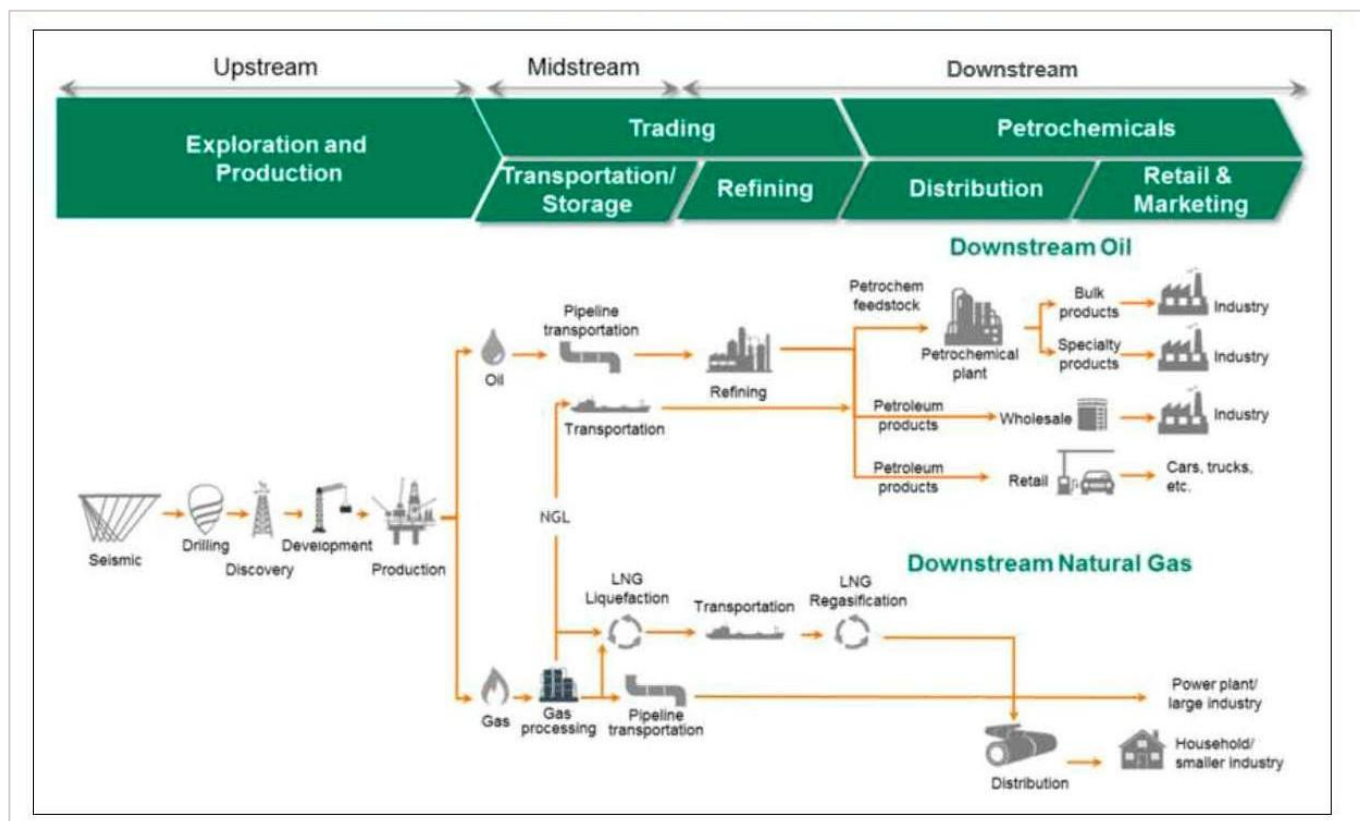
3 Natural Gas Industry

Natural gas is a central pillar of the global energy system, driven by its efficiency, cleaner combustion profile, and expanding infrastructure. Primarily composed of methane, it is produced from conventional reservoirs, associated petroleum gas, and unconventional sources like shale gas. It is sourced from conventional gas fields, associated gas from oil extraction, and increasingly from unconventional resources like shale and tight formations. Its key advantage lies in its high energy efficiency and relatively lower carbon emissions compared to coal and oil, making it a preferred fuel for power generation and heating. Technological advancements in exploration, production, and LNG have significantly broadened access to natural gas resources worldwide.

Beyond its role as a fuel, natural gas is a critical industrial feedstock—especially for ammonia and urea in the fertilizer sector, as well as various petrochemicals including methanol, plastics, and synthetic materials. Rapid urbanization and environmental regulations are further accelerating its adoption in transportation and residential sectors through city gas distribution networks and CNG-based mobility solutions. CGD enables direct supply of piped natural gas (PNG) to households, commercial establishments, and industries, and supports cleaner mobility through compressed natural gas (CNG) for transport. This shift is driven by strict air-quality mandates, the need to replace polluting fuels like furnace oil and diesel, and economic advantages due to more stable gas pricing. As CGD infrastructure penetrates deeper into urban and upcoming industrial clusters, it is accelerating the adoption of natural gas across diverse sectors, reinforcing its position as the dominant transition fuel in the journey toward lower-carbon energy systems.

3.1 Natural Gas Value Chain

Figure 55: Natural Gas Value Chain



Natural gas value chain is a complex and interconnected system that comprises three main segments: upstream, midstream, and downstream. The upstream segment, which involves exploration, drilling, and extraction of natural gas, is facing significant challenges, including declining domestic production and increasing dependence on imported LNG. This dependence exposes the country to global price fluctuations and currency volatility, making it essential to increase domestic gas production through reforms and investments. The midstream segment, which covers transportation, storage, and processing, is also critical to the overall functioning of the gas value chain. Despite progress in building a national gas grid, bottlenecks remain, including the lack of commercial underground gas storage and reliance on a "just-in-time" supply model.

The downstream segment includes city gas distribution (CGD), industrial supply, fertilizer feedstock, power generation, and transport fuel (CNG). Distribution to end-users is managed through CGD networks that deliver piped natural gas (PNG) to households, commercial establishments, and industries, and compressed natural gas (CNG) to vehicles. PNGRB (Petroleum and Natural Gas Regulatory Board) regulates licensing and authorization for CGD networks. Over the last decade, CGD coverage has expanded aggressively, with several new geographical areas awarded, yet adoption remains uneven. Gujarat, Delhi, and Maharashtra have matured networks, while large parts of eastern and northeastern India are still underdeveloped.

Key companies in the upstream segment include ONGC, Oil India, Reliance Industries, and private/joint venture operators, while major midstream companies include GAIL, Petronet LNG, Indian Oil Corporation, and Gujarat State Petronet. The downstream segment is regulated by PNGRB, which oversees licensing and authorization for city gas distribution networks. To address these challenges, it is essential to develop commercial underground gas storage and strategic storage, enhance midstream infrastructure, including pipeline capacity and regasification terminals, and promote downstream demand by reducing connection costs, streamlining regulatory processes, and expanding last-mile pipeline networks. By addressing these challenges, India can ensure a reliable supply of energy, monetize its hydrocarbon resources, and reduce its dependence on imported fuels.

3.2 Global Demand and Supply

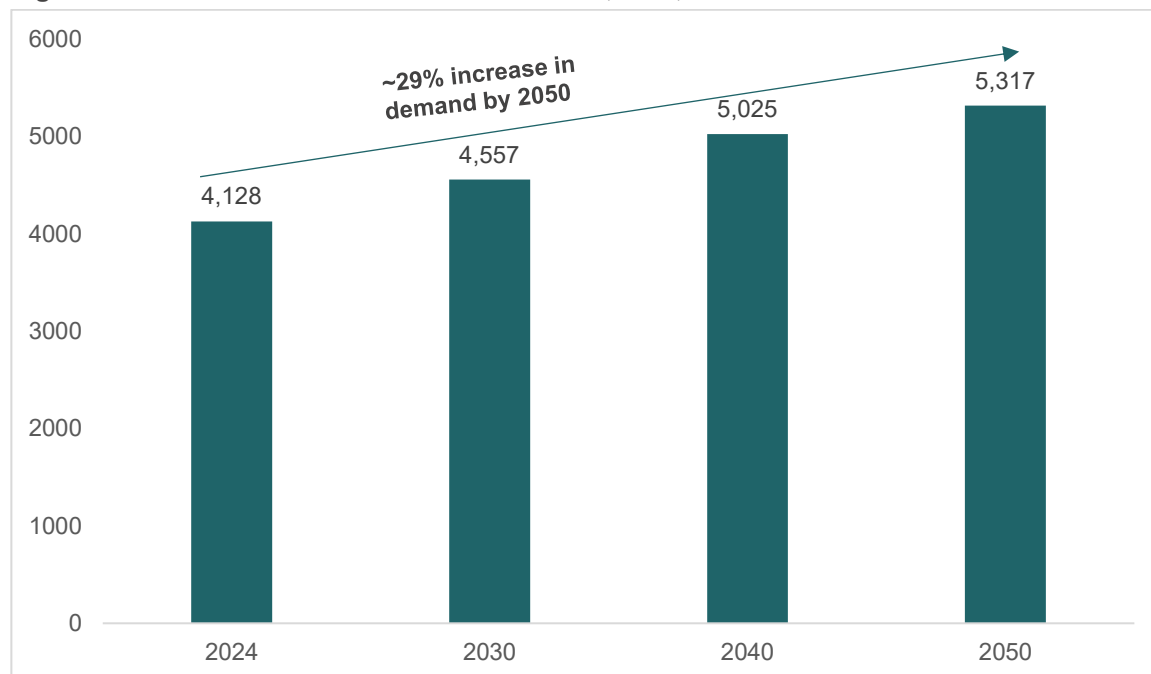
3.2.1 Global Natural Gas Demand

The global energy demand experienced a significant surge in 2024, growing at a rate of 2.2% y-o-y, outpacing the average annual growth rate of the past decade. Natural gas led the growth among fossil fuels, accounting for 28% of global energy demand, with a year-over-year growth of 2.7% (around 115 bcm) in 2024. This growth was driven by expanding industrial activity, increasing power generation needs, and a global push towards cleaner-burning fuels as part of energy transition strategies.

Natural gas demand in emerging market and developing economies in Asia expanded by around 6% in 2024, accounting for nearly 40% of incremental global gas demand. This strong increase was primarily driven by China and India. Both gas markets displayed high growth rates, supported by relatively low LNG prices during the first half of the year and widespread heatwaves in the second and third quarter of 2024. China's natural gas demand increased by over 7%, although demand growth turned negative in the last two months of the year. In India, natural gas demand increased by 10%, supported by a healthy macroeconomic environment, expanding natural gas grids and higher gas-based power generation needs due to high temperatures.

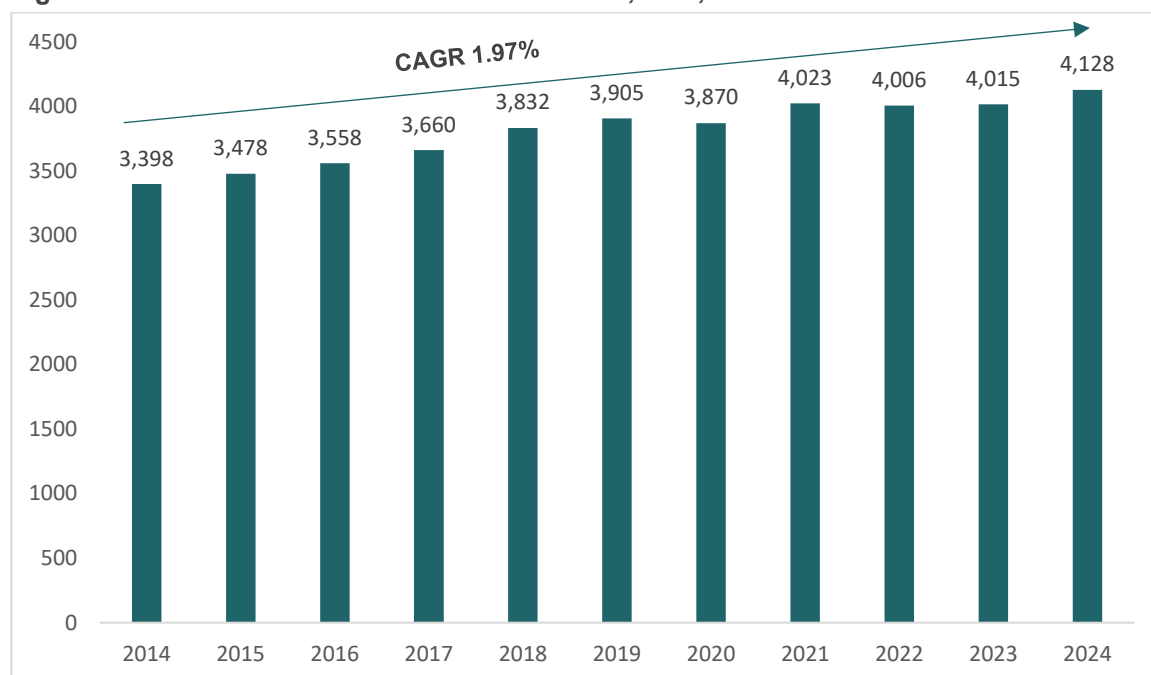
3.2.2 Global Natural Gas Demand Outlook

Figure 56: Global Natural Gas Demand Outlook, bcm, 2024-2050



Source: GECF, Crisil Analysis

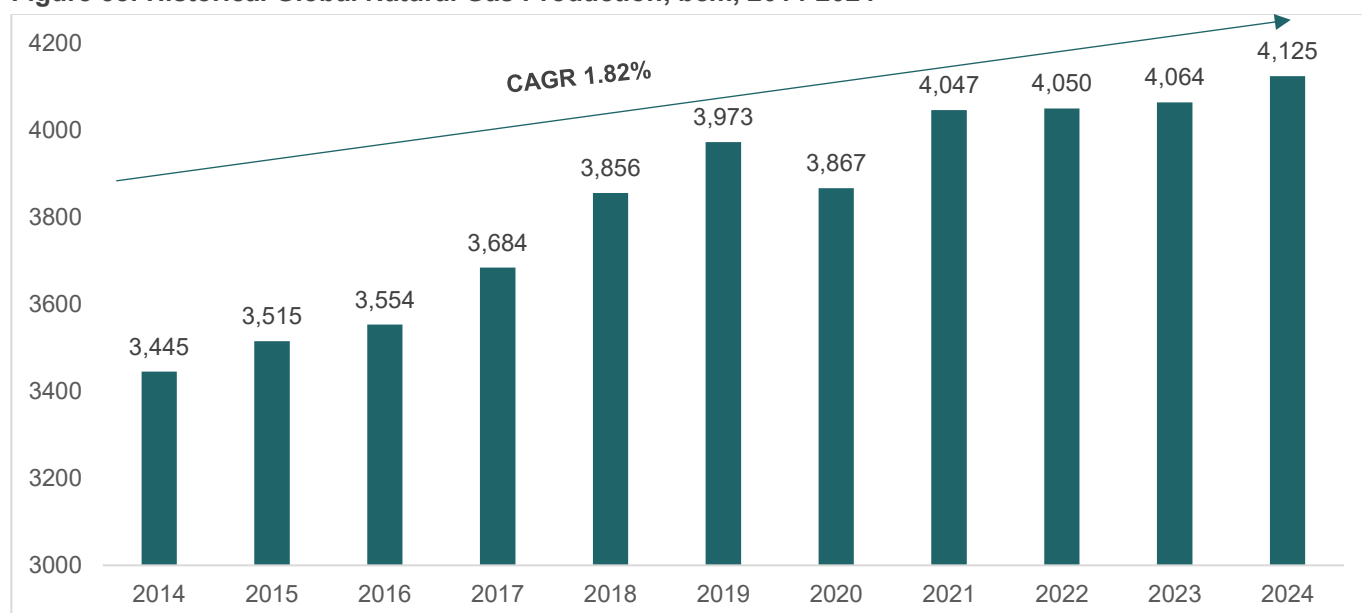
Global natural gas demand is projected to grow steadily over the long term, increasing from ~4,128 BCM in 2024 to ~5,317 BCM by 2050, implying an overall growth of ~29% over the period. The expansion is expected to be driven primarily by Asia-Pacific, where rising energy demand, urbanization, industrial growth and policy-led fuel switching from coal and oil continue to support higher gas consumption, particularly in power generation, city gas distribution and industrial applications. In contrast, demand growth in mature markets such as Europe and North America is expected to remain relatively modest, reflecting efficiency gains, electrification and increasing renewable penetration.

Figure 57: Historical Global Natural Gas Demand, bcm, 2014-2024


Source: Crisil Intelligence

3.2.1 Global Natural Gas Supply

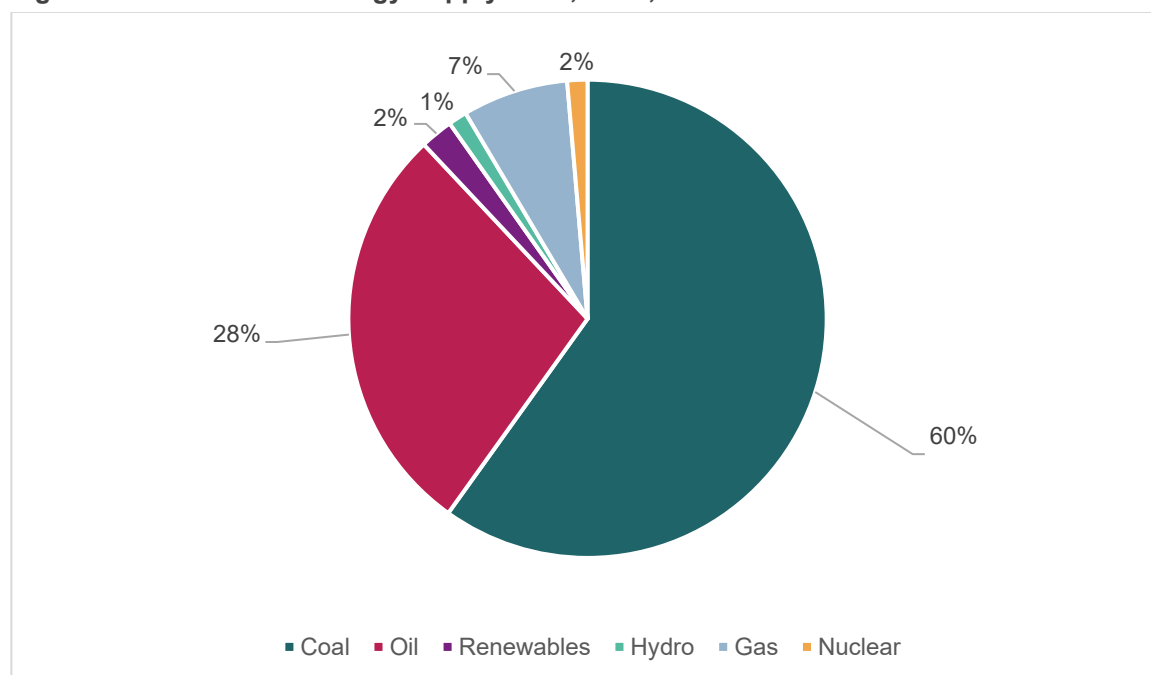
In 2024, global gas production increased by 1.4% to 4,125 bcm, driven by significant production gains in the Middle East and Russia. These increases were supported by marginal growth in Asia (+16 Bcm), and North America (~2 Bcm) which collectively offset declines in other regions. The four largest producers were the US, Russia, Iran, and China who, together, accounted for ~53% of total global production. The US alone accounted for 25% of global natural gas production and 22% of its consumption. This growth was supported by a 9 Bcm increase in global liquefaction capacity. In the US, capacity expanded with the yearend startup of Plaquemines LNG.

Figure 58: Historical Global Natural Gas Production, bcm, 2014-2024


Source: Crisil Intelligence

3.2.2 Source Wise Energy Supply – India

Figure 59: Source Wise Energy Supply India, mtoe, FY24



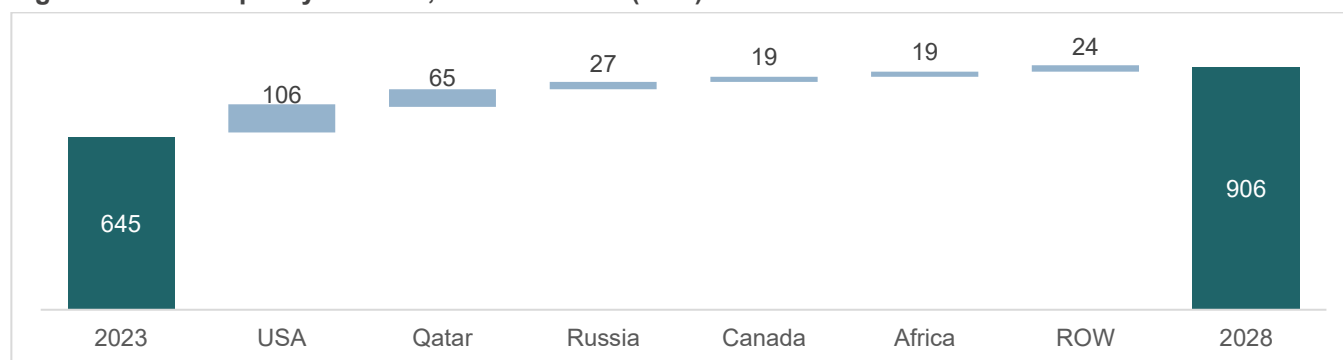
Source:

India's primary energy supply mix in FY24 is characterized by a predominant contribution from coal and oil, accounting for approximately 60% and 28% of total energy supply, respectively. Natural gas accounts for around 7% of the energy mix, while renewables, hydro and nuclear together contribute a relatively smaller share. The Government of India has articulated a policy intent to increase the share of natural gas in the energy mix to around 15% by 2030, recognizing its role as a relatively lower-emission and flexible fuel across power generation, city gas distribution and industrial applications. Increased availability of natural gas through a combination of domestic production, LNG imports and expansion of gas transmission and distribution infrastructure is expected to support this transition and contribute to gradual diversification of India's energy mix.

The share of natural gas in India's energy demand has remained broadly stable at ~6–7%, primarily due to limited growth in domestic gas production, high dependence on imported LNG, and periodic volatility in global gas prices, which has constrained demand from price-sensitive sectors such as power and fertilisers. In addition, relatively slower expansion of gas transmission and last-mile distribution infrastructure has moderated wider adoption. Going forward, the share of gas is expected to increase, supported by policy intent to raise gas to ~15% of the energy mix by 2030, expansion of LNG import capacity, development of the national gas grid, and targeted policy support for priority sectors such as city gas distribution, industry and transport.

3.2.3 LNG Capacity Outlook

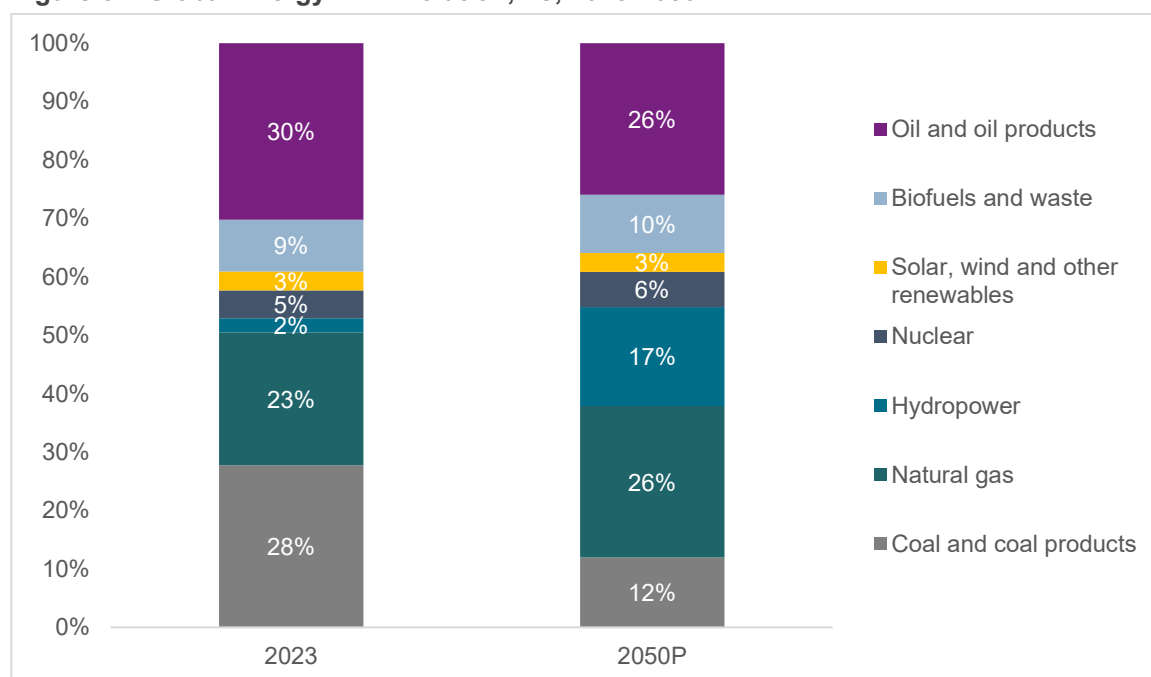
Global LNG production capacity is set to grow by 261 bcm from 645 bcm to 906 bcm between 2024 and 2028. The US and Qatar will account over 65% of these capacity additions, ensuring that their dominance in the LNG market continues.

Figure 60: LNG capacity addition, 2023 and 2030 (bcm)


Source: IEEFA

The bulk of new LNG capacity to be completed by 2028 will be concentrated in the United States and Qatar. Meanwhile, substantial additional LNG capacity is under construction in Russia, Canada and African nations.

3.2.4 Global Energy Mix Evolution

Figure 61: Global Energy Mix Evolution, EJ, 2023-2050


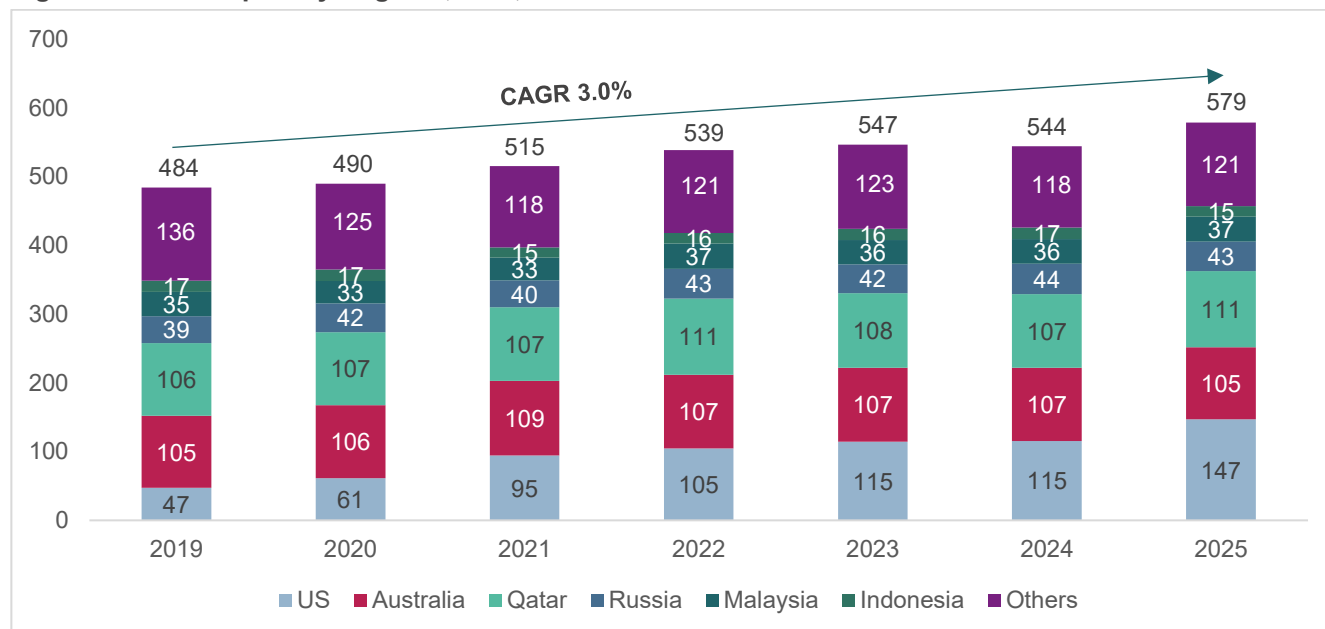
P: Projected

Source: IEA, GECF, Crisil Analysis

The global primary energy mix is expected to expand from ~635 exajoules (EJ) in 2023 to ~750 EJ by 2050, reflecting continued growth in overall energy demand. While hydrocarbons are projected to remain the dominant sources of energy, their combined share is expected to moderate, driven by a structural decline in coal and a gradual plateauing of oil demand over the long term. Natural gas is expected to play an increasingly critical role, with its share in the global primary energy mix rising from ~23% in 2023 to ~26% by 2050, supported by its relatively lower carbon intensity, operational flexibility and suitability as a transition fuel complementing renewable energy. Renewables are projected to be the fastest-growing energy source, significantly increasing their share over the period, while coal's contribution is expected to decline materially and nuclear and hydro continue to play stable, supporting roles.

3.2.5 LNG Exports

Figure 62: LNG Export by Regions, bcm, 2019-2025



Source: Energy Institute, CRISIL Intelligence

Global LNG exports increased from 484 bcm in 2019 to ~579 bcm in 2025, but the growth has been uneven, indicating that the market is expanding but also nearing a short-term supply ceiling after peaking around 2025. The data shows a clear shift in global supply dynamics: the United States is the only exporter with strong, consistent year-on-year growth, rising from 47 bcm in 2019 to 147 bcm by 2025. This positions the US as the dominant marginal supplier and the primary driver of global LNG capacity additions. In contrast, Qatar remains stable at roughly 106–111 bcm through the period, reflecting a plateau until its planned post-2025 North Field expansion. Australia exhibits stagnation and mild decline, driven by ageing assets, higher operating costs and lack of new capacity, making it no longer a major source of incremental supply. Russia's exports remain flat at 39–44 bcm, a direct consequence of geopolitical constraints and stalled new LNG developments.

3.3 LNG Import Terminals – India

Table 55: LNG Terminal Operators

Operator	Location	Region	Capacity as of Apr - 2026 (MMTPA)	Capacity Utilization (FY2025-26) (%)
Petronet LNG Ltd	Dahej	West	22.5	95.5
Shell Energy India Pvt Ltd	Hazira	West	5.2	26.9
Konkan LNG Terminal	Dabhol	West	5	35.3
Petronet LNG Ltd	Kochi	South	5	27.9
Indian Oil LNG Pvt Ltd	Ennore	South	5	25.3
GSPC LNG Ltd	Mundra	West	5	17.6
Adani Total Pvt Ltd	Dhamra	East	5	33.7
HPCL LNG Terminal	Chhara	North	5	6.2
Total			57.7	

*Only HP stream of capacity of 2.9 MMTPA is commissioned.

Source: PPAC, Crisil Intelligence

As of April 2026, India has eight LNG import facilities with a combined regasification capacity of 57.7 million metric tonne per annum (MMTPA). Petronet LNG Limited (PLL) set up India's first LNG regasification terminal at Dahej in 2004 with a capacity of 5 MMTPA which increased to 17.5 MMTPA in 2019 through multiple capacity expansions and has reached to 22.5 MMTPA in 2026. It is the only LNG terminal which is operating at a healthy utilization rate of ~100% since the terminal has established connectivity with major demand centres through major pipelines such as Hazira-Vijaipur-Jagdishpur and Dahej-Uran-Panvel. Additionally, Large companies such as IOCL, BPCL and GAIL have long-term tolling agreements with Dahej terminal thereby ensuring the terminal's optimal capacity utilization rate.

The LNG terminal at Hazira was the second in India which was setup in 2005 with an initial capacity of 2.5 MMTPA which expanded to 5 MMTPA in 2013. The Hazira LNG terminal's utilization rate was negatively impacted in FY-23 due to high spot LNG prices, but with the decline in LNG prices in FY-24, the terminal's capacity utilization has shown signs of improvement.

In 2013, additional two LNG terminals in Dabhol and Kochi were commissioned. The terminal in Dabhol is well positioned to cater demand in Maharashtra and along Mumbai-Nagpur-Jharsuguda pipeline. The LNG terminal's average utilization rate has been hindered by breakwater issues, which force the terminal to remain closed during the monsoon season, resulting in reduced operational capacity. However, the construction work is under progress to resolve the break water issue at Dabhol. Furthermore, the regasification system at Dabhol depends on thermal energy from the power plant to convert the LNG to natural gas. In the absence of operational load at the power plant, its capacity remains impacted.

The utilization of the Kochi terminal has been persistently low due to the delayed completion of the Kochi-Kootanad-Bangalore-Mangalore pipeline, which is crucial for connecting the terminal to key markets like Mangalore and Bangalore.

Ennore LNG terminal was commissioned in 2019 and operates under a tolling agreement with the parent company. The Ennore LNG terminal has also faced similar challenges, with its utilization rate hindered by the non-completion of the Ennore-Bengaluru-Tuticorin pipeline, highlighting the significant impact of pipeline infrastructure on terminal utilization.

The Mundra LNG terminal, developed by Adani Group and GSPC, was commissioned in 2020. However, the terminal's utilization has been limited due to the smaller diameter of the pipeline connecting Anjar to Banaskantha. To address this, GSPC has planned to lay an additional pipeline from Anjar to Banaskantha to optimize capacity utilization.

Dhamra LNG terminal, which began operations in 2023, is experiencing a significant surge in utilization, driven by its connectivity to major demand centres through Jagdishpur-Haldia-Bokaro-Dhamra pipeline which has been nearly completed. Further, a substantial portion of its volumes are also secured under long-term tolling agreements with IOCL and GAIL.

HPCL Chhara LNG terminal has recently been commissioned in January 2025 with a capacity of 5 MMTPA.

Jafrabad FSRU (Floating Storage and Regasification Unit) is nearing completion and will add 5.0 MMTPA to existing installed capacity of 52.7 MMTPA. Several land-based terminals and FSRUs are in various stages of planning and implementation at Jaigarh, Kakinada, Karaikal and Gopalpur that will add 24.2 MMTPA capacity. Additionally, Dahej and Dabhol terminals are planning capacity expansion by 5.0 MMTPA each. With these developments a total regasification capacity of ~77 MMTPA will be available as and when the terminals gets operational. A global LNG oversupply expected between 2028 and 2030 will likely lower prices, creating a strategic opportunity for India.

Table 56: Upcoming/ Proposed Regas Terminal India

S.No.	Terminal Name	Capacity (MMTPA)
1	Swan LNG, Jaffrabad (FSRU)	5
2	WCPL (FSRU) Jaigarh Mah.	6
3	Karaikal	1
4	PLL Gopalpur	5
5	Kakinada (FSRU)	7.2
	Total	24.2

Source: PNGRB

Steps to address low utilization rates of LNG Terminal in India

PNGRB in its Vision 2040 document clearly articulates the issue of continuous low utilization rates of LNG terminals across India. Some of the key points to address this issue are highlighted below:

- **Enhance flexibility in destination clause for optimal terminal utilisation:** Introduce flexible LNG destination clauses that permit discharge at alternative RLNG terminals within India, subject to certain strategic exceptions. This will enable importers to optimize infrastructure utilization, reduce congestion, and improve logistics. By promoting operational flexibility, we can correct regional imbalances, enhance market liquidity, and increase responsiveness in the gas market, ultimately leading to a more efficient and effective LNG supply chain
- **Encouraging competitive market dynamics:** Promote a competitive LNG terminal ecosystem by removing structural bottlenecks and avoiding regulatory micromanagement, while upholding commercial autonomy. This will drive operational efficiency, attract private investment, and support optimal terminal utilisation.

3.4 Gas Sourcing

India's natural gas sourcing strategy is a complex mix of domestic production, imports, and ambitious exploration efforts aimed at reducing reliance on imported fossil fuels and meeting its burgeoning energy demands. While domestic production remains a significant, the country increasingly relies on liquefied natural gas (LNG) imports from various global sources to bridge the supply gap. This reliance on imports, however, exposes India to price volatility in the international market and necessitates a multifaceted approach encompassing exploration, infrastructure development, and strategic partnerships to ensure a secure and affordable natural gas supply for its growing economy.

3.4.1 Long Term Contracts

Between January and August 2024, a total of approximately 50 billion cubic meters (BCM) of natural gas contracts were signed with projects that have yet to reach the Final Investment Decision (FID) stage or have recently received approval. Notably, India accounted for the largest share of these agreements, with a significant 30% stake.

Some Long-Term Contracts

- IOCL signed a USD 7-9 billion agreement with ADNOC Gas to import 1.2 MMTPA of LNG for 14 years, starting from 2026.
- GAIL has signed a 10-year agreement with ADNOC Gas for the purchase of 0.52 MMTPA of LNG. The delivery will start in 2026.

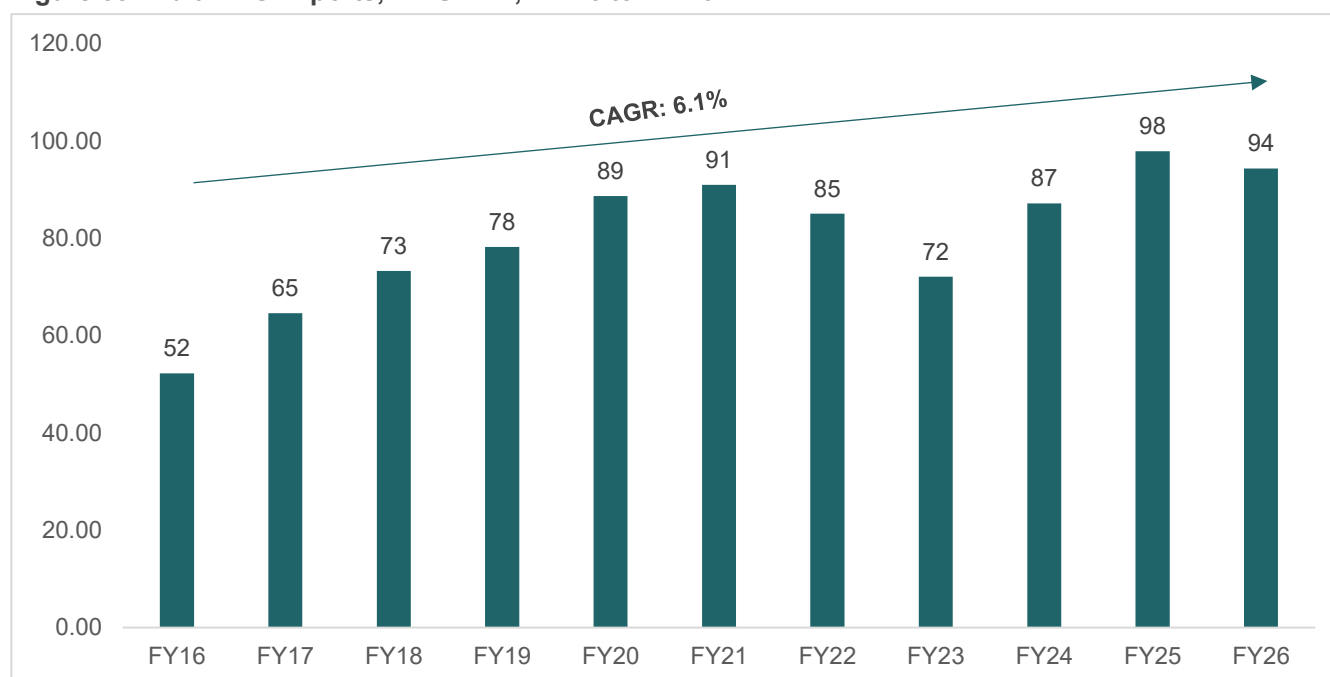
- GAIL and Vitol Asia Pte Ltd have signed agreement in January-2024 to supply ~1 MMTPA of LNG for a period of about 10 years into India, commencing 2026.
- Petronet LNG signed an agreement with Qatar Energy to extend the deal for additional 20 years to buy 7.5 MMTPA of gas which is to expire in 2028.

Spot vs Long Term Contracts and its impact

India's natural gas procurement relies on a mix of long-term LNG contracts and spot market purchases, balancing supply security with flexibility. Long-term deals—mainly with Qatar, the U.S., and Australia—provide stable volumes at predictable, oil- or hub-linked prices, shielding sectors like fertilizer, refining, and CGD from market shocks. In contrast, spot LNG cargoes, though flexible, expose buyers to global price volatility, as seen after the Ukraine crisis, when spot prices spiked above \$35–40/MMBtu compared to \$10–12/MMBtu under term contracts, prompting Indian importers to scale back spot buys. This volatility has driven firms such as Petronet LNG and GAIL to rebalance portfolios, combining term stability with limited spot exposure. While spot trading through the Indian Gas Exchange (IGX) is rising, India's LNG strategy continues to prioritize long-term contracts to ensure price stability, supply reliability, and insulation from global market fluctuations.

3.4.2 Trends in LNG Imports

Figure 63: India LNG Imports, MMSCMD, FY-16 to FY-26



Source: PPAC, Crisil Intelligence

India's LNG imports have increased steadily over FY16–FY25, rising from ~52 MMSCMD in FY16 to ~94 MMSCMD in FY26, reflecting a CAGR of ~6.1%. The growth underscores India's increasing reliance on LNG to bridge the structural gap between domestic gas production and rising demand, particularly from CGD, fertiliser, refinery and industrial consumers. While imports moderated temporarily during periods of elevated global LNG prices, volumes rebounded strongly from FY24 onwards, supported by demand recovery, improved price visibility and expanding regasification capacity. Overall, LNG continues to account for ~50% of India's gas availability, reinforcing its critical role in ensuring supply security and supporting the medium-term growth of the natural gas ecosystem in India.

3.4.3 Administered Pricing Mechanism (APM)

APM gas primarily comprises production from legacy nominated fields of ONGC and OIL and is allocated by the Government of India to priority sectors, including CGD (PNG–Domestic and CNG). Pricing is administered by the Government and is linked to the Indian Crude Oil Basket (10% Slope*Indian Crude Basket Price) ceiling cap on pricing being \$7.00/MMBTU. However, there are constraints around APM gas supply as the production from the nominated fields continue to decline. For instance, in October 2024, GAIL (nodal agency for gas supply) reduced the APM gas allocation for the CNG segment by 20% of the CNG requirement with further cuts of 20% coming in April 2025. In effect, the supply from APM sources to CGD companies has reduced by almost 50% in last one year. CGD entities must adopt strategic pricing, supply diversification, and operational efficiencies to navigate this transition while continuing to drive city gas penetration and clean energy adoption.

3.4.4 High Pressure, High Temperature (HPHT) and New Well Gas (NWG)

HPHT gas is produced from technically complex and deepwater fields developed by National Oil Companies and private operators. These fields were incentivised through a premium pricing regime to improve investment viability. New Well Gas refers to the incremental gas produced by state owned companies like ONGC and OIL from existing nomination fields by drilling new wells. NWG is priced at 12% of the Indian crude oil basket price. From Q1, FY26 domestic natural gas allocation from NWG for CNG and D-PNG segments will be done on a two-quarter advance basis. These measures will ensure a stable, affordable, and transparent domestic gas supply system for the critical transport and domestic segments under the CGD network

3.4.5 Coal Bed Methane (CBM)

CBM, an unconventional hydrocarbon, is viewed as a vital resource for augmenting India's energy supply and reducing reliance on conventional fossil fuels. The current production of CBM in India is ~2.22 MMSCMD in FY25. There are eight major CBM blocks which are situated in the states of Jharkhand, West Bengal and Madhya Pradesh. India being the fifth-largest holder of proven coal reserves, the prognosticated CBM reserves are ~7,123 MMSCMD with the largest reserves in the eastern region of India. The major producers of CBM in India include EOGEL, GEECL, RIL and ONGC. There have been several frameworks and policies such as HELP, OALP, marketing and pricing freedom and special CBM bidding rounds that have been introduced to promote the exploration and production of CBM in India. However, the CBM sector in India is still in a very nascent stage and faces several technical, geological and socio-economic challenges which hinder the growth in the production of CBM. The government has set a target to boost CBM production to 5.0 MMSCMD by 2027-28.

3.4.6 India Gas Exchange (IGX): Another Source for Gas Sourcing

The Indian Gas Exchange (IGX), launched in 2020, operates as a digital trading platform where buyers and sellers can trade natural gas on a spot and forward basis, allowing multiple buyers and sellers to participate beyond traditional bilateral deals. IGX offers contracts ranging from day ahead to monthly and seasonal deliveries, allowing dynamic procurement. Unlike traditional LNG contracts (10–20 years), IGX allows sourcing on a need-based basis. However, trading volumes remain modest (3.1 MMBtu volume traded in October 2025) due to limited domestic production, infrastructure constraints, and long-term LNG contracts that dominate supply. Regulatory efforts—such as the proposed unified pipeline tariff aim to create a more liquid and competitive market. As city gas distribution expands and industrial consumers shift to cleaner fuels, India's gas trading ecosystem is expected to mature, aligning gradually with global hub-based systems like Henry Hub or NBP, but will need strong coordination between PNGRB, GAIL, and private terminal operators to ensure true price discovery. IGX is the only gas exchange in India

3.5 India's Domestic Gas Production

India's total proven reserves of natural gas as of FY-24 were estimated at 1,049 bcm, with 55% located in offshore gas fields. The majority of domestic natural gas reserves are concentrated in the offshore gas fields at Mumbai High.

The offshore fields have consistently contributed the majority share of production, accounting for nearly 65% to 72% of total volumes, while onshore fields have maintained a relatively stable output throughout the years. In FY16, the total natural gas production stood at 31,129 MMSCM, with offshore fields contributing 22,521 MMSCM and onshore fields 8,608 MMSCM. This proportion remained fairly consistent until FY20, after which a notable dip occurred in FY21, bringing total production down to 27,784 MMSCM. This decline was primarily driven by a sharp fall in offshore output, which dropped to 18,113 MMSCM its lowest during the period, due to the adverse impact of the COVID-19 pandemic, global demand contraction, and delays in upstream investments and project execution. However, this drop was followed by a strong recovery in FY22 and beyond, with offshore production rising to 25,625 MMSCM in FY24. Onshore production, by contrast, exhibited only minor fluctuations, peaking at 10,646 MMSCM in FY22 and tapering off slightly to 9,885 MMSCM in FY25.

The resurgence in production post-FY21 can be attributed to multiple supportive factors. Key among them is the Indian government's continued policy push to enhance domestic production through initiatives such as the Hydrocarbon Exploration and Licensing Policy (HELP), Open Acreage Licensing Policy (OALP), and Discovered Small Field (DSF) rounds. These efforts led to the development of new gas fields and brought marginal fields into production. Notably, projects such as ONGC's KG-DWN-98/2 field in the Krishna-Godavari Basin and Reliance-BP's deep-water fields on the east coast significantly bolstered offshore output. These developments offset the natural decline of mature fields and reinforced offshore production capacity.

Despite these gains, onshore gas production remained largely flat due to a mix of geological limitations and operational constraints, including land acquisition challenges, regulatory clearances, and infrastructure bottlenecks. As a result, while onshore production provides steady volumes, future growth is expected to be driven primarily by offshore discoveries and developments. In FY26, natural gas production is projected to stabilize at around 34,326 MMSCM, with offshore output contributing 24,855 MMSCM and onshore fields 9,471 MMSCM, indicating a plateau in growth after the recent recovery phase. ONGC began oil & natural gas production in 2024 from deep water block in Krishna Godavari basin. The block is projected to boost ONGC's overall oil and natural gas production by 11% and 15% respectively. The field's peak output is anticipated to reach approximately 45,000 barrels of oil daily and exceed 10 MMSCMD of gas.

Furthermore, large finds have been made by RIL, ONGC and Gujarat State Petroleum Corporation Ltd (GSPC) in the offshore KG basin area of Andhra Pradesh. Onshore reserves are primarily located in Rajasthan and the north-eastern states of Assam, Nagaland, Arunachal Pradesh and Tripura.

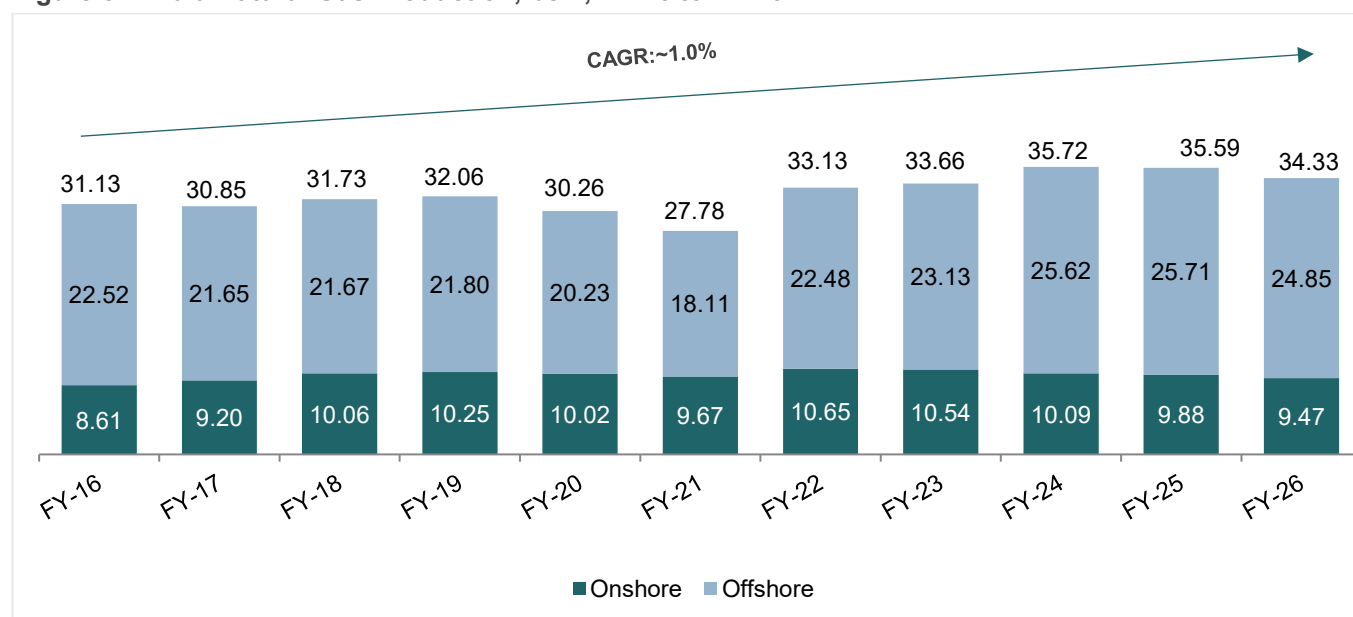
Domestic natural gas production trend can be broken into the following trends:

- **Decline in Production (FY-16 to FY-20):** Between FY-16 and FY-20, India's natural gas production was relatively stagnant and saw a decline, primarily due to natural decline from existing fields and delays in the development of new gas fields. The country faced challenges in increasing output from mature fields and had limited success in new exploration activities.
- **Post FY-21 Growth:** Since FY-21, there has been a gradual recovery in natural gas production, largely driven by an increase in output from newer fields like those in the eastern and offshore regions. There has also been a focus on ramping up production from legacy fields. Despite this, India's domestic gas production has still been unable to meet the growing demand, leading to continued reliance on LNG imports.
- **Recent Trends (FY-22 to FY-26):** As of FY-26, India has seen some growth in domestic gas output. Expansion of RIL KG D6 Basin has boosted domestic production from ~ 92 MMSCMD in FY23 to ~ 94 MMSCMD in FY26. ONGC has commenced operations at its fifth oil well in the Krishna Godavari basin, resulting in a boost to its crude oil and natural gas production in FY25. The recent discoveries and rising

production in Coal Bed Methane (CBM) blocks are making a modest impact on the growth of domestic production.

While there has been some improvement in recent years, India's domestic natural gas production has not been able to keep pace with the growing demand, making the country increasingly reliant on imports to meet its energy needs. However, the government continues to focus on increasing exploration, improving the efficiency of existing fields, and investing in new projects to reduce dependency on imported LNG

Figure 64: India Natural Gas Production, bcm, FY-16 to FY-26



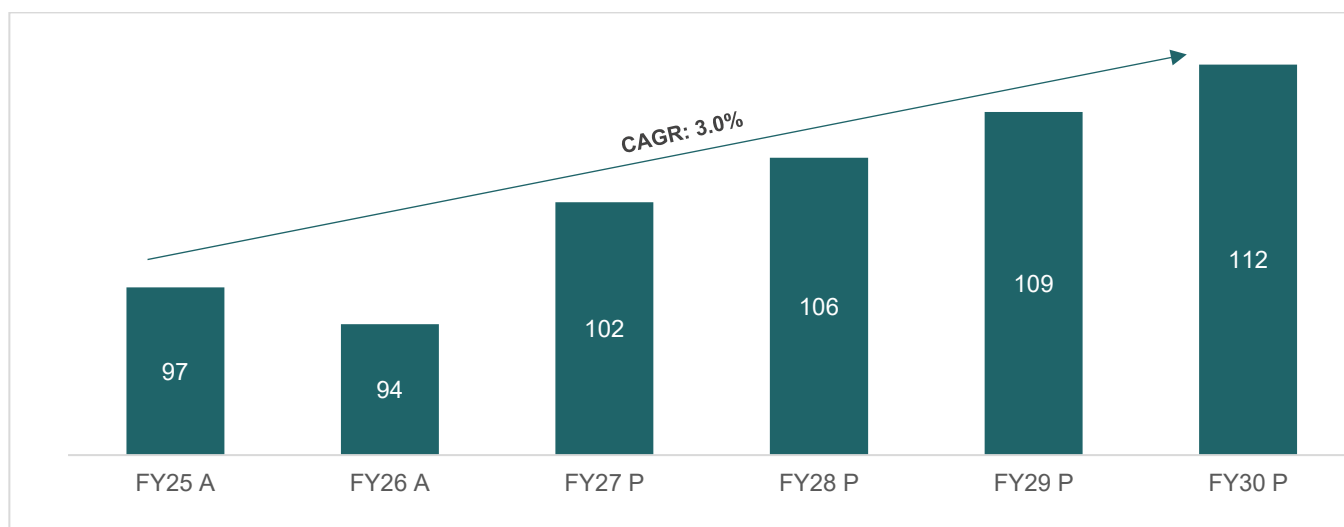
Source: PPAC, Crisil Intelligence

Domestic natural gas production has been increasing since FY-22 due to production commencement from KG D6 in eastern offshore, namely the R Cluster (production commenced in December 2020), satellite cluster (production commenced in March 2021) and MJ fields which are together producing ~30 MMSCMD of natural gas since FY-24.

Going forward, domestic production is expected to increase moderately, driven by rise in production from ONGC's KG-98/2 in eastern offshore. ONGC is currently operating 3 gas wells, and 4 more gas wells are expected to start production. In the long run domestic natural gas production, is expected to increase moderately at ~3% CAGR between FY-26 and FY-30.

The government's steps to attract investments and improve production through the new gas-pricing mechanism, by giving pricing freedom for gas produced from high-pressure, high-temperature, deep-water and ultra-deep-water areas is expected to expedite the development of fields.

Figure 65: Domestic Gas Production Outlook (MMSCMD)



A: Actual, P: Projected
Source: PPAC, Crisil Intelligence

3.5.1 Natural Gas Supply Forecast under various scenarios

Table 57: Natural Gas Supply Forecast under various scenarios

Supply forecast	2030			2040			
Supply (MMSCMD)	Natural gas	Domestic	RLNG	Natural gas	Domestic	RLNG	Other
PNGRB Report							
Good to go	297	97	200				
Good to best	365	165	200				
National Gas Grid Technical Assessment Report							
Business as usual							
Low	296	157	139	445	248	197	0
Middle	296	180	116	445	312	133	0
High	296	193	103	445	363	82	0
Accelerated Gas Usage (AGU)							
Low	379	157	222	795	248	547	0
Middle	379	180	199	795	312	483	0
High	379	193	186	795	363	432	0
S&P Global Commodity Insights	266	115	151	365	98	261	6
Shell Energy India Private Limited (SEIPL)	260	115	145	373	104	269	0
IEA	282	99	183				

Note: Natural gas is sum of Domestic and RLNG. Data for grey area is not available. GtG, BAU: Development on basis of current policies and trends; GtB, AGU: Accelerated policy led adoption
Source: PNGRB Vision 2040

3.5.2 BP-ONGC Transaction & HELP/ OALP rounds to augment domestic gas production

ONGC and BP, in Feb 2025, have signed a contract under which bp will serve as the Technical Services Provider (TSP) for the Mumbai High field, India's largest and most prolific offshore oil field. The BP-ONGC collaboration marks

Consulting

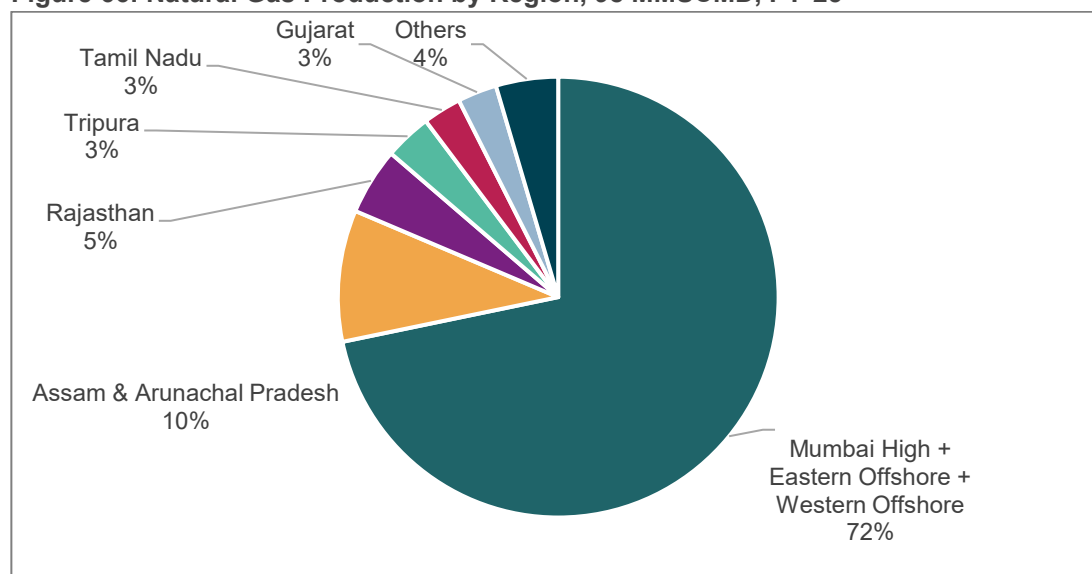
a significant step in enhancing India's domestic gas production capacity. BP will deploy advanced subsurface, reservoir management, and enhanced recovery technologies across Mumbai High and other offshore fields, aimed at improving output efficiency and recovery factors. The Mumbai High field was discovered in February 1974 and started production on May 21, 1976. It accounts for almost 25% of India's production. The field is estimated to have a balance reserve of 80 million tonnes (610 million barrels) of oil and over 40 bcm of gas.

Parallely, the government's Hydrocarbon Exploration and Licensing Policy (HELP) and Open Acreage Licensing Programme (OALP) continue to underpin exploration-led growth. As of Round X (February 2025), the Directorate General of Hydrocarbons (DGH) has put on offer 25 exploration and development blocks covering over 1,91,986 sq km – the biggest round till date.

Collectively, the bp-ONGC partnership and the ongoing HELP/OALP rounds are expected to materially strengthen India's upstream gas output pipeline—bridging part of the domestic supply gap, ensuring greater feedstock security for the CGD and power sectors, and supporting the government's target of raising the natural gas share to 15% of the primary energy mix by 2030.

3.6 Natural Gas Production by Region and Company

Figure 66: Natural Gas Production by Region, 98 MMSCMD, FY-25



Note: Offshore production includes production by both PSU & private entities, Others include Andhra Pradesh, West Bengal, Jharkhand, Madhya Pradesh

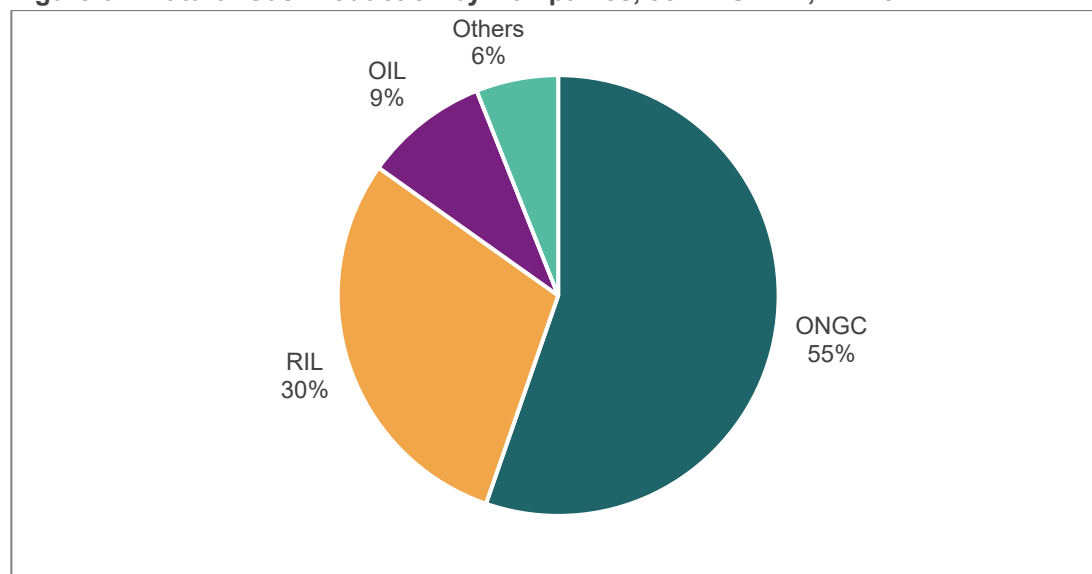
Source: PPAC, Crisil Intelligence

4. **Krishna-Godavari Basin:** Located off the coast of Andhra Pradesh, this basin is one of the most prolific gas-producing regions in India. Key fields include:
 - KG-D6 (RIL): 28 MMSCMD of gas production in FY-25.
 - KG-98/2 (ONGC): 3 MMSCD of gas production in FY-25
2. **Mumbai, Eastern and Western Offshore:** The offshore fields are the significant gas producing region in India. In FY-24, these offshore produced ~72% of the natural gas.
3. **Assam and Arunachal Pradesh:** Located in northeastern India, these 2 states produced ~10% of the natural gas in India.
4. **Rajasthan:** Located in northwestern India, this region has significant gas reserves and produced around 5% of the natural gas.

India's Major Gas-Producing Companies

1. **Oil and Natural Gas Corporation (ONGC):** ONGC is the largest gas producer in India, accounting for over 55% of the country's total gas production in FY-25 at its onshore and offshore fields primarily located in Cambay Basin, Western Offshore, and Krishna-Godavari Basin.
2. **Reliance Industries Limited (RIL):** RIL is the second-largest gas producer in India, accounting for ~30% production with significant production from its KG-D6 block in the Krishna-Godavari Basin.
3. **Oil India Limited (OIL):** OIL is another major gas producer in India, with significant production from its fields in the Assam-Arakan Basin.

Figure 67: Natural Gas Production by Companies, 98 MMSCMD, FY-25

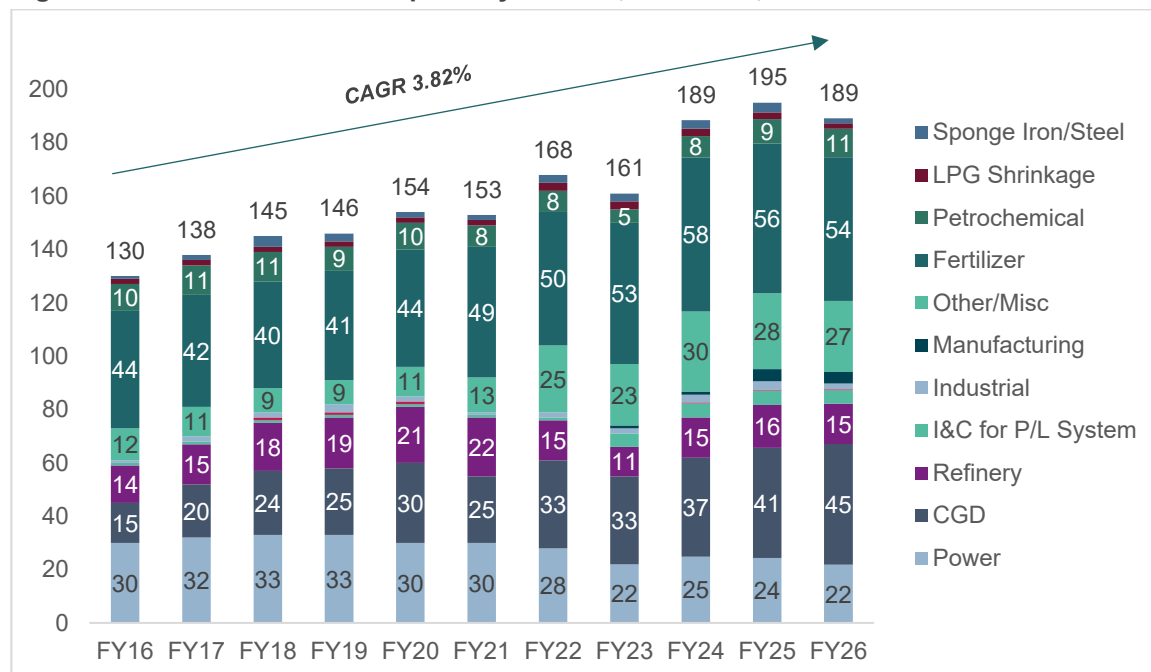


Note: Others include private entities, joint ventures and coal bed methane blocks

Source: PPAC, Crisil Intelligence

3.7 Natural Gas Consumption by sectors

Figure 68: Natural Gas Consumption by Sectors, MMSCMD, FY16-FY26

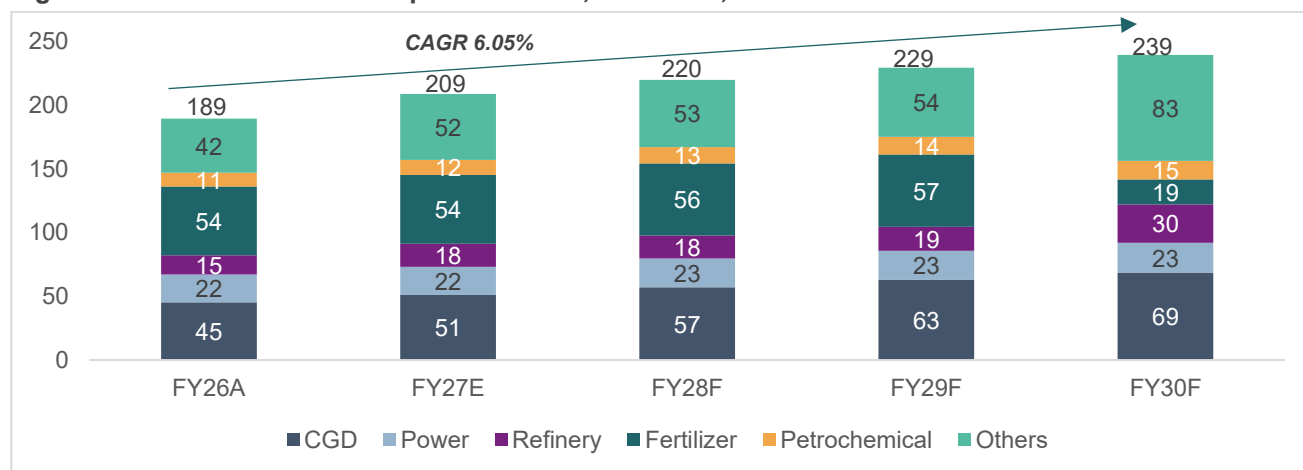


Source: PPAC, Crisil Analysis

India's natural gas consumption has increased steadily from ~130 MMSCMD in FY16 to ~189 MMSCMD in FY25, translating into an overall CAGR of ~3.82%, driven by incremental recovery in power, fertilizer, refinery, and industrial demand. The sectoral mix has gradually diversified, with non-power segments contributing a larger share to incremental volumes over the period. In contrast, CGD consumption has grown from ~15 MMSCMD in FY16 to ~45 MMSCMD in FY26, implying a much stronger CAGR of ~11.86% over the same period. This materially higher growth underscores CGD as the fastest-growing gas-consuming segment and positions it as a key structural demand driver for natural gas in India going forward, supported by network expansion, urbanization, and policy push for cleaner fuels.

3.8 Natural Gas Consumption Outlook

Figure 69: Natural Gas Consumption Outlook, MMSCMD, FY26 – FY30



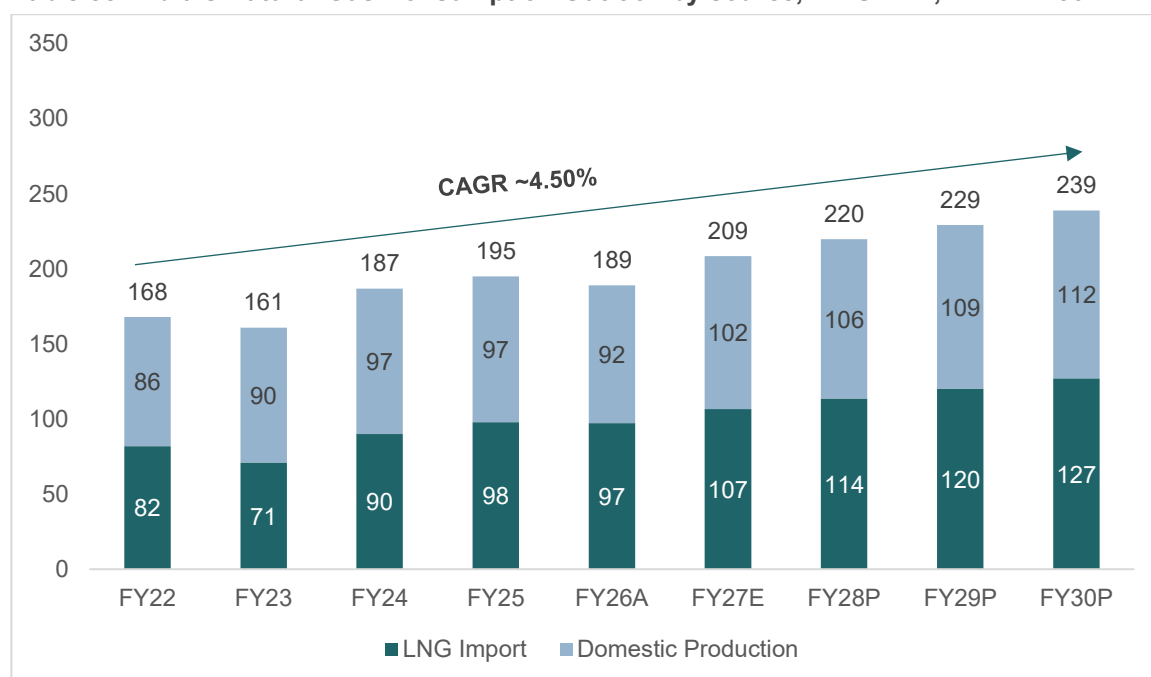
E-Estimated, F-Forecast

Source: PPAC, MoPNG, Crisil Intelligence

India's natural gas consumption is projected to witness steady and broad-based growth over FY26–FY30 period, increasing from ~189 MMSCMD to ~239 MMSCMD, implying a CAGR of ~6.1%. The growth is driven by sustained expansion across end-use segments, with city gas distribution (CGD) emerging as the largest incremental contributor, supported by continued rollout of CNG stations and PNG connections. Power and fertilizer demand remains structurally stable, while refinery and petrochemical consumption is expected to grow gradually in line with capacity additions and higher gas substitution.

3.9 India's Natural Gas Consumption Outlook by source

Table 58: India's Natural Gas Consumption Outlook by source, MMSCMD, FY22-FY30



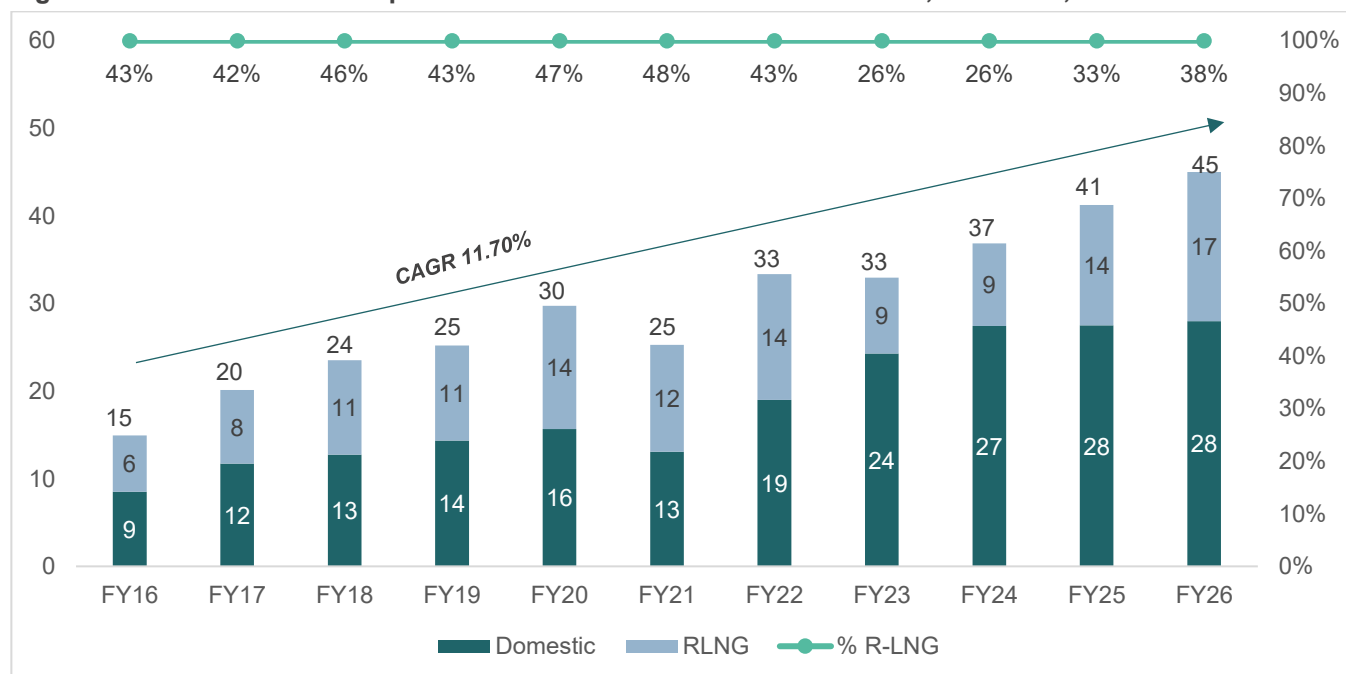
A: Actual, E: Estimated, P: Projected

Source: Crisil Analysis

India's natural gas consumption is projected to increase steadily from ~168 MMSCMD in FY22 to ~239 MMSCMD by FY30, implying a CAGR of ~4.50%, driven by rising demand across CGD, industrial and power sectors. The incremental demand is expected to be met through a combination of domestic production and LNG imports, with LNG accounting for a progressively larger share of supply to bridge the structural gap between demand growth and limited domestic output. While domestic gas availability is projected to grow gradually over the period, its contribution remains relatively stable, resulting in increasing dependence on LNG imports to support consumption growth.

3.10 India's CGD Consumption

Figure 70: India CGD Consumption from Domestic Production vs R-LNG, MMSCMD, FY16 to FY26



P: Provisional

Source: PPAC, Crisil Analysis

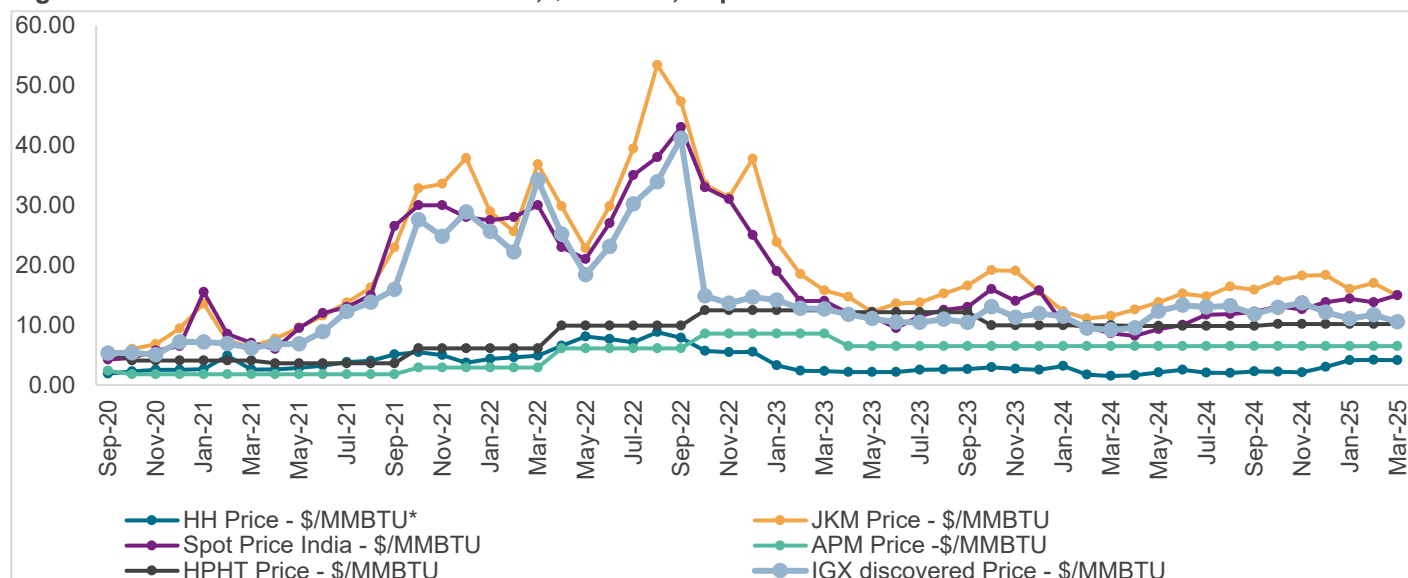
India's CGD sector has recorded robust growth in natural gas consumption, increasing from ~15 MMSCMD in FY16 to nearly 45 MMSCMD in FY26, growing at a CAGR of ~11.70%. This surge has been driven by strong rollout of CGD infrastructure under multiple PNGRB bidding rounds, rapid expansion of CNG networks, and wider adoption of PNG in both residential and industrial segments. A notable shift over this period has been the rising allocation of domestic natural gas to CGD priority segments, which increased from 9 MMSCMD in FY16 to approximately 28 MMSCMD in FY26. This reflects the government's consistent policy push to support cleaner mobility and household energy access through assured supply.

While imported R-LNG volumes have also grown, from ~6 MMSCMD in FY16 to ~17 MMSCMD in FY26, the share of imports in the CGD supply mix has shown a dynamic pattern. LNG contribution declined steadily from ~43% in FY16 to a low of ~26% in FY23, largely due to increased domestic production availability and policy-driven preferential allocation to CGD. However, the share partially rebounded to ~38% in FY26 as demand growth outpaced the incremental domestic gas supply and operators relied more on R-LNG to support expanding CNG and PNG-industrial consumption. This fluctuation underscores the sector's exposure to global LNG pricing cycles and supply volatility.

The period from FY16 to FY26 demonstrates a strong growth trajectory for the CGD sector, supported by increasing domestic gas supply and infrastructure expansion. The declining LNG share until FY23 highlights positive progress in supply security, although the subsequent rise to ~38% by FY26 clearly indicates that growing demand continues to outpace domestic availability. While LNG remains an important supplementary source, the future resilience, affordability, and sustainability of CGD growth will depend on further strengthening domestic production, maintaining allocation priority to CGD, and building a balanced sourcing strategy to minimize exposure to global market volatility.

3.11 Natural Gas Price Benchmarks

Figure 71: Natural Gas Price Benchmarks, \$/MMBTU, Sep 2020 – Mar 2025



Note: HH price is US gas benchmark which excludes transportation, spot LNG prices are delivered ex-ship and does not include customs and other taxes

Source: CRISIL MI&A Consulting

Natural gas prices witnessed sharp volatility during FY21–FY22, with international LNG benchmarks such as JKM and India spot LNG prices spiking to unprecedented levels amid global supply disruptions, while domestic gas prices remained relatively insulated. HPHT prices stayed structurally lower and less volatile throughout the period, underscoring the cost competitiveness of domestically produced gas for priority consumption segments. The IGX-discovered price demonstrated partial linkage to global trends but with significantly lower volatility, reflecting the growing depth and resilience of India's domestic gas trading ecosystem. From FY23 onwards, both global and domestic gas prices moderated and converged into a narrower band, indicating easing supply constraints and a more balanced global LNG market.

3.12 Natural Gas Unified Pipeline Tariff – One Nation One Gas One Tariff

PNGRB has rationalised the natural gas pipeline tariff structure by replacing the earlier three-zone, distance-based regime with a two-zone framework—Zone 1 up to 300 km and Zone 2 beyond 300 km—effective 1 January 2026, in line with the “One Nation, One Grid, One Tariff” objective. The Unified Tariff is expected to assist in achieving the ‘One Nation One Gas Grid One Tariff’ model and stimulate gas markets, especially in remote areas. Under the new regime, transportation tariffs are fixed at ₹54/MMBtu for Zone 1 and ₹102.86/MMBtu for Zone 2, with CNG and domestic PNG consumers nationwide charged uniformly at the Zone 1 tariff, irrespective of distance. The new tariff structure is expected to make CNG and D-PNG more affordable, especially in distant markets.

Table 59: Unified Pipeline Tariff

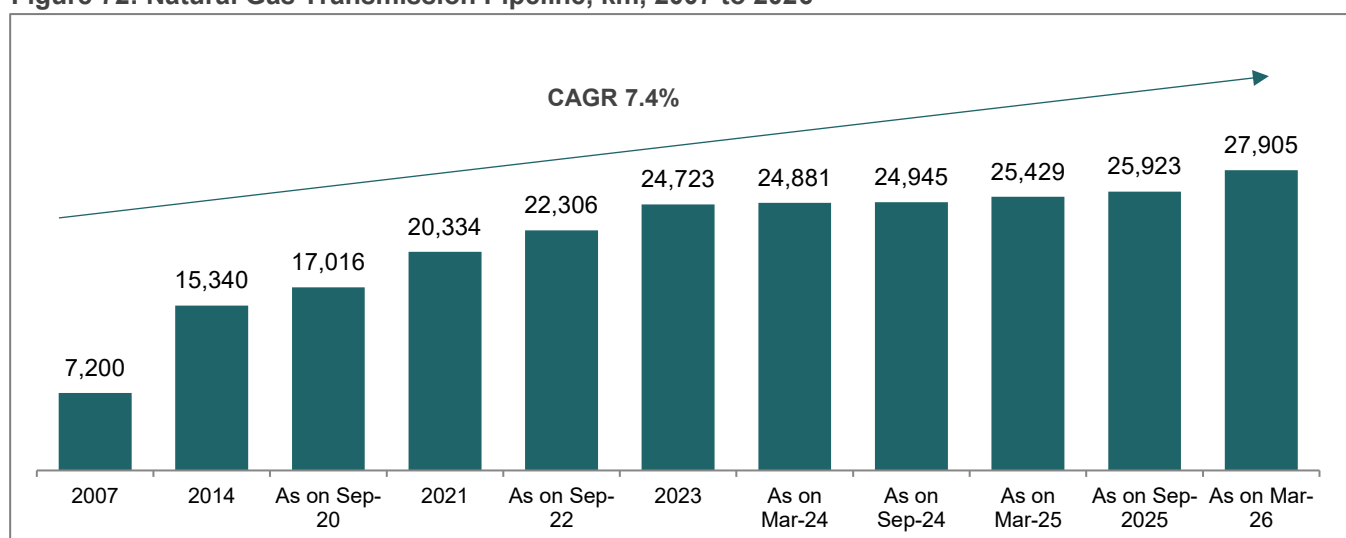
Unified Zone	Tariff (Rs. /MMBtu on GCV Basis)
Zone 1 (up to 300 km from gas source)	54
Zone 2 (more than 300 km from gas source)	102.86
Levelized Tariff	83.94

Source: PNGRB

3.13 Natural Gas Pipeline Network

The expansion of the pipeline network holds significant implications for India's energy landscape. It aligns with the national objective to increase the share of natural gas in the energy mix, supporting efforts to reduce dependence on coal and oil. Furthermore, it facilitates cleaner energy for industries, transportation, and households, while also contributing to improved air quality and lower carbon emissions. The development of this infrastructure is a critical step in strengthening energy security, promoting regional connectivity, and supporting India's long-term transition to a sustainable and resilient energy system.

Figure 72: Natural Gas Transmission Pipeline, km, 2007 to 2026



Numbers are inclusive of operational and under construction pipeline
 Source: PNGRB

The natural gas transmission pipeline network in India has experienced significant growth over the past two decades, reflecting the country's increasing focus on expanding clean energy infrastructure. In 2007, the total length of the natural gas transmission pipeline stood at approximately 7,200 km. This length more than doubled by 2014 to 15,340 km, as India began ramping up investments in gas infrastructure to reduce its dependence on coal and liquid fuels. The expansion continued at a steady pace, reaching 17,016 km by September 2020, 20,334 km in 2021, and further to 22,306 km by September 2022. By 2023, the network extended to 24,723 km, followed by a slight increase to 24,881 km as of March 2024 and 24,945 km as of September 2024. As of March 2026, the total length of operational natural gas pipeline stood at 27,905 km with 8,551 km under various stages of construction.

India's rapidly expanding trunk pipeline network forms the foundational backbone of the country's natural gas ecosystem, enabling the seamless flow of gas from LNG regasification terminals located at key coastal ports and from domestic production sources to inland consumption centers. Over the past decade, the government has aggressively accelerated national pipeline development to improve regional connectivity and support gas-based economic growth. As a result, the network is increasingly penetrating previously underserved and landlocked geographies, thereby widening the footprint for natural gas adoption.

This expansion directly benefits CGD companies, as access to trunk pipelines provides a reliable and scalable supply of natural gas into their authorized Geographical Areas (GAs). Gas is injected into the city network through City Gate Stations (CGS), which serve as the primary entry and pressure-reducing points for delivering gas further into the CGD infrastructure. The availability of trunk pipeline hook-up locations significantly simplifies gas sourcing, reduces lead time for operationalization of new GAs, and strengthens the commercial viability of CGD rollouts.

Companies such as Torrent Gas derive a clear competitive advantage from this connectivity. In regions like Rajasthan, Uttar Pradesh, Punjab and other interior markets where local supply was historically limited, the arrival of trunk pipeline corridors eliminates dependence on high-cost alternatives such as LNG transported via cryogenic tankers. This shift from trucked LNG to pipeline gas enhances supply reliability, reduces logistics and delivery costs, and enables CGD operators to offer gas at more competitive consumer tariffs, supporting faster customer acquisition across PNG and CNG segments.

3.14 Pipeline Utilization of Major Pipelines

Table 60: Pipeline Utilization of Major Pipelines in India, percentage, FY25

Pipeline	Utilization
East West Natural Gas Pipeline (EWNGPL)	41%
Gujarat State Petronet Limited (High Pressure)	100.5%
Integrated HVJ	71.69%
KG Basin Pipeline	20.03%
Dadri-Panipat Natural Gas Pipeline (DPPL)	27.85%

Source: PNGRB Vision 2040, Crisil Analysis

The utilization of major cost-plus pipelines in FY 2025 (till Dec'24) has ranged between 24% and ~100%. Four out of the five major pipelines are operating below the required 75% capacity threshold. Due to lower-than-expected volume throughput, cost-plus pipeline operators are struggling to achieve projected revenue targets. This shortfall adversely impacts their financial health, and their ability to achieve the expected 12% post-tax RoCE. PNGRB vision 2040 document highlights the importance of effective pipeline utilization and recommends the following:

- **Online real-time bulletin board:** As a first step to ensure efficiency, PNGRB should mandate a real-time online bulletin board for gas pipeline entities, integrated with SCADA systems, to provide continuous and transparent information on pipeline capacity, flows and infrastructure utilisation. The initiative is aimed at improving market transparency, enabling non-discriminatory access to information, facilitating dynamic scheduling and optimising pipeline utilisation, while supporting informed decision-making by shippers and consumers.
- **CGD network sharing mechanisms for infrastructure optimization:** PNGRB should enable network sharing among CGD entities and large consumers to optimize utilisation of existing pipeline infrastructure and avoid duplication of capital expenditure. The framework is intended to promote flexible, market-driven utilization of pipeline assets while ensuring fair and transparent compensation for infrastructure owners. In addition, permitting the sharing of MWP credits for common infrastructure is expected to incentivise asset optimization, reduce redundancy and support the faster development of an integrated and efficient CGD network.

Table 61: Torrent Gas CGS Stations

S No	GA Name	CGS Name (Short Name)	Location of CGS	Name of PL Entity	Name of NG Pipeline
			CGS Name/Location		
1	Mathura	Chhata	Tarauli Road Khasra no 1028 Mauja Chhata Tahsil Chhata Mathura	GAIL India Limited	Integrated HVJ pipeline
2	Moradabad	Dhanupura	Dhanupura	GAIL India Limited	Integrated HVJ pipeline
3	SAS Nagar District (EAAA), Patiala & Sangrur Districts	Rajpura	Patiala	GAIL India Limited	Dadri - Bawana - Nangal pipeline

4	Pune District (EAAA)	Talegaon	Talegaon	GAIL India Limited	Dahej-Uran, Dabhol-Panvel Pipeline
5	Auraiya, Kanpur Dehat & Etawah Districts	Sachendi	Sachendi	GAIL India Limited	Integrated HVJ pipeline
6	Auraiya, Kanpur Dehat & Etawah Districts	Dibiyapur	Dibiyapur	GAIL India Limited	Integrated HVJ pipeline
7	Pune District (EAAA)	Nhavre	PIL CS-07 Nhavre Shirur Pune	Pipeline Infrastructure Limited	East - West pipeline
8	Pune District (EAAA)	Jategaon	Jategaon CGS Chakan Shikrapur Road	Pipeline Infrastructure Limited	East - West pipeline
9	Kota District (EAAA), Baran & Chittorgarh (Only Rawatbhata Taluka) Districts	Boreri	Boreri TGPL CGS Kota	GAIL India Limited	HVJ branch line
10	Gorakhpur, Sant Kabir Nagar & Kushinagar Districts	Khanipur	TGPL CGS Khanipur, Gorakhpur	GAIL India Limited	Jagdishpur Haldia Bokaro Dhamra pipeline
11	Chennai & Tiruvallur Districts	Vallur	Torrent Gas Chennai - CGS Vallur	Indian Oil Corporation Limited	Ennore - Thiruvallur - Bengaluru - Puducherry - Nagapattinam - Madurai - Tuticorin
12	Medak, Siddipet & Sangareddy Districts	Bandamailaram (CS04)	TGPL CGS - Bandamailaram	Pipeline Infrastructure Limited	East - West pipeline
13	Moradabad (EAAA) District	Saifpurpalla	TGPL Saifpurpalla Moradabad	GAIL India Limited	Integrated HVJ pipeline
14	Medak, Siddipet & Sangareddy Districts	Indresham (MLV13)	CGS Indresham	Pipeline Infrastructure Limited	East - West pipeline
15	Azamgarh, Mau and Ballia Districts	Bhitari	CGS Bhitari Azamgarh	GAIL India Limited	Jagdishpur Haldia Bokaro Dhamra pipeline
16	Alwar (Other than Bhiwadi) & Jaipur Districts	Neemrana	Neemrana CGS	GAIL India Limited	HVJ & Chainsa Jhajjar Hissar pipeline
17	Karaikal & Nagapattinam Districts	Thirumarugal	CGS Thirumarugal Nagapattinam	GAIL India Limited	Narimanam - Kuttalam of Cauvery network
18	Alwar (Other than Bhiwadi) & Jaipur Districts	Jobner	Jobner CGS Jaipur GA	GSPL India Gasnet Limited	HVJ & Chainsa Jhajjar Hissar pipeline
19	Gonda and Barabanki Districts	Haidergarh	Torrent Gas CGS Haidergarh	Pipeline Infrastructure Limited	Integrated HVJ pipeline

20	Junagadh District	Hajani Pipaliya	Torrent Gas CGS Hajani Pipaliya	Gujarat State Petronet Limited	GSPL HP Gujarat Gas Grid
21	Kota District (EAAA), Baran & Chittorgarh (Only Rawatbhata Taluka) Districts	Naya Nohra	Naya Nohra CGS Kota	GAIL India Limited	Vijaipur Kota pipeline
22	Dholpur District	RRVUNL	Dholpur CGS Near Thermal Power Plant Narpura	GAIL India Limited	Ibrahimpur Dholpur pipeline
23	Chennai & Tiruvallur Districts	Gummidipoondi	LCNG Gummidipoondi	Indian Oil Corporation Limited	Ennore - Thiruvallur - Bengaluru - Puducherry - Nagapattinam - Madurai - Tuticorin
24	Chennai & Tiruvallur Districts	Thirukandalam	CGS Thirukandalam	Indian Oil Corporation Limited	Ennore - Thiruvallur - Bengaluru - Puducherry - Nagapattinam - Madurai - Tuticorin
25	Chennai & Tiruvallur Districts	Nayapakkam	CGS Nayapakkam	Indian Oil Corporation Limited	Ennore - Thiruvallur - Bengaluru - Puducherry - Nagapattinam - Madurai - Tuticorin

Source: Company Filings; Crisil Analysis

3.15 Upcoming Investment in gas transmission pipelines in India

India anticipates significant investment from various companies to expand its natural gas pipeline infrastructure. The country is targeting an overall investment of USD 67 billion to expand its gas pipeline network, as part of a broader strategy to increase the use of natural gas in India's energy mix, aiming to reach 15% by 2030, up from the current 6.2%. Several companies are involved in these projects, with GAIL undertaking over INR 35,000 crore worth of pipeline construction projects. The Indian government expects companies to invest approximately INR 41,000 crore in building natural gas pipeline infrastructure in its northeastern states and the northern union territories of Kashmir and Ladakh.

Table 62: GAIL Investment Plans

S No.	Projects	Total Length (in Km)	Total Investment (in INR Crore)	Commissioned as on FY-24	Under Construction as on FY-24	States covered
1	Jagdishpur Haldia and Bokaro Dhamra Pipeline (JHBDPL)	2,563	13,414	2,401	162	Uttar Pradesh, Bihar, Odisha, Jharkhand and West Bengal
2	Barauni Guwahati Pipeline (BGPL)	727	3,992	717	9	Bihar, West Bengal and Assam
3	Coimbatore to Krishnagiri Pipeline (Part of Kochi-Koottanad-Bengaluru-Mangaluru Pipeline Phase-II)	901	5,909	579	322	Kerala, Tamil Nadu and Karnataka

4	Srikakulam Angul Pipeline (SAPL)	743	2,658	0	743	Odisha and Andhra Pradesh
5	Mumbai Nagpur Jharsuguda Pipeline(MNJPL)	1,702	7,844	0	1,702	Maharashtra, Madhya Pradesh, Chhattisgarh and Odisha
6	Dhamra Haldia Pipeline (DHPL)	253	1,031	150	103	Odisha and West Bengal
7	Gurdaspur-Jammu Pipeline	152	522	0	152	Punjab and UT of Jammu
	Total	7,041	35,370	3,847	3,193	

Source: Company Website

Table 63: IOCL Expansion Plans

S. No	Pipelines	Length (km)	Capacity (MMSCMD)
1	Ennore-Tuticorin-Bengaluru R LNG Pipeline	360	1
2	Hazaribagh-Ranchi RLNG Pipeline	68	1
	Total	428	2

Source: Company Reports

GSPL is making investment through its JV GSPL India Gasnet Limited (GIGL) to implement 1,694 kms of gas pipeline in the states of Gujarat, Rajasthan, Punjab & Haryana.

According to PNGRB and Government of India disclosures, cumulative capital expenditure commitments by authorized CGD entities are substantial, with bids in the 11th round covering 61 GAs amounting to over ₹80,000 crore in proposed investments. PNGRB has further reported actual investments of approximately ₹14,500 crore during FY 2023–24 by operating entities, underscoring the sector's strong execution momentum. As reported by Economics times, CGD sector is expected to receive CAPEX of Rs 30,000 crore during FY25-FY27. Leading participants, including Adani Total Gas, Torrent Gas, and GAIL Gas, have announced multi-year expansion plans aligned with their awarded GAs, indicating continued capital deployment across infrastructure build-out, CNG station development, and pipeline expansion.

3.16 Government Investment Plans

The Indian government is making substantial investments in the natural gas sector, with a goal to increase the share of natural gas energy mix to 15% by 2030. This involves investments in infrastructure development, boosting domestic production, and promoting natural gas usage across various sectors. The government is ready to invest at least USD 67 billion in the next 5 to 6 years in the development of the domestic natural gas sector.

Infrastructure Development

The government is focused on expanding the natural gas pipeline network to improve gas availability throughout India. As per the official data from PNGRB, India had 25,923 km of operational natural gas pipeline and an additional 9,954 km under construction as of September 2025. The regulator has authorized a total network of around 34,238 km, targeting expansion to nearly 35,000 km by 2030 under the national gas grid plan. It is understood that GAIL is expanding its natural gas pipeline infrastructure on PAN India basis with pipeline projects worth ~Rs. 20,000 crores under various stages of completion. An investment of approximately USD 4.95 billion is expected from companies to build natural gas pipeline infrastructure in the northeastern states and the northern territories of Kashmir and Ladakh.

Boosting Domestic Production

The Indian government is focused on increasing domestic natural gas production to reduce import dependence and has implemented reforms to promote this goal. The Exploration and Production (E&P) sector is expected to offer

investment opportunities worth USD 100 billion by 2030. A total of 741 (132 exploratory and 609 development) wells were drilled in FY-24. Also, 7 new CBM blocks were added with an investment of USD 16.64 million, bringing the total to 15 blocks to boost the production. The government aims to boost CBM production to 5 MMSCMD by FY-28. The natural gas production increased from 90 MMSCMD to 97 MMSCMD in FY-25 from FY-23, with a growth of ~3.5%. The government is also investing in acquiring new seismic data and upgrading the National Data Repository to a cloud-based system to promote scientific data-driven exploration.

Pricing Mechanism

Owing to recent domestic production the government of India has allowed a premium of 20% over the APM gas produced from new wells and well interventions of ONGC and OIL from their nomination fields. Additionally, from April 2026 the government has increased the domestic natural gas ceiling price by 25 cents to 7.00 USD/MMBTU. For the gas produced from discoveries in deepwater, ultradeep water and High-Pressure High Temperature areas, the price is 8.90 USD/MMBTU for 1st April 2026 to 30th September 2026 .

The government has managed to allocate domestic gas largely to CGD sector. In the Q3 of FY-25, 54.68% of the projected demand was allocated, in the Q1 of FY-26, the allocation is slightly higher at 55.68% and looking ahead to the Q2 of FY-26, the projected allocation is 54.74%. In essence, the trend in domestic gas allocation demonstrates the government's commitment to prioritizing public-facing segments, such as transport and domestic cooking, which is evident in the consistent allocation ratios over the quarters

Promoting Natural Gas Usage

The government intends to increase natural gas consumption to 297 MMSCMD by 2030 (in good to go scenario) as per PNGRB, a significant rise from the current 185 MMSCMD. Key initiatives to promote natural gas usage include:

- **City Gas Distribution (CGD) Networks Expansion:** The Petroleum and Natural Gas Regulatory Board (PNGRB) has authorized 307 Geographical Areas (GAs) for developing CGD infrastructure, covering a significant portion of the country's population. Till 2023, PNGRB has carried out 12 bidding rounds, authorising 307 GAs. An investment of Rs 120,000 crore is expected in CGD networks over the next 10 years.
- **Compressed Bio Gas (CBG) Promotion:** The Sustainable Alternative Towards Affordable Transportation (SATAT) initiative promotes the production and utilization of CBG. This includes financial support for pipeline infrastructure to inject CBG into the City Gas Distribution (CGD) network.
- **Mandatory CBG Blending:** The government has announced a phased mandatory selling of CBG in CNG and PNG segments of CGD networks, starting with 1% in FY -26 and increasing to 5% by FY -29. Think Gas has signed agreement with GAIL, Reliance Chemicals & Materials and Sandhu Group for sourcing CBG for its CGD network in the Jalandhar, Ludhiana and Kangra-Chamba GA. Indian Oil Adani Gas Private Limited has also signed an agreement with Reliance Bio Energy Limited and GAIL for CBG blending in the CGD network. Some of the advantages of CBG blending includes:
 - **Energy security and import reduction:** CBG can potentially substitute LNG and CNG in transport, reducing reliance on expensive imports, which can in-turn lead to less reliance on imported LNG
 - **Waste management and circular economy:** MSW and livestock manure contribute to methane emissions, a potent greenhouse gas. Bio Gas production converts organic waste into energy and bio-fertilisers, promoting waste-to-wealth solutions.
 - **Rural development and job creation:** Decentralized CBG plants create employment opportunities in feedstock collection, plant operation, and logistics.

3.17 Competitiveness of CNG

CNG (natural gas) typically has a gross calorific value (GCV) of approximately 50–56 MJ per kilogram, whereas petrol generally has a GCV in the range of 44–46 MJ per kilogram. This shows that, on a per-kilogram basis, CNG contains more chemical energy than petrol and LPG.

When evaluation is based on cost per unit of energy, this higher energy content per kg makes CNG economically attractive. Because fuel pricing for CNG is typically lower than petrol in many markets, the cost for delivering a given amount of energy (in MJ) using CNG tends to be lower than the same using petrol.

As a result, CNG often proves to be a more cost-efficient fuel compared to petrol, especially in transportation — a critical factor in petrol/LPG-versus-CNG decisions in price-sensitive regions. The combination of higher per-kg energy content and lower fuel price per unit energy underpins the competitiveness of CNG, making it a preferred alternative over petrol for many consumers and fleet operators.

Table 64: Gross Calorific Value Comparison

Fuel	Gross Calorific Value (MJ/kg)
CNG	50-56
LPG	46-51
Petrol	45-46
Diesel	44-45

Source: PPAC

3.18 Managing Profitability and Growth Without Domestic Gas

Short-term measures

- **Imported LNG:** Increase the share of imported Liquefied Natural Gas (LNG) in the gas mix to meet the demand-supply gap. This can be done by signing long-term contracts with reliable suppliers or through spot purchases.
- **Spot market purchases:** Leverage the spot market to purchase gas at competitive prices, which can help optimize costs and improve profitability.
- **Gas swapping and trading:** Engage in gas swapping and trading to optimize the use of available gas and reduce transportation costs.

Long-term measures

- **Diversify gas sources:** Explore alternative gas sources, such as shale gas, coal bed methane (CBM), and underground coal gasification (UCG), to reduce dependence on APM gas.
- **Invest in gas infrastructure:** Develop and expand gas infrastructure, including pipelines, LNG terminals, and city gas distribution networks, to increase the efficiency and accessibility of gas supplies.
- **Promote gas-based industries:** Encourage the growth of gas-based industries, such as fertilizers, power, and petrochemicals, to increase gas demand and create new revenue streams.
- **Improve operational efficiency:** Implement cost-saving measures, such as process optimization and energy efficiency improvements, to reduce operational expenses and enhance profitability.

Basis for the ideal gas mix

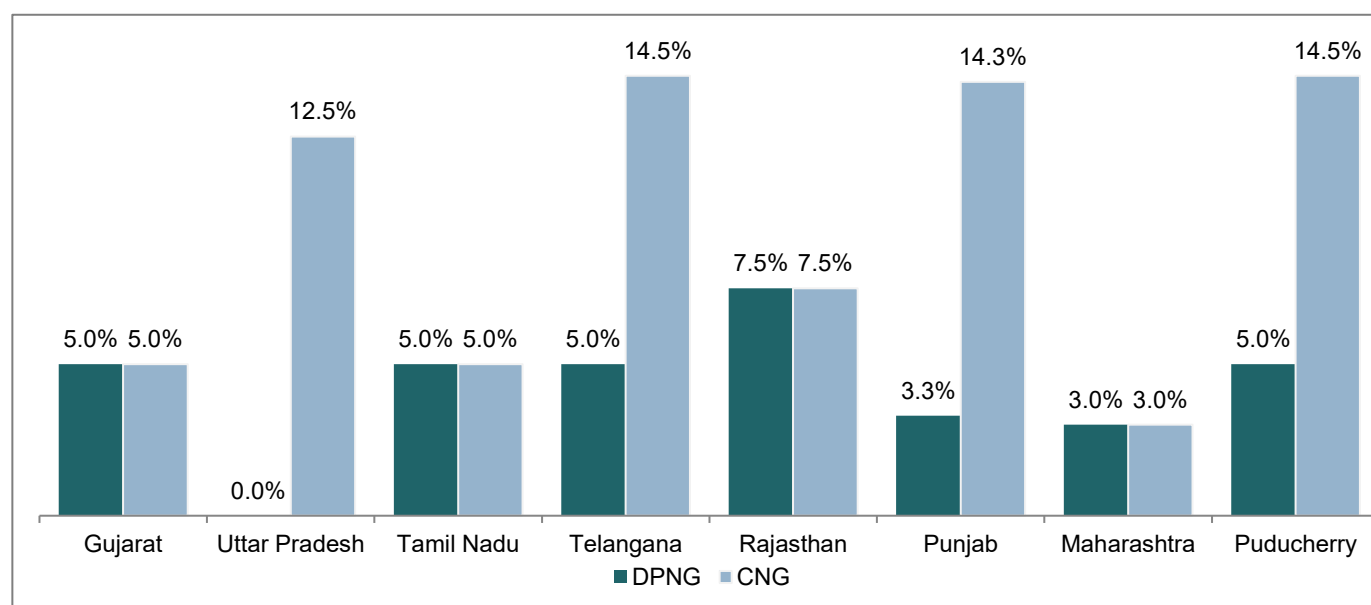
- **Energy demand:** Meeting the growing energy demand in various sectors, such as power, fertilizers, and transportation.

- **Gas availability:** Assessing the availability of domestic gas, imported LNG, and other gas sources.
- **Economic viability:** Ensuring the gas mix is economically viable and competitive with other energy sources.
- **Environmental considerations:** Minimizing the environmental impact of gas production, transportation, and consumption.
- **Geopolitical factors:** Considering the geopolitical implications of relying on imported gas and diversifying gas sources to reduce dependence on a single region or supplier.

3.19 VAT Rates

In India, natural gas is subject to Value Added Tax (VAT), which is levied by individual states, with standard rates typically ranging between 5% to 15%. The reduction of VAT rates on natural gas in India is a strategic initiative aimed at promoting the use of cleaner energy sources and making natural gas more affordable for consumers. The primary goal of reducing these VAT rates is to encourage the adoption of natural gas as a cleaner alternative to traditional fossil fuels like coal and oil, thereby contributing to reduced environmental pollution and greenhouse gas emissions.

Figure 73: VAT Rates in States for CNG and D-PNG, percentages, as of May 2026



Source: PNGRB, Crisil Intelligence

3.19.1 Potential Impact of Inclusion of Natural Gas under GST

The potential inclusion of natural gas under the GST regime has emerged as a key policy reform with broad implications for the industrial sector and infrastructure companies. At present, natural gas is outside the GST framework and is subject to state-level value-added taxes (VATs) and central excise duties, resulting in a fragmented tax regime and cascading tax burdens. With GST inclusion, gas consumers – particularly large-volume industrial users served by CGD networks – would benefit from lower effective tax incidence, improved input tax credit benefits and more uniform pricing across states. Industry commentary suggests that this reform could boost industrial offtake of PNG as a fuel, helping accelerate substitution of higher-cost fuels and supporting demand growth for CGD companies. For the CGD business, the reform would reduce delivered cost of gas to industrial and commercial consumers, enhance competitiveness of gas as a feedstock/fuel and thereby support higher utilization of the distribution network — although the actual outcome will depend on the final GST rate applied, transitional arrangements and state-level revenue compensation mechanisms.

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3.19.2 VAT Reduction on APM gas in Gujarat

The Government of Gujarat has revised the tax structure on inter-state sales of natural gas by replacing the earlier 15% VAT with a significantly lower 2% CST on gas sold outside the state. This change directly reduces the effective procurement cost of APM for CGD entities sourcing volumes from Gujarat for supply into their authorized GAs in other states. The benefit is most pronounced for CGD networks with high dependence on Gujarat-sourced gas, particularly those operating in neighboring or western regions where pipeline connectivity naturally channels supply from Gujarat's gas hubs. Lower input taxation results in a reduced delivered gas cost, materially improving the cost structure for CNG and PNG-Domestic segments, thereby strengthening per-unit margins, enhancing competitiveness against alternate fuels.

4 City Gas Distribution

City gas distribution (CGD) refers to the comprehensive infrastructure and systems established to supply natural gas to residential, commercial, and industrial consumers. This sector is a vital component of India's energy strategy, aimed at promoting cleaner fuels and reducing reliance on traditional fossil fuels such as coal and oil. The infrastructure involved in CGD includes high-pressure pipelines for the transportation of natural gas and low-pressure pipelines for its distribution to end-users. This extensive network is designed to cater to different consumer segments. Residential consumers benefit from piped natural gas (PNG) connections for cooking and heating, while commercial establishments such as restaurants, hotels, and hospitals utilize natural gas for cooking, heating, and other applications. Additionally, industries leverage natural gas as a fuel for manufacturing processes, boilers, and various equipment, making it an essential resource for economic activities.

The regulatory framework governing CGD is overseen by the Petroleum and Natural Gas Regulatory Board (PNGRB), which is responsible for licensing and regulating the operation of CGD networks. The Indian government has introduced various policies to encourage the expansion of these networks, including the allocation of natural gas and the establishment of pricing mechanisms that facilitate access to this cleaner energy source.

4.1 Summary of Key Regulations in the CGD Sector

Table 65: Summary of Key Regulations in the CGD Sector

Year	Regulation	Key Reform
2025	Inclusion of MDPE in Steel IK MWP Calculation	PNGRB amended its CGD Authorization Regulations in September 2025 to modernize bidding and compliance rules. It now counts both steel and MDPE pipelines in infrastructure metrics for MWP, ensuring fair evaluation of network development.
2025	Single Zone for CNG(T) & PNG(D) under Unified Tariff Zone	Simplified India's natural gas tariff framework by reducing unified tariff zones from three to two and extended the lower Zone 1 tariff to all CNG and domestic PNG users nationwide. To support infrastructure growth, a Pipeline Development Reserve now directs half of excess earnings (from pipelines operating above 75% capacity) into expansion, with the remainder benefiting consumers via tariff reductions. Additionally, pipeline operators must now source at least 75% of system-use gas through long-term (minimum three-year) contracts to ensure supply stability and more predictable pricing
2025	Tariff Notification for Single Zone for CNG(T) & PNG(D) under Unified Tariff Zone	Simplifies natural gas transportation tariffs by reducing zones from three to two and setting uniform rates of Rs. 54.00/MMBTU (≤ 300 km) and Rs. 102.86/MMBTU (> 300 km), effective January 1, 2026. CNG and domestic PNG consumers nationwide will now pay the lower Zone-1 rate yielding nearly a 50 % reduction for those beyond 300 km. This reform advances "One Nation, One Grid, One Tariff," tackles regional cost disparities, and promotes broader access to cleaner fuels
2025	CBG pipelines under DPI to be considered for MWP.	Mandates CGD entities to blend Compressed Bio Gas (CBG) with CNG and PNG starting FY 2025–26, with targets rising annually to 5% by FY 2028–29. It outlines compliance monitoring through a Central Repository Body and penalties for non-adherence.
2025	Prioritized allocation of NWG gas for DPNG & CNG	Revised domestic gas allocation policy to ensure affordable supply for CNG (transport) and PNG (domestic) users. It introduces advance quarterly allocations and includes New Well Gas from ONGC and OIL for CGD entities on a pro-rata basis instead of auctions. Gas pricing is linked to the Indian Crude Basket to maintain stability and lower costs for consumers.

2024	Flexibility to develop CGS outside city boundaries	Under PNGRB's T4S regulations, a City Gate Station can be located outside the authorized GA with prior PNGRB approval, and its connecting pipeline will be treated as part of the CGD network.
2024	Prioritized allocation of HPHT gas for DPNG & CNG	Prioritizes allocation of ceiling-priced domestic gas (including HPHT) on the Indian Gas Exchange, giving first preference to CNG (transport) and PNG (domestic) under CGD, followed by fertilizer and LPG sectors. Allocation is done on a pro-rata basis among eligible entities to ensure fairness. It aims to maintain supply for priority sectors while optimizing gas distribution
2023	Notification of 3 Zones for Unified Tariff Zone	On 1 April 2023, The PNGRB has amended its pipeline tariff regulations to implement a unified, levelized tariff under the "One Nation, One Grid, One Tariff" initiative. Effective April 1, 2023, the reform introduces three zonal brackets; up to 300 km (Zone-1), 300-1,200 km (Zone-2), and beyond 1,200 km (Zone-3) applicable across all interconnected pipeline networks operated by major entities such as IOCL, ONGC, GAIL, GSPL and others.
2023	Announcement for mandatory blending of Compressed Bio Gas in CNG (Transport) & PNG (Domestic) segments of CGD Sector	Ministry of Petroleum & Natural Gas has introduced a phased Compressed Bio Gas (CBG) blending obligation in CNG and domestic PNG, starting voluntarily in FY 2024-25 and becoming mandatory at 1% in FY25-26, 3% in FY26-27, 4% in FY27-28 and eventually 5% from FY 28-29.
2022	Recalibration of APM Mechanism under Kirit Parikh Committee	The Kirit Parikh Committee, in its report submitted on 30 November 2022, recommended a market-linked pricing mechanism for domestic natural gas by introducing a fixed band for APM gas, pegged at 10% of India's crude basket with a floor of \$4/MMBtu and a ceiling of \$6.5/MMBtu, subject to annual increments. It also proposed a 20% premium for new well interventions, inclusion of natural gas under GST for uniform taxation, and reforms aimed at lowering CNG/PNG prices, reducing the subsidy burden, and incentivizing upstream investment to support India's transition to a gas-based economy.
2021	Aim to increase share of natural gas in energy mix to 15% by 2030	The press release dated 9 December 2021 from MoPNG; underscores India's commitment to a gas-based economy, aiming to raise natural gas's share in the energy mix to 15% by 2030. It highlights policy reforms such as prioritizing domestic gas for CNG and PNG segments and granting marketing and pricing freedom for gas from challenging fields, along with initiatives like SATAT to promote Bio-CNG.
2020	Suo-moto extension of exclusivity period during Covid-19 Pandemic	In lieu of the COVID-19 pandemic, PNGRB extended the exclusivity period and shifted the year wise MWP targets of cumulative work program for the GAs authorized to CGD entities on account of 'Force Majeure'. This extension was contingent on duration of lockdown imposed in the respective GA and the range of extension varied between 129 to 251 days across GAs
2020	Formation of ACE	Association of CGD Entity (ACE) has been formed on 30 December 2020, ACE drive the sustainable growth of the CGD sector through strong policy advocacy, ethical leadership, and industry collaboration. ACE work closely with regulators, ministries, and stakeholders to shape policies that promote natural gas as a preferred, eco-friendly energy source.
2018	GA Round	The 9th CGD Bidding Round was launched for 86 Geographical Areas across 174 districts, covering 24% of India's geographical area and 29% of its population. Notably, private sector entities secured nearly 60% of these GAs, signaling the aggressive entry of private companies into the CGD sector.
2017	Efficient land and ROU	Public Utility Status granted to CGD – Granting Public Utility Status to CGD projects empowers the sector to secure land and rights-of-way more efficiently, obtain quicker clearances, and achieve faster implementation, significantly reducing project delays and costs.

2017	PNG Adoption in PSE residential complexes	Public Sector Enterprises (PSEs) to have the provisions of PNG in their respective Residential complexes,
2017	Standardization of Infrastructure for ROU	Ministry of Housing and Urban Development has issued advisory dated 30.05.2017 to the State Governments on regarding (a) to standardize the Road Restoration/permission charges along with time bound permission in accordance with the local conditions, (b) earmarking of land plot for development of CNG Stations at the planning stage of town/city and same should be specified in the revised Master Plan, and (c) relevant modification in building by-laws for providing gas pipeline infrastructure in residential & commercial buildings at architectural design stage.
2014	Priority allocation to CNG(T) & PNG(D)	The Ministry of Petroleum and Natural Gas issued revised guidelines on 20 August 2014 for allocation and supply of domestic natural gas to CGD entities for CNG (transport) and PNG (domestic) segments. The guidelines prioritize these segments by allowing diversion of domestic gas from non-priority sectors to meet actual consumption needs, with allocations reviewed every six months based on consumption data.
2013	IMS for CGD	Introduction of an Integrity Management System to ensure a high-quality CGD network by assessing associated risks and implementing robust safety measures.
2012	Tariff Framework	Last-mile connectivity (LMC) cost recovery by removing upfront charges for domestic PNG connections, allowing refundable, interest-free security deposits for equipment and labor, and permitting recovery of actual material and labor costs beyond prescribed limits.
2010	Service Regulations	CGD entities to provide fair, transparent, and uninterrupted gas supply to consumers, maintain prescribed quality and pressure standards, ensure timely connections and complaint resolution, disclose tariffs and charges clearly, follow safety norms, and adhere to rules for disconnection and reconnection, with PNGRB monitoring compliance and imposing penalties for violations.
2008	Authorization Regulation	Board has right to Invite entities for Bidding for allocating Geographical Areas Bidding Based on financial Strength of the entity
2008	Exclusivity	Exclusive rights for CGD entities in their GA for 25 years, with initial 5-year carrier exemption and mandatory third-party access post-exclusivity.
2008	GA Round	The 1st bidding round, comprising 6 GAs, was announced by PNGRB and concluded with allocations to PSUs backed by State or Central Government.
2006	PNGRB Act & Board	The Petroleum and Natural Gas Regulatory Board (PNGRB) was constituted under The Petroleum and Natural Gas Regulatory Board Act, 2006, (NO. 19 OF 2006) notified via Gazette Notification dated 31st March 2006.
Pre 2006		Operations limited to metros Operated by PSUs or PSU JVs (e.g., IGL, MGL, GGL)

Source: PNGRB

4.2 Geographical Areas (GAs)

Geographical areas (GAs) covered by the network are typically defined as specific regions or cities where natural gas is supplied to consumers. These areas are designated by the Petroleum and Natural Gas Regulatory Board (PNGRB) during the licensing process for CGD companies. As of February 2025, PNGRB has authorized 307 GAs covering almost 100% of total geographical area of the country spread over around 733 districts in 34 states/UTs for the development of CGD network.

The development of CGD networks in India is a critical component of the country's strategy to enhance the use of natural gas as a cleaner and more sustainable energy source. Managed by PNGRB, the CGD network expansion is

facilitated through a series of bidding rounds that allocate GAs to various companies. These rounds, which have been ongoing since 2008, cover a diverse range of urban and rural areas across the nation, aiming to increase natural gas accessibility and promote its use in domestic, commercial, and industrial sectors. Each bidding round involves a competitive process where companies propose detailed plans for infrastructure development, pricing, and service quality, ultimately contributing to India's broader environmental and energy security objectives.

Table 66: CGD Bidding Rounds

S. No.	Bidding Round	Bidding Year	Population %	No. of GAs	Description
-	Pre-PNGRB	-	11.24	40	-
1	CGD BID-1	2008	0.33	6	The first bidding round (CGD BID-1) in 2008 saw the allocation of 6 GAs, followed by a slight increase to 7 GAs in 2009 (CGD BID-2) and 8 GAs in 2010 (CGD BID-3). After a three-year gap, CGD BID-4 in 2013 marked a more substantial allocation of 14 GAs.
2	CGD BID-2	2009	0.23	3	
3	CGD BID-3	2010	0.31	6	
4	CGD BID-4	2013	2.27	9	
5	CGD BID-5	2015	2.04	8	In 2015, two bidding rounds (CGD BID-5 and CGD BID-6) collectively allocated 54 GAs, which was more than the total allocations from 2008 to 2013.
6	CGD BID-6	2015	2.07	18	
7	CGD BID-7	2016	0.36	1	Two more bidding rounds (CGD BID-7 and CGD BID-8) took place, awarding 1 and 6 GAs in 2016, respectively. The most notable expansion came in 2018, with CGD BID-9 allocating a record 86 GAs. This was followed by CGD BID-10, which allocated 50 GAs, making 2018 the most significant year for CGD expansion.
8	CGD BID-8	2016	0.94	6	
9	CGD BID-9	2018	26.38	86	
10	CGD BID-10	2018	24.23	50	
11	CGD BID-11	2021	25.88	61	Another major bidding round occurred in 2021 (CGD BID-11), with 61 GAs awarded. Additionally, CGD BID-11A in 2021 allocated 6 GAs. By 2023, with CGD BID-12 awarding 6 GAs and CGD BID-12A allocating 1 GA.
12	CGD BID-11A	2021	2.00	6	
13	CGD BID-12	2023	-	6	
14	CGD BID-12A	2023	-	1	
Total			~98	307	

Source: PNGRB

4.3 Bucketing of Geographical Areas into Tier 1/2/3 cities

Table 67: Bucketing of GAs of Torrent Gas and other CGD Companies into Tier 1/2/3 cities

Entity	Tier 1	Tier 2	Tier 3	Total
Torrent Gas Limited	2	7	8	17
Indraprastha Gas Limited	2	7	3	12
Adani Total Gas Limited	1	7	28	36

Source: Crisil Analysis

Over the past decade, India's CGD footprint has expanded from ~40 pre-PNGRB areas to 307 authorized GAs today, creating a contiguous gas ecosystem where trunk pipelines, spur lines, and stations interlock to serve households, vehicles, and industries at scale. This transition is marked by a clear pivot from a public/JV stronghold to balanced private and OMC participation across PNGRB bidding rounds (Rounds 8 through 12).

The table shows where future scale is going to come from in the CGD business. Companies such as Torrent Gas, Adani Total Gas, and Gujarat Gas are heavily skewed toward Tier 2 and Tier 3 cities, where the next decade of demand growth will materialize. The Tier 1 market is saturated, with limited room for significant new connections. In contrast, Tier 2 and 3 clusters are underserved but rapidly urbanizing, shifting to cleaner fuels, and expanding

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industrial and commercial activity. That's why companies with a larger footprint in these lower-tier GAs are holding stronger long-term growth options despite handling operationally tougher markets today. The recent bidding rounds are more strategically focussed on Tier 2 and Tier 3 cities with presence of private companies like Torrent Gas, Adani Total Gas in these GAs and that aligns directly with the government's strategy to push natural gas penetration deeper into emerging urban centres.

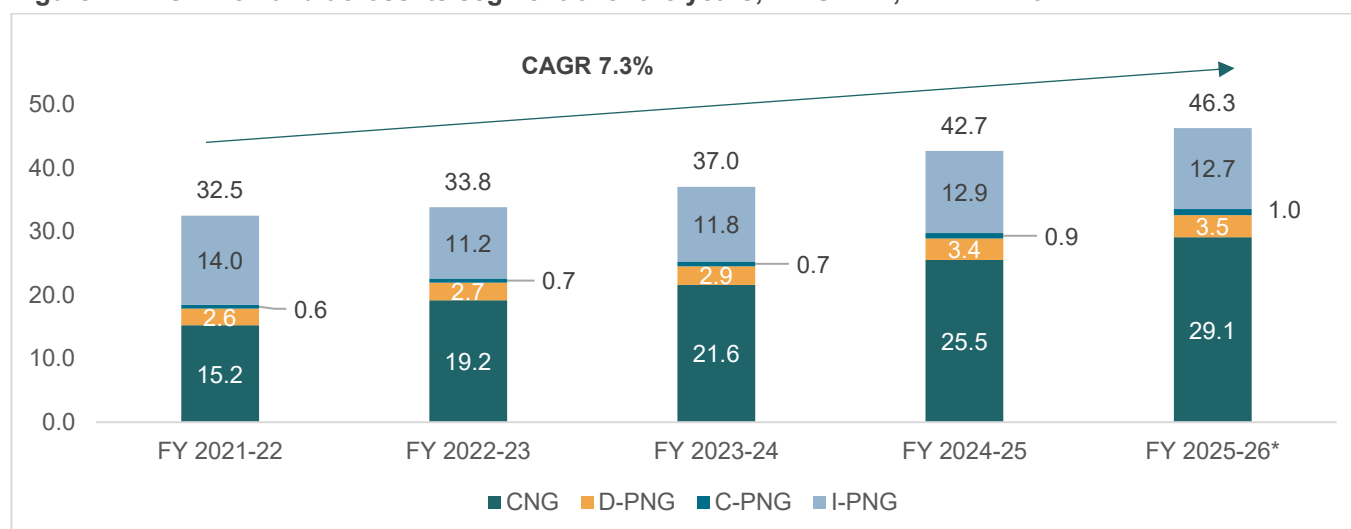
Table 68: Percentage split of GAs between public and private entities across rounds

Entity	Pre PNGRB	Till Round 8	Till Round 12	Remarks
Public	90%	66%	54%	Pre PNGRB - Gail & its Subsidiaries Till Round 8 - GAIL, GGL, IGL, MGL & Oth. PSU Till Round 12 – Same as till Round 8 & OMCs
Pvt	10%	34%	46%	

Source: PNGRB

4.4 CGD Historical Demand Analysis

Figure 74: CGD Demand across its segment over the years, MMSCMD, FY22-FY26



Note: * Data for FY26 is pro-rated using Apr-Dec data published in PPAC Ready Reckoner Vol - I

Source: PPAC, Crisil Analysis

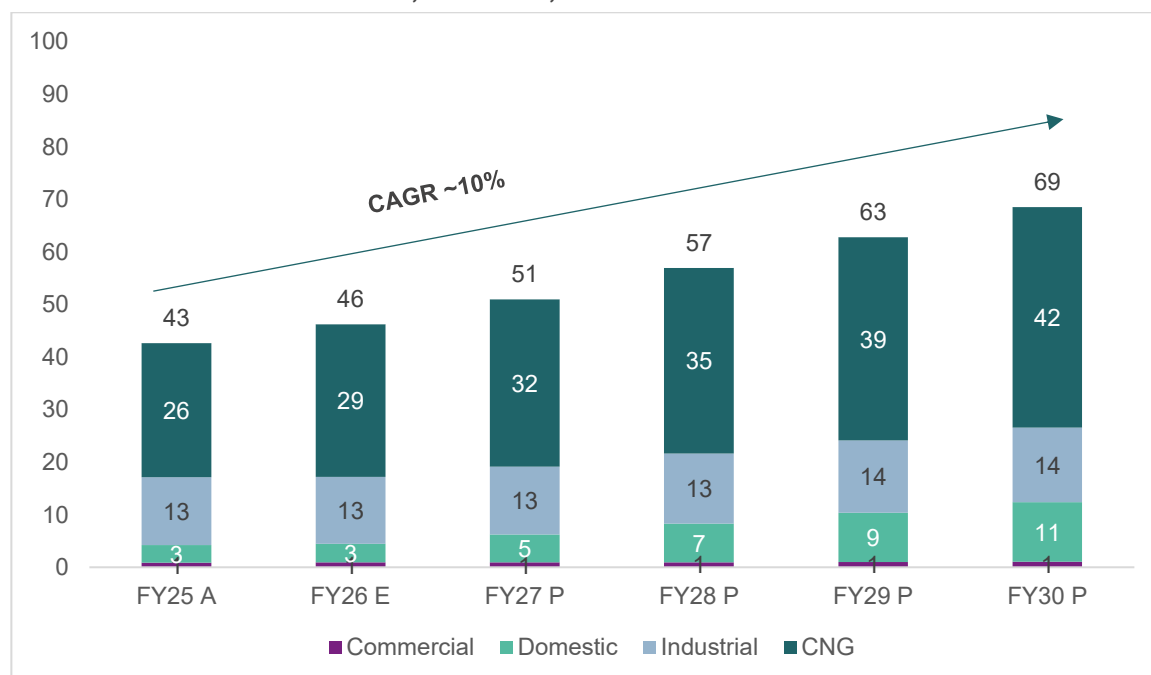
Within the CGD segment, CNG is the single largest demand segment, followed by industrial PNG (IPNG), with domestic PNG and commercial PNG contributing smaller but steadily growing shares. Anchored by running-cost economics versus petrol and diesel, increasing OEM adoption of factory-fitted CNG vehicles and accelerated rollout of CNG stations, CNG accounts for the highest offtake within CGD with ~60% consumption and is expected to remain the primary volume driver over the medium-long term. I-PNG is the second-largest contributor with ~30% consumption, driven by fuel-switching in energy-intensive units (such as small and medium industrial clusters) seeking cleaner and often cost-competitive alternatives to furnace oil and other liquid fuels.

Domestic PNG, while lower on a volume basis due to modest per-connection consumption, delivers stable demand and underpins network expansion across newly authorised GAs. The number of D-PNG connections have increased 5.8 times since FY 14. Further, to grow minimum 9.5 times to achieve MWP number and hence the demand is likely to grow steadily from the D-PNG segment. Commercial PNG (hotels, restaurants, hospitals, institutions, organised kitchens) remains the smallest but a high-yield segment.

Furthermore, over successive PNGRB bidding rounds, the ownership profile of India's CGD sector has progressively shifted from a predominantly public-sector-led model to a more balanced participation between public entities, OMCs, and private companies. While public sector undertakings accounted for nearly 90% of authorised GAs in the pre-PNGRB phase, their share declined to ~66% by Round 8 and further to ~54% by Round 12, reflecting increasing traction from private and OMC-backed entities. This trend has been particularly pronounced in the recent bidding rounds (Rounds 8–12), which have attracted committed private capital alongside OMC participation, underpinned by large-scale capex commitments, improved regulatory clarity, and the emergence of contiguous, scalable GAs.

4.5 CGD Outlook till FY30

Table 69: CGD Outlook till FY30, MMSCMD, FY25-FY30



Note: Data for FY26 is pro-rated using Apr-Dec data published in PPAC Ready Reckoner Vol - I

Source: Crisil Analysis

India's CGD consumption is projected to grow at a strong pace over FY25–FY30, increasing from ~43 MMSCMD in FY25 to ~69 MMSCMD by FY30, implying a CAGR of ~10%. The growth is expected to be driven primarily by CNG demand, supported by continued expansion of CNG stations, higher penetration of gas in the transport segment and policy-led adoption of cleaner fuels. Industrial and domestic PNG consumption is also projected to increase steadily, reflecting rising connectivity across authorized GAs and gradual fuel substitution, while commercial demand remains a relatively smaller contributor.

4.6 Natural Gas Demand Scenario; GtG and GtB scenarios by PNGRB

Table 70: Natural Gas Demand Scenario; GtG & GtB scenarios as per PNGRB

Sector	Sector Consumption (MMSCMD) 2024	2030		2040	
		Good to Go	Good to Best	Good to Go	Good to Best
CGD	36.9	87.1	126.1	216.4	270.8
Power	25.2	35.7	40	43.5	52.8
Refinery	22	43.4	50.9	52.4	57.8

Fertilizer	58	65.3	69.3	72.9	80.5
Steel	3.2	4.3	5.1	6.4	9.3
LNG Transport	0	3.9	6.6	26.3	65.7
Others (Tea plantation, Industries, LPG Shrinkage)	42	57.3	66.6	76.9	93.3
Total	187	297	365	495	630

Source: PNGRB, Crisil Intelligence

According to PNGRB's Natural Gas Projections – 2030 and 2040, India's overall natural gas demand is projected to expand steadily under both the Good-to-Go (GtG) and Gas-to-Best (GtB) scenarios, reflecting the nation's transition toward cleaner energy. The GtG case assumes moderate infrastructure and policy acceleration, while GtB represents a more aggressive energy-transition pathway with deeper gas penetration across sectors.

As per PNGRBs, Good to Go (GtG) and Good to Best (GtB) scenarios, CGD segment will emerge as the primary growth driver of demand. CGD consumption is projected to increase from about 45 MMSCMD in FY26 to ~87 MMSCMD under GtG (CAGR ~17.75%) and ~126 MMSCMD under GtB (CAGR ~29.18%) by 2030, supported by large-scale CNG and PNG network expansion, fuel-switching mandates in urban and industrial clusters, and growing adoption in the transport and residential sectors. By 2040, PNGRB expects CGD demand to rise further to ~216 MMSCMD (GtG) (CAGR ~11.81%) and ~271 MMSCMD (GtB) (CAGR ~13.64%), accounting for a rising share of total national gas consumption. The incremental demand is expected to be met through a combination of domestic production and LNG imports, with LNG accounting for a progressively larger share of supply to bridge the structural gap between demand growth and limited domestic output. While domestic gas availability is projected to grow gradually over the period, its contribution remains relatively stable, resulting in increasing dependence on LNG imports to support consumption growth.

PNGRB's analysis underscores that CGD will continue to anchor India's gas-market expansion, driven by infrastructure build-out, regulatory support, and rising consumer adoption—positioning natural gas as a key bridge fuel under both GtG and GtB pathways.

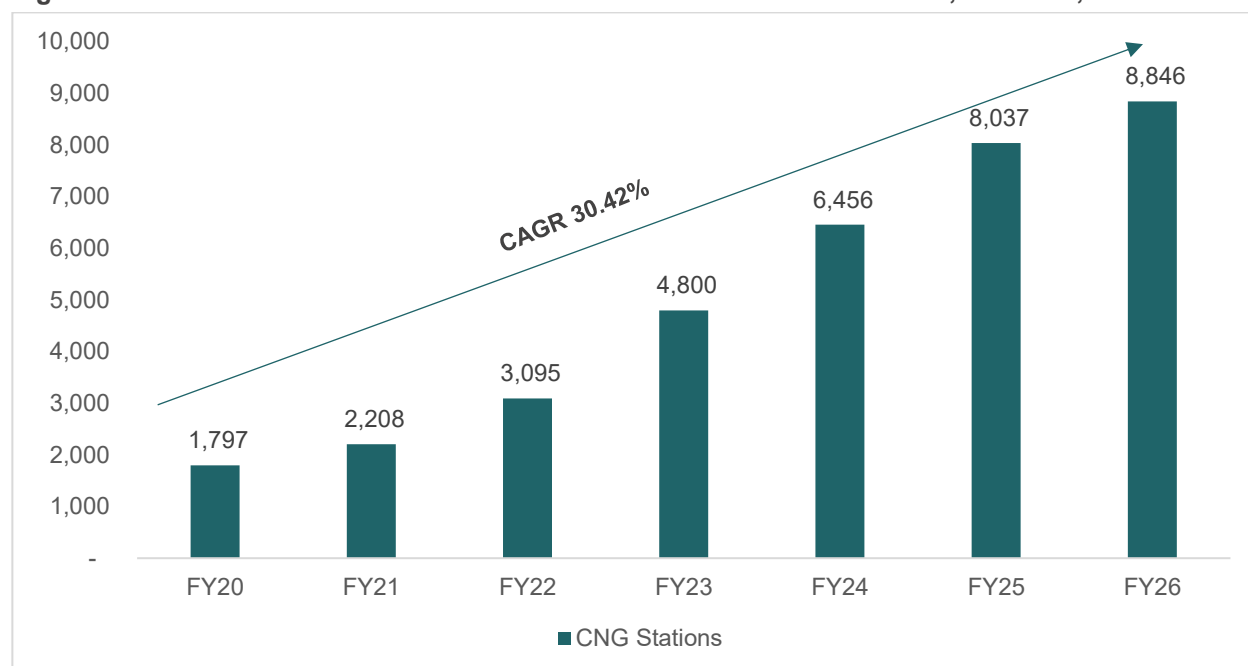
4.7 CNG Growth Drivers

India's CNG segment has emerged as a high-growth pillar within the natural-gas value chain, driven by a combination of infrastructure expansion, favourable policy support, strong urban clean-air imperatives, and clear cost advantages for transport users. Over the past five years, the segment has expanded well beyond traditional metro markets into Tier-2 and Tier-3 cities, supported by a structural shift toward cleaner mobility and rapid CGD network penetration. In 2017, the number of CNG vehicles sold in India stood at 361,000. In 2024, the same number shot past one million growing at a CAGR of ~17%. The growth in sales of new CNG vehicles is complemented by the expansion in CNG infrastructure. The number of CNG stations in India has been consistently increasing, driven by government initiatives and private sector investments aimed at promoting cleaner fuels, at ~26% CAGR from FY 2017 to FY 2025.

CNG growth can be attributed to the following factors:

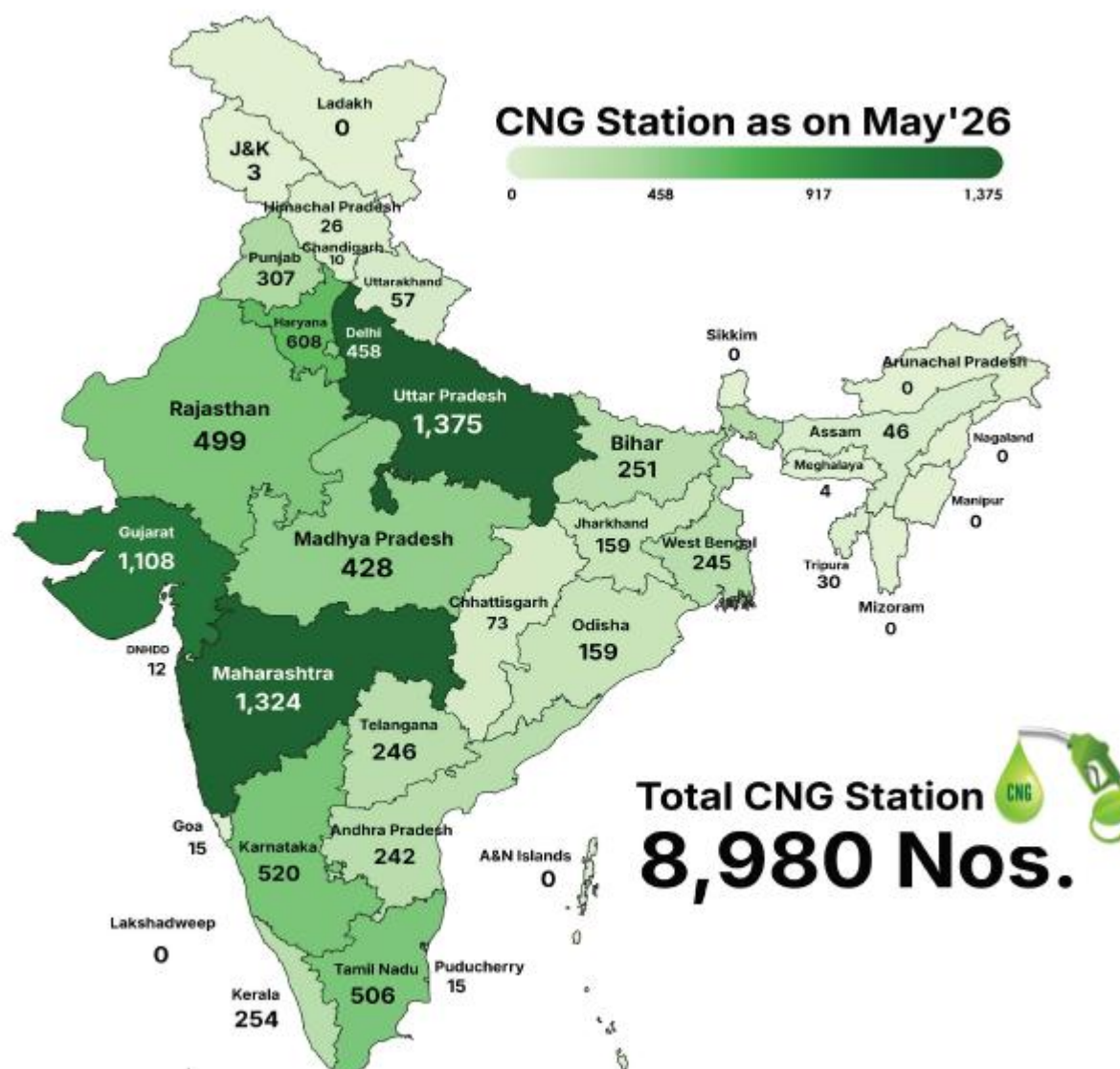
- 1. Rapid nationwide expansion of CNG infrastructure:** Supported by PNGRB's bidding rounds, the number of CNG stations increased from ~1,500 in 2018 to 8,000+ by 2025, with authorised CGD networks now covering ~95% of India's population across 307 GAs. This unprecedented scale-up has significantly reduced fuel-availability barriers, enabling deeper penetration of CNG vehicles in both metro and non-metro markets. Furthermore, PNGRB is working with the states to expand India's CGD infrastructure, targeting 126.3 million PNG connections and 18,336 CNG stations by 2034.

Figure 75: Year-wise number of CNG stations in India on cumulative basis, numbers, FY20-FY26



Source: PNGRB, Crisil Analysis

Figure 76: CNG Station Map India, as of May 2026



Source: PNGRB

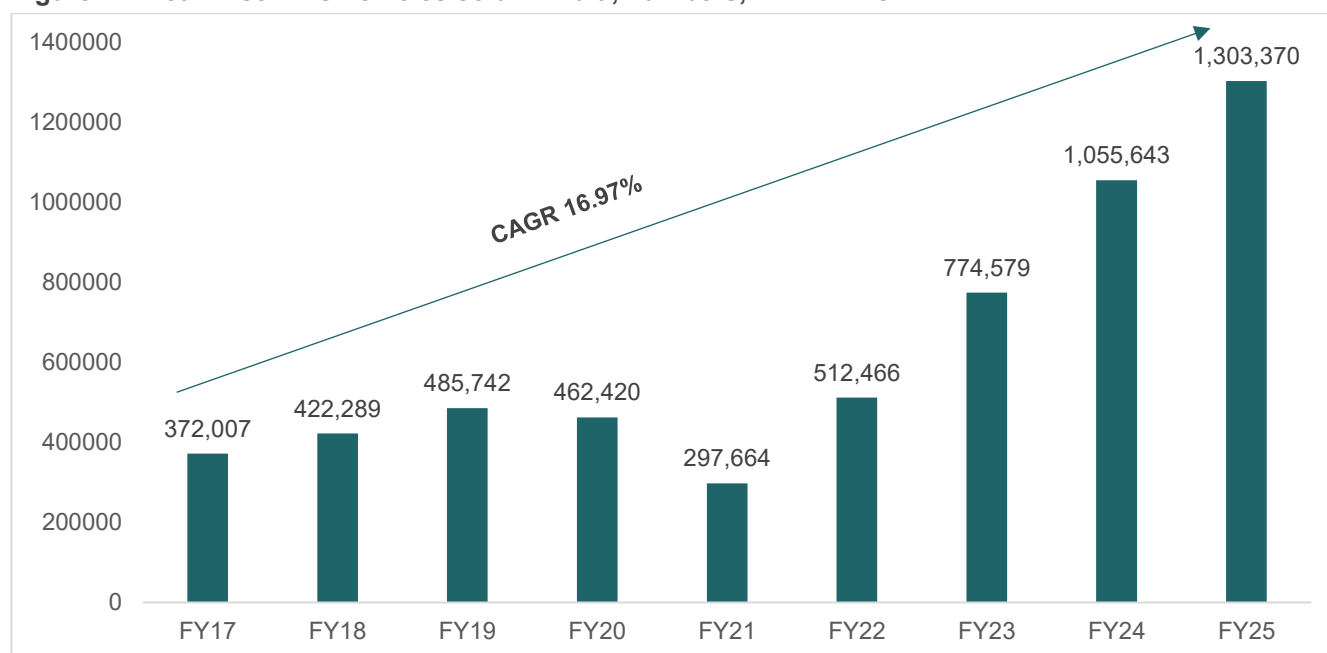
- 2. Strong economic advantage vs petrol and diesel:** CNG is generally cheaper than gasoline and diesel, leading to lower operating costs for vehicle owners, particularly those with high daily mileage, such as taxis, buses, and delivery vehicles. CNG continues to offer substantial operating-cost savings, with typical running costs of ₹3–4/km, compared with ₹5.5–6/km for petrol and ₹4.4.5/km for diesel vehicles depending on segment and driving cycle. Further, the cost savings from using CNG can offset the initial investment in CNG compatible vehicles or conversion kits over time, resulting in significant long-term financial benefits.
- 3. Lower emissions:** CNG combustion produces fewer pollutants compared to liquid fuels such as petrol and diesel, including lower levels of carbon dioxide (CO₂), carbon monoxide (CO), nitrogen oxides (NO_x), and particulate matter (PM). Since CNG is a low-carbon fuel, its use helps in reducing

greenhouse gas emissions. This contributes to improved air quality, especially in urban areas. CNG produces ~25% lower CO₂ emissions than liquid fuels.

National programmes such as NCAP and directives issued by CAQM in regions like Delhi-NCR are pushing fleets toward cleaner alternatives, with multiple cities restricting high-emission fuels in public transport, municipal fleets and last-mile logistics. The demonstrated reduction in PM and SO₂ emissions from CNG usage strengthens policy preference, driving accelerated adoption in pollution-sensitive urban clusters

4. **Increased vehicle adoption:** The number of CNG vehicles in India has been steadily increasing, with many automakers offering CNG variants of popular models. Since CNG provides better mileage and is generally cheaper than alternate fuels, many consumers are buying CNG vehicles or retrofitting CNG kits in their existing petrol vehicles. Further, the commercial vehicle segment, particularly buses and taxis, has seen significant CNG adoption due to cost savings and environmental regulations.

Figure 77: Year wise CNG vehicles sold in India, numbers, FY17-FY25



Note: Data is inclusive of CNG and CNG+Petrol Hybrid Vehicles

Source: Vahan Dashboard, Crisil Analysis

4.7.1 OEM focus-increase in CNG Variants

The passenger CNG vehicle market has transitioned from a niche, single-OEM play to a broad-based, multi-OEM growth segment, driven primarily by strong fuel economics, with CNG offering nearly 35–45% lower running costs versus petrol. This sustained cost advantage, coupled with increasingly stringent emission norms, has prompted OEMs such as Maruti Suzuki, Hyundai and Tata to expand their CNG portfolios, while Toyota, Renault, Nissan, Kia and Bajaj have recently entered the space with incremental model launches. The introduction of newer premium offerings—most recently highlighted by the launch of the Maruti Suzuki Victoris SUV in a factory-fitted CNG variant—demonstrates a shift from CNG being limited to compact and entry-level cars to adoption in higher-value vehicle categories. With over 30 CNG models in the passenger vehicle segment in 2026 and widening OEM participation, the segment reflects strengthening supply-side conviction and growing consumer acceptance of CNG as a mainstream, affordable and cleaner mobility alternative in India's passenger vehicle market.

Table 71: Passenger Vehicles CNG Variants by OEMs over the years, numbers, 2010-2026

OEM Make	2010-2019	2020	2022	2023	2024	2025	2026
Hyundai	0	2	2	3	3	3	3
Maruti Suzuki	5	7	10	12	13	14	14
Tata	0	0	2	4	5	5	5
Toyota	0	0	1	3	4	4	4
Renault	0	0	0	0	0	2	2
Nissan	0	0	0	0	0	1	2
Kia	0	0	0	0	0	1	1
Bajaj*	0	0	0	0	0	1	1
Total	5	9	15	22	25	31	32
Y-O-Y Growth	-	80%	66.67%	46.67%	13.63%	24%	3.2%

*Bajaj has recently launched a factory fitted CNG Motorcycle - Freedom 125

Table 72: OEM wise commercial vehicle CNG offerings, numbers, FY23-FY26

OEM	FY23	FY24	FY25	FY26
	CV	CV	CV	CV
Maruti Suzuki	2	2	2	2
Tata Motors	4	4	4	4
Mahindra	3	3	4	4
KIA	-	-	-	-
Ashok Leyland	4	4	4	5
SML Isuzu	2	2	2	2
Piaggio	2	2	2	2
Bajaj Auto	1	1	1	1
TVS Motor	1	1	1	1
Total	19	19	20	21
Y-O-Y Growth		0%	5%	5%

Source: Company Website, Crisil Analysis

Indian automotive market has witnessed a significant shift in the focus of Original Equipment Manufacturers (OEMs) towards CNG vehicles. Driven by the government's push for cleaner and more sustainable transportation solutions, as well as rising consumer awareness about environmental concerns, OEMs in India are increasingly investing in the development and production of CNG-powered vehicles. With the country aiming to reduce its dependence on fossil fuels and mitigate the impact of air pollution, CNG vehicles have emerged as a viable alternative to traditional petrol and diesel-powered vehicles. As a result, several major OEMs, including Maruti Suzuki, Hyundai, and Tata Motors, have launched CNG variants of their popular models, while also exploring new technologies and innovations to improve the efficiency and performance of CNG vehicles, thereby catering to the growing demand for eco-friendly and cost-effective mobility solutions in the Indian market.

Tata Motors

Tata Motors with its strategic focus on Twin Cylinder iCNG Technology across various models entered the CNG market with the Tiago hatchback and Tigor sedan in January 2022, has gone on to hugely benefit from the rollout of new CNG models like the Tata Punch CNG compact SUV. In February 2024, Tata Motors launched the Tiago and Tigor CNG AMT and Nexon iCNG which has added more product to its CNG portfolio. Recently, the company showcased Yodha CNG RMC, a unique versatile and ecofriendly vehicle for the infrastructure sector, at the Bharat

Mobility Expo in January 2024⁵ in FY25, the company outgrew the industry at 53%YOY growth, with over 130 thousand CNG vehicles sold

Table 73: Tata Motors CNG Vehicle Segment Performance

Metric	Detail
CNG Sales Growth (FY2025)	- 53% YoY growth in demand for CNG-powered cars in FY-25
Total CNG Units Sold (FY2025)	- 1.39 lakh CNG models sold, up from 91,000 units in FY-24
New Product Line Additions	- Added Nexon iCNG in 2024 - Launched Altroz iCNG with twin-cylinder technology - Showcased Yodha CNG RMC in Bharat Mobility Expo 2025
Strategic Focus	- Strategic focus on Twin-Cylinder iCNG Technology across models

Maruti Suzuki

Maruti Suzuki is one of the leading automobile manufacturers in India, and they offer a range of CNG vehicles. The company has been at the forefront of promoting eco-friendly and fuel-efficient vehicles, and their CNG models have been well-received by Indian consumers. The company offers 14 CNG variants across its portfolio of 18 models, including the Alto, WagonR, Eeco, Ertiga, S-Presso, and Celerio and is focussing on expansion of CNG product line-up. The company plans to invest INR 70,000 crore by FY-31 in ramping up its annual production capacity to 4 million units by FY-31, launching 8 new SUVs over the next 5 to 6 years, establishing 9 CBG plants in Gujarat by 2027 and to make the CNG and Bio Gas-powered models 35% of the total powertrain mix by FY-31. In FY-25, the sale of CNG cars reached to 619,890 units, with YOY growth of 28% and the target for FY 2025-26 is 700,000 units.

Table 74: Maruti Suzuki CNG Vehicle Segment Performance

Metric	Detail
CNG Sales Growth (FY2025)	- 28% YoY growth in demand for CNG-powered cars in FY-25
Total CNG Units Sold (FY2025)	- 6.19 lakh CNG models sold, up from 4.82 units in FY-24 - ~33% of the domestic sales came from CNG vehicles
New Product Line Additions	- Launched Victoris in September 2025
Strategic Focus	- CNG and Bio Gas-powered models to make up 35% of the total powertrain mix by FY-31

Bajaj Auto

Bajaj Auto has built a strong leadership position in the CNG three-wheeler segment, driven by its long-standing focus on fuel-efficient commercial mobility and a product portfolio that directly targets the needs of daily-use operators. The company has recently launched world's first CNG two-wheeler registering sale of 76,760 units till May 2025.

Table 75: Bajaj Auto Three-Wheeler Segment Performance

Metric	Detail
Three-Wheeler Market Share (FY-25)	- Dominant 67% share in domestic three-wheeler market (ICE & EV Three Wheelers)
India 3W Market Share (FY-25)	35.8% of the Indian 3-wheeler market.
Three-Wheeler Sales (FY-25)	- Sold 4,79,316 units of three wheelers

Ashok Leyland

Ashok Leyland is committed to developing a complete portfolio of commercial vehicles in the alternative fuel space (CNG, LNG, and Hydrogen). In FY-25, the company has expanded its portfolio by adding its first BOSS electric Intermediate Commercial Vehicle and CNG Vehicles such as EComet Star 11T CNG, AVTR 3522 & 2822 CNG, Oyster Vi CNG and Lynx Smart NA CNG. The company is optimistic about the M&HCV industry and confident of increasing its market share in both trucks and buses. The medium-term goal is to achieve a 35% market share in the MHCV segment.

Consulting

4.7.2 Total Cost of Ownership

According to a Crisil comparative assessment, CNG is expected to remain competitive vis-a-vis petrol/diesel even after reducing the spread with diesel and petrol¹. The vehicle category considered is hatchback/compact sports utility vehicles. On-road prices of four different car models across the alternate fuels have been considered². Please note that total cost of ownership (TCO) is a measure of ownership cost and ignores engine performance, vehicle range between refuelling, emissions, etc., all of which are also critical factors for the average automobile buyer.

Table 76: Comparative overview of TCO

Parameters	EV ³	Petrol	Diesel	CNG
On road price (Rs)	1,365,000	857,377	1,044,237	967,623
Cost of fuel (Rs / litre or Rs/ kg or Rs / kwh)	10	102.12	95.2	83.09
Fuel efficiency (km / unit fuel)	8.75	16	21	24
Cost per km	1.14	6.38	4.53	3.46
Life of vehicle (years)	10	10	10	10
Average distance per year (km)	17,500	17,500	17,500	17,500
Running cost	42,500	137,694	105,333	86,586
Maintenance cost / year	2,500	12,000	12,000	12,000
Salvage value after 8 years	273,000	128,607	156,636	145,143
TCO (Rs /km)	13.3	12.9	12.1	10.6
CNG total cost competitiveness %	25%	21%	14%	0%

**For Tata Nexon*

1. Present petrol diesel and CNG prices (prevailing price in the month of July 2026) for Delhi considered for calculation of TCO.

2. On road price (Delhi) is for base model of Tata Nexon in the respective category.

3. Fuel efficiency considered based on Maruti Suzuki WagonR Duo model. Battery replacement cost is taken as average of 30 – 40 Kwh based on various market estimates

Source: Crisil Intelligence

4.8 CNG vs EV

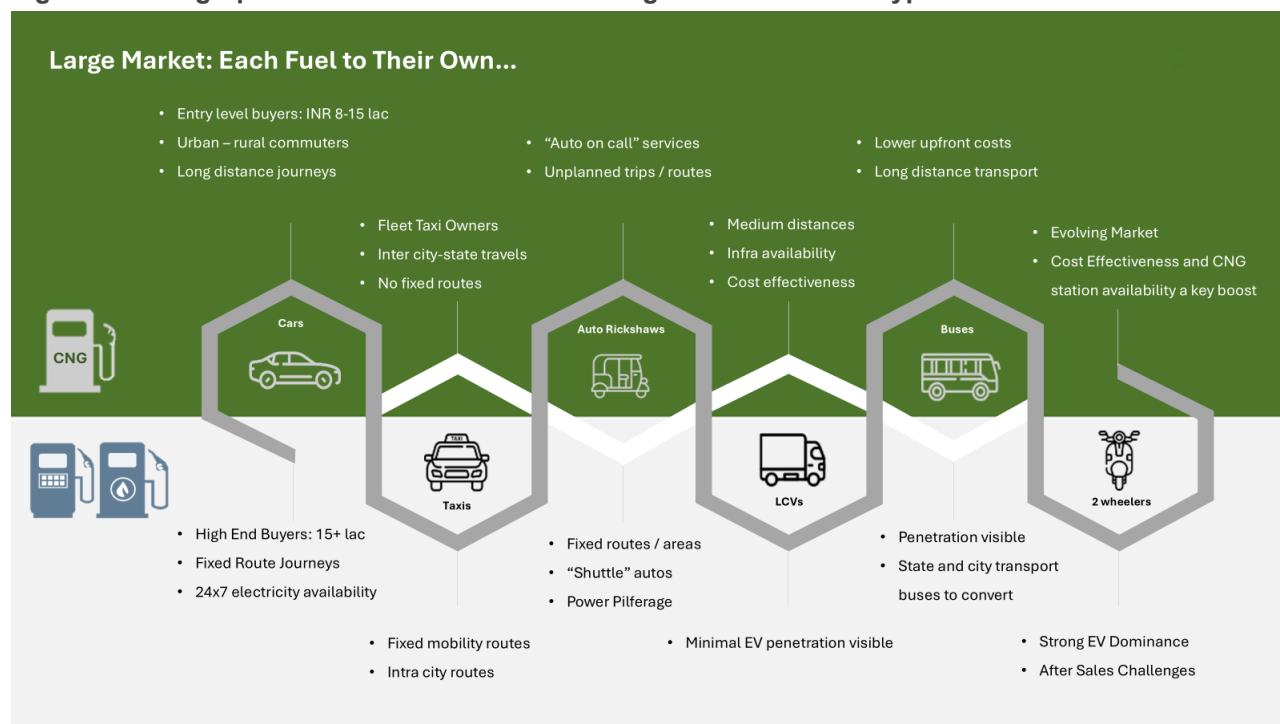
As India advances its transport decarbonisation agenda, multiple clean mobility pathways are being pursued in parallel, with compressed natural gas (CNG) and electric vehicles (EVs) emerging as key alternatives to conventional petrol and diesel. While EV adoption is gaining momentum, particularly in select private and urban segments, CNG continues to play a critical role as a scalable, cost-efficient, and operationally proven transition fuel, especially for commercial and high-utilisation vehicle categories.

- **Supply Chain Resilience:** CNG vehicles rely on domestically produced and imported natural gas, whereas EVs have a high dependence on imported lithium-ion batteries and critical minerals, with China controlling ~70–80% of global battery cell manufacturing and a significant share of lithium processing, creating supply chain concentration risks
- **Refuelling and operational uptime:** CNG vehicles typically require 3–5 minutes for refuelling, comparable to liquid fuels, while EV charging ranges from 30 minutes (fast chargers) to several hours, impacting vehicle utilisation, particularly for high-kilometre commercial fleets
- **Infrastructure readiness and scalability:** India has over 8,000 CNG stations operational with rapid nationwide expansion underway, while public EV charging infrastructure remains limited and unevenly distributed, particularly beyond Tier-1 cities

Segment economics support the coexistence of CNG and EVs, with each fuel structurally advantaged in distinct mobility use cases. CNG is well-suited to high-utilisation, variable-route and multi-distance segments such as cars (₹8–15 lakh entry buyers; urban–rural and long-distance travel), taxis (fleet operations; inter-city movement; on-call

services with unplanned routes), autorickshaws (medium-distance, high-frequency usage), LCVs/CVs (fixed routes, shuttle operations, lower pilferage risk), and buses (state and city transport conversions with visible penetration), where range flexibility, rapid refuelling and operating cost economics are critical. EV adoption, by contrast, is concentrated in predictable, fixed-route and intra-city applications—including high-end private vehicles (>₹15 lakh), last-mile 2W/3W, and captive fleets—where charging access, 24×7 power availability and controlled duty cycles are assured. As CNG station density expands beyond metros, CNG tractors and heavy commercial vehicles are emerging as incremental growth drivers, supported by OEM launches and favourable total cost of ownership versus diesel. While EVs are likely to dominate select micro-segments, CNG retains a durable advantage across mass, fleet and long-haul mobility, enabling both fuels to scale in parallel within India’s transport energy transition

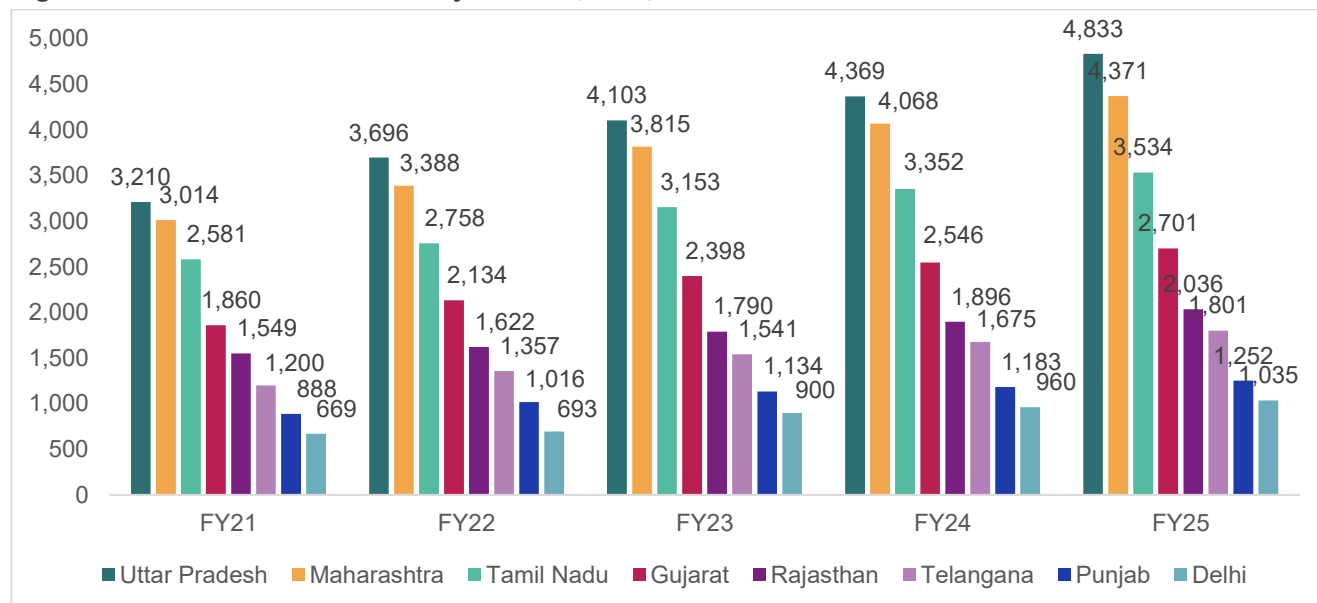
Figure 78: Infographic on CNG vs EV customer segment and vehicle types



Source: Crisil Intelligence

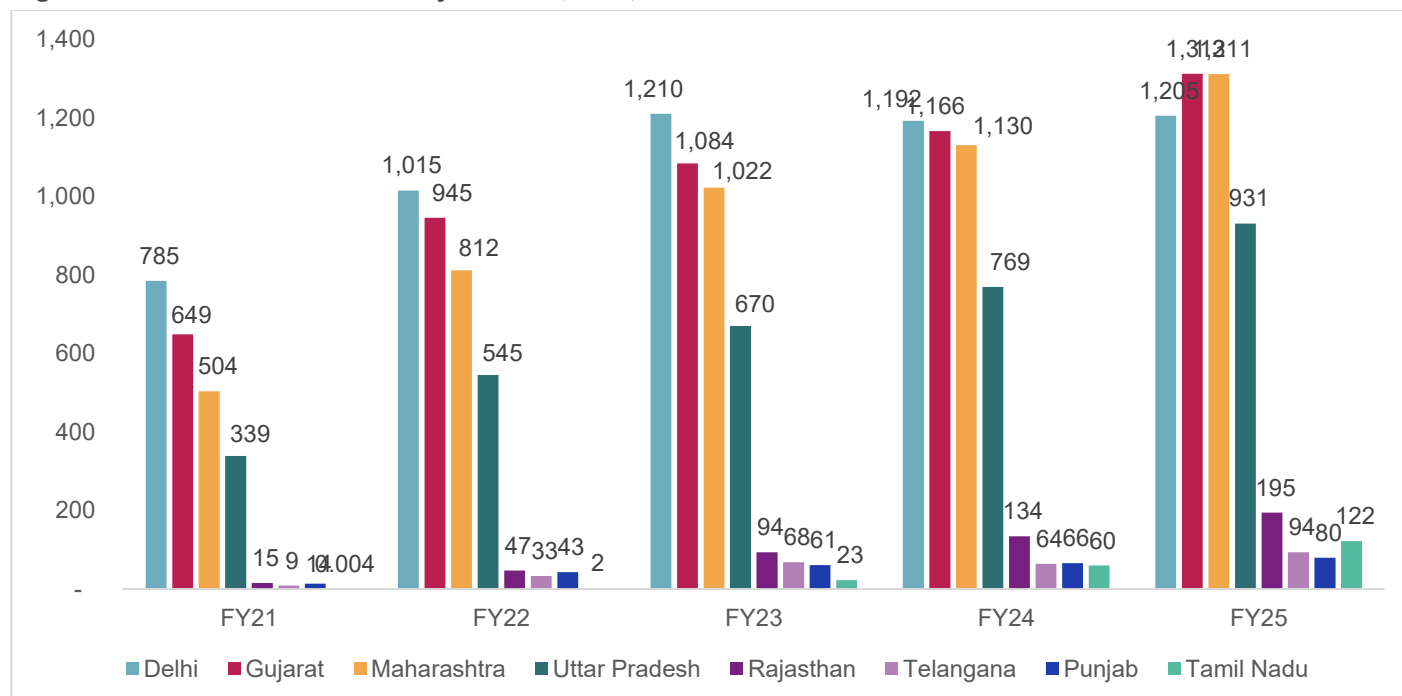
4.9 Petrol and CNG Sales growth

Figure 79: Petrol Sales Trend in Major States, TMT, FY22-FY25



Source: PPAC, Crisil Analysis

Figure 80: CNG Sales Trend in Major States, TMT, FY22-FY25



Source: PPAC, Crisil Analysis

4.9.1 Potential for CNG growth in low adoption states

Table 77: Petrol (MS) and CNG Sales Analysis for FY25, TMT

States	MS Sales FY25	CNG Sales FY25	CNG/MS Ratio
Delhi	1035	1205	116%
Gujarat	2701	1312	49%
Maharashtra	4371	1311	30%
Uttar Pradesh	4833	931	19%
Rajasthan	2036	195	10%
Punjab	1252	80	6%
Telangana	1801	94	5%
Tamil Nadu	3534	122	3%

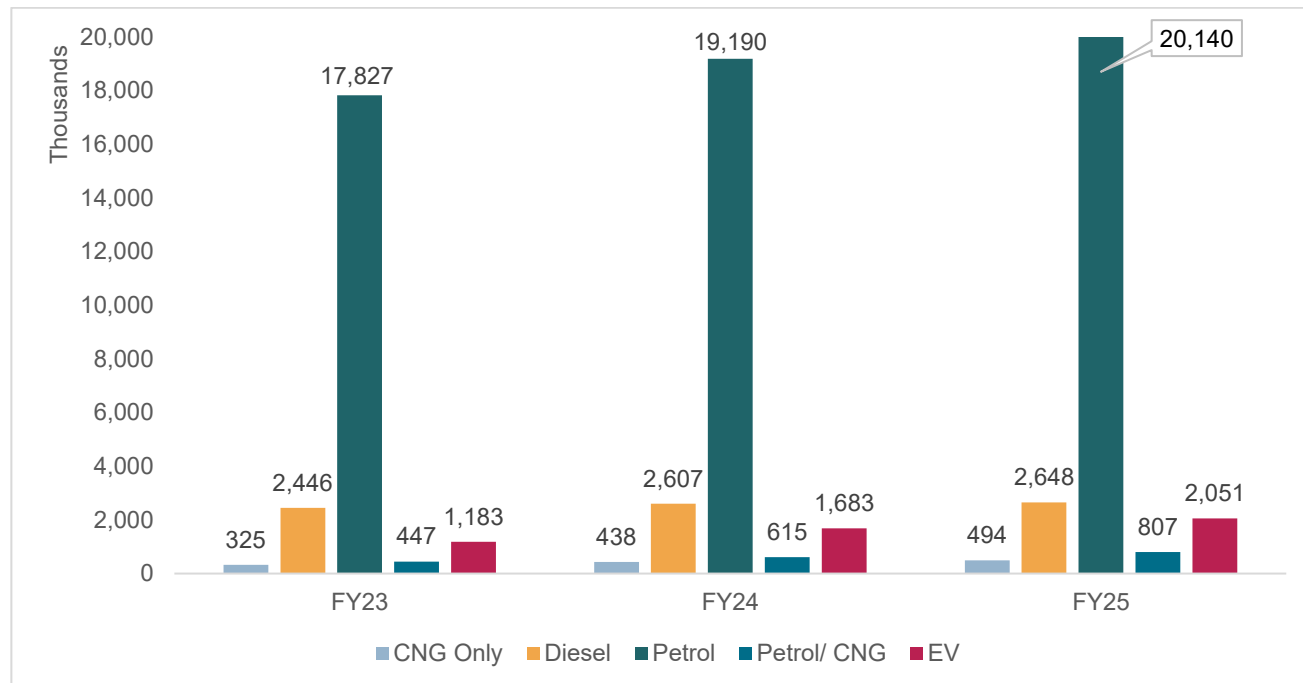
Source: PPAC, Crisil Analysis

CNG sales as compared to petrol varies significantly across states, reflecting differences in market penetration, and maturity of gas distribution networks. Markets like the National Capital Region, Gujarat and Maharashtra have historically benefited from stronger policy support for clean mobility, early rollout of CGD networks, and a high concentration of commercial fleets that readily switch to CNG. These states also have more established refueling infrastructure and greater consumer familiarity with the fuel, resulting in a naturally higher CNG share within the mobility segment.

In contrast, states like Rajasthan, Tamil Nadu, Uttar Pradesh with sizeable petrol consumption but comparatively modest CNG sales are not underperforming; rather, they are underpenetrated markets with substantial headroom for future growth. Their lower CNG-to-petrol sales ratios primarily reflect the later development of CGD networks, limited trunk pipeline connectivity resulting in uneven gas supply, limited station density outside major cities, and slower initial adoption among private vehicle users. State level measures – like Rajasthan’s draft CGD policy aiming to reduce turnaround time for CGD infrastructure expansion by digitizing approvals – along with GAs becoming operational from recent bidding rounds, these states are expected to demonstrate accelerated CNG uptake.

4.9.2 Vehicles Sold by Fuel Types

Table 78: Vehicles Sold by Fuel Types, thousands, FY23-FY25

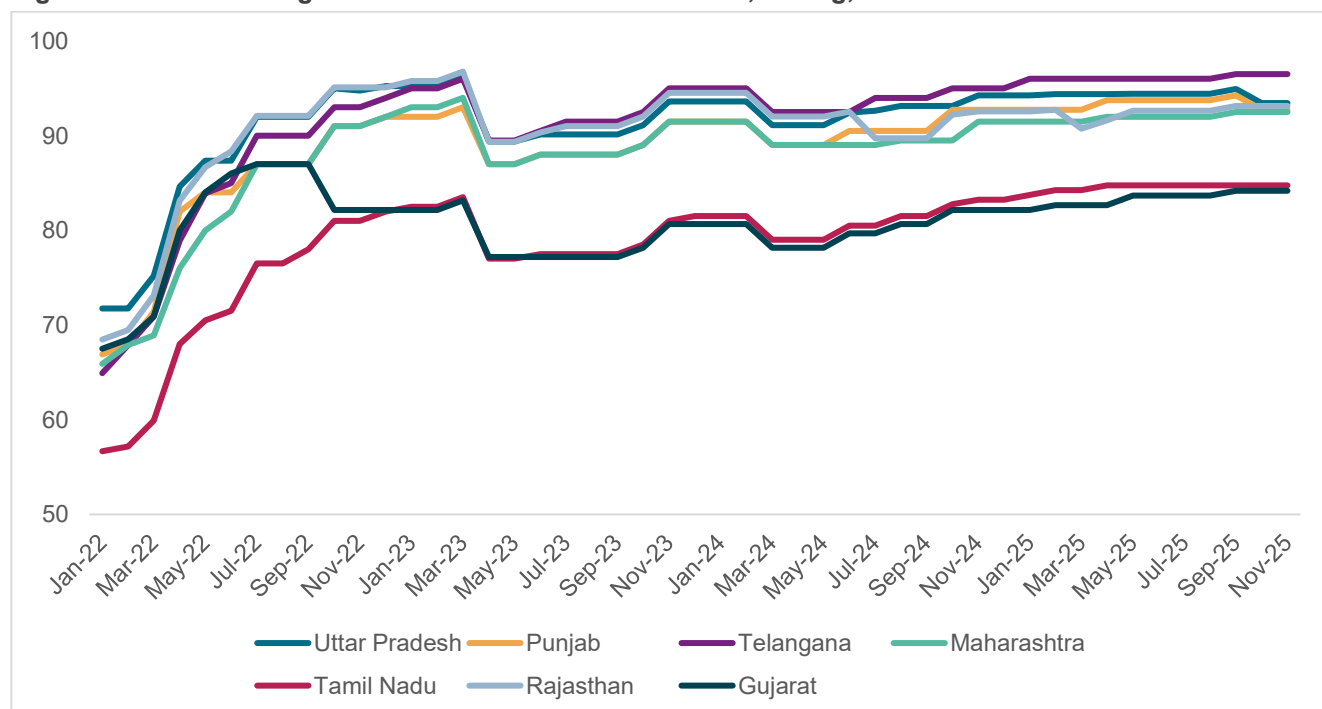


Petrol category includes Petrol/Ethanol and Petrol Hybrid variants, EV includes Pure EV, Strong Hybrid and Electric (BOV)

Source: Vahan Dashboard, Crisil Analysis

4.10 Price Efficiency Analysis

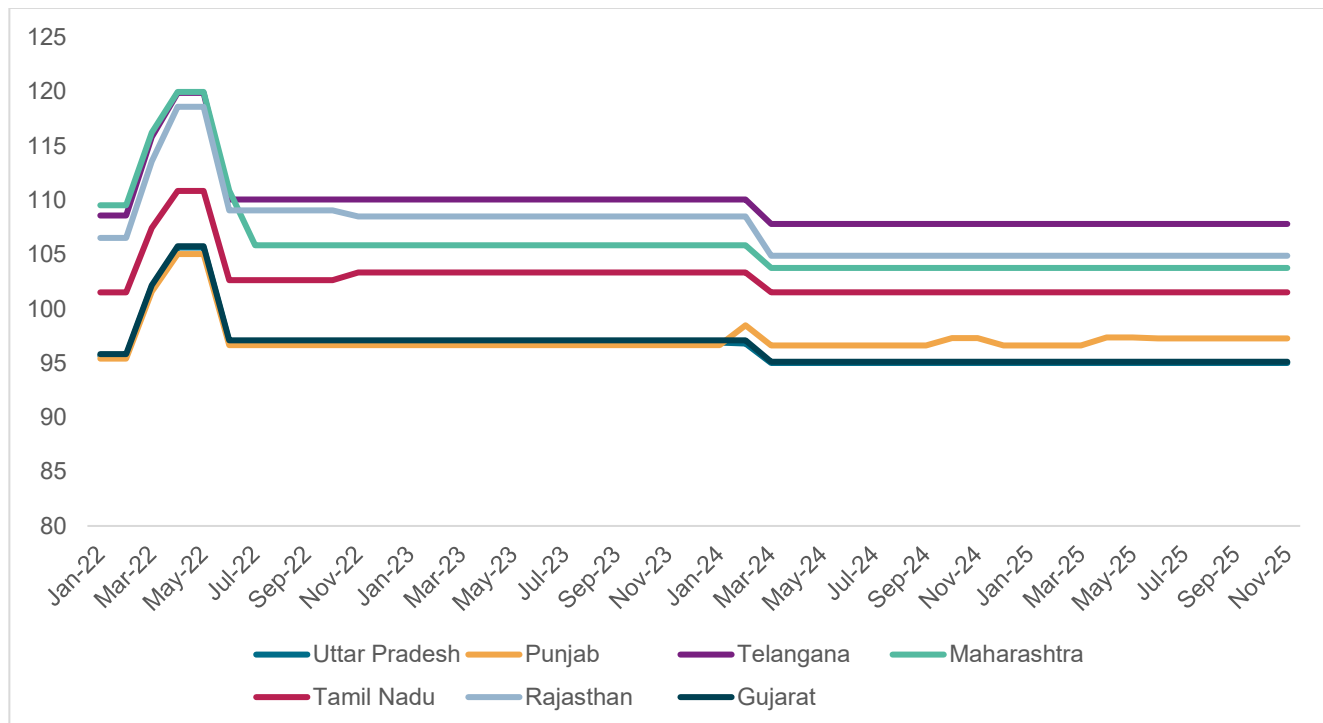
Figure 81: Retail Selling Price of CNG in Torrent Gas State, INR/kg, Jan 2022 – Nov 2025



Note: For each state, RSP is monthly average of prices across all TGL GAs

Source: Company Filings; Crisil Analysis

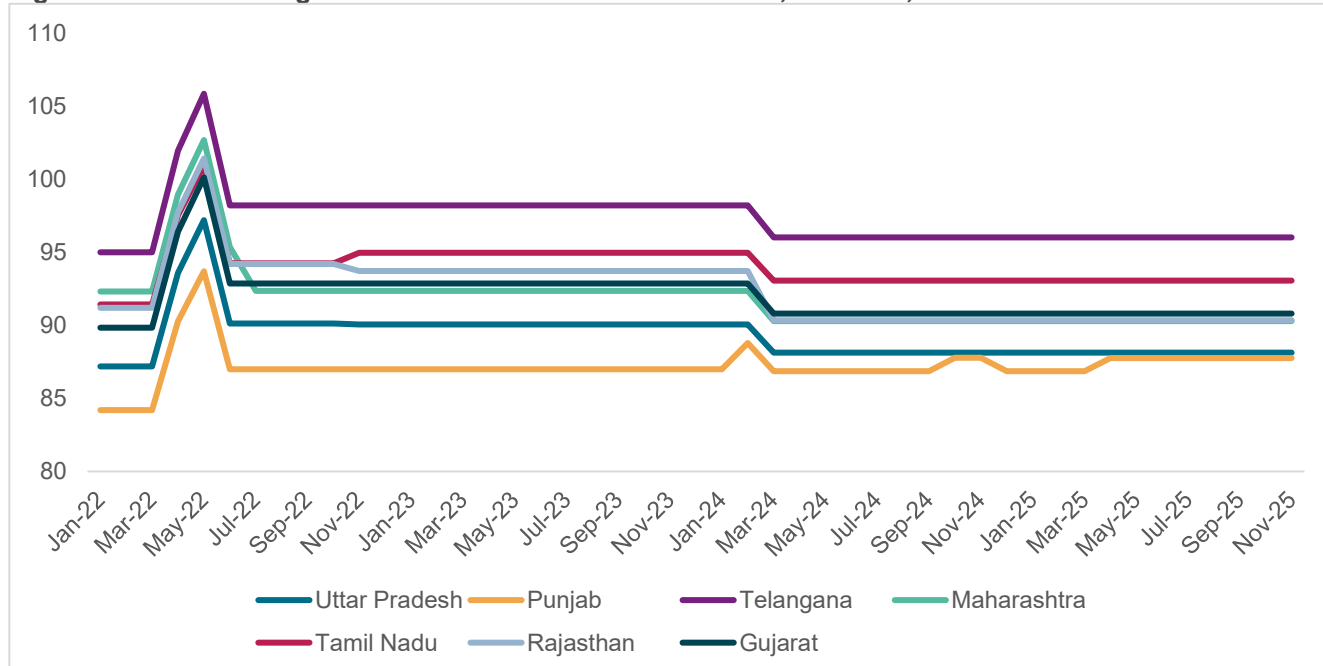
Figure 82: Retail Selling Price of Petrol in Torrent Gas States, INR/Litre, Jan 2022 – Nov 2025



Note: For each state, RSP is monthly average of prices across all TGL GAs

Source: Company Filings; Crisil Analysis

Figure 83: Retail Selling Price of Diesel in Torrent Gas States, INR/Litre, Jan 2022 – Nov 2025



Note: For each state, RSP is monthly average of prices across all TGL GAs

Source: Company Filings; Crisil Analysis

4.11 State Wise Fuel & CNG outlets

Table 79: State wise Retail Fuel Outlets and CNG Stations

State/UT	Fuel Outlets	CNG Stations	% of CNG Stations
Andaman & Nicobar Islands	20	-	-
Andhra Pradesh	4,773	232	4.6%
Arunachal Pradesh	277	0	0.0%
Assam	1,579	37	2.3%
Bihar	3,767	226	5.7%
Chandigarh	48	10	17.2%
Chhattisgarh	2,363	61	2.5%
Dadra and Nagar Haveli and Daman and Diu	72	12	14.3%
Delhi	404	510	55.8%
Goa	146	15	9.3%
Gujarat	6,295	1,066	14.5%
Haryana	4,143	574	12.2%
Himachal Pradesh	815	26	3.1%
Jharkhand	1,897	136	6.7%
Karnataka	7,106	487	6.4%
Kerala	2,979	237	7.4%
Ladakh	37	0	0.0%
Madhya Pradesh	6,587	411	5.9%
Maharashtra	8,798	1,176	11.8%
Manipur	215	0	0.0%
Meghalaya	319	4	1.2%
Mizoram	113	0	0.0%
Nagaland	225	0	0.0%
Odisha	2,648	143	5.1%
Puducherry	210	15	6.7%
Punjab	4,185	282	6.3%
Jammu & Kashmir	749	3	0.4%
Rajasthan	7,033	468	6.2%
Sikkim	75	0	0.0%
Tamil Nadu	7,692	452	5.6%
Telangana	4,383	228	4.9%
Tripura	149	28	15.8%
Uttar Pradesh	12,393	1,317	9.6%
Uttarakhand	918	54	5.6%
West Bengal	3,307	218	6.2%
Total	96,720	8,428	8.0%

Fuel Outlets as on April 1st, 2025; CNG outlets as of September 2025

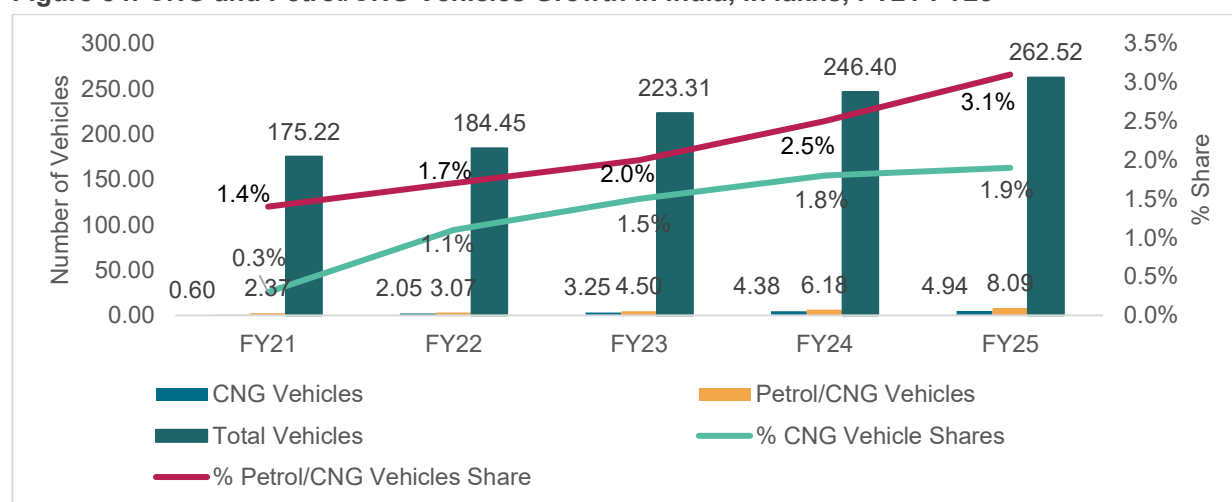
Source: PPAC, Crisil Analysis

4.12 CNG Vehicle Penetration and Historical Trends

The penetration of CNG vehicles in the total vehicle sales mix is a key demand driver. Over the last five years, CNG vehicle adoption has grown at a rapid pace, with leading automakers offering factory-fitted CNG models. Historical data indicates that CNG and petrol/CNG vehicles in India are growing in absolute numbers, but their penetration remains modest. The total number of CNG vehicles (including Petrol+CNG) has grown from 2.94 lakhs in FY21 to ~13 lakhs in FY25 growing at a CAGR of 45%. Total vehicle registrations rise steadily from about 175 lakhs in FY21 to over 262 lakhs in FY25, while CNG vehicle registrations increase from 0.6 lakh to 4.9 lakh in the same period. However, this only lifts the CNG share from 0.3% to 2.0%, reflecting steady increase.

Petrol/CNG dual-fuel vehicles show a faster rise in share from 1.4% to 3.2%, indicating that many consumers are opting for conversions to hedge against fuel cost volatility rather than shifting fully to factory-fitted CNG models. In essence, the trend suggests that although CNG adoption is gaining traction, it is doing so within a relatively narrow user segment that is sensitive to running-cost economics. Given the much faster expansion of total vehicle sales, the incremental rise in CNG and petrol/CNG penetration does not materially alter India's broader fuel-mix trajectory, underscoring that CNG remains a growing but still niche segment.

Figure 84: CNG and Petrol/CNG Vehicles Growth in India, in lakhs, FY21-FY25



Source: Vahan, Crisil Analysis

4.13 Drivers and constraints of CGD

4.13.1 Cost competitiveness of gas

The reduction of APM gas allocation for CNG demand is likely impact the prices in the future. As CNG directly competes with petrol in the vehicle segment, conversion from petrol to CNG would continue, given the cost advantage. However, there exists a competition from e-vehicles, which is likely to impact CNG growth in the future. As the adoption of EVs is growing, there are some challenges which are faced by EVs consumers such as high upfront cost, range anxiety, long charging times and lack of standardised charging infrastructure. Similarly, domestic PNG has been cost-competitive compared to LPG, especially in regions where network infrastructure is well developed. However, fluctuations in global LNG prices and domestic gas allocation policies can impact the cost advantage of CGD over competing fuels.

4.13.2 Rising Gas Prices Impacting PNG Competitiveness

Recent volatility in global gas prices and domestic allocation policies has led to an increase in PNG prices, affecting its competitiveness against LPG, furnace oil, and alternative fuels.

- Industrial consumers, particularly in price-sensitive sectors, are quick to switch to alternative fuels if PNG prices rise beyond a threshold.
- Commercial PNG consumers also evaluate fuel switching based on operational economics and availability of substitutes.
- In the domestic segment, while PNG remains a convenient option, government subsidies on LPG can influence consumer preference.

4.13.3 Safety of CNG and PNG vs other fuels

Compressed Natural Gas (CNG) and Piped Natural Gas (PNG) are widely recognized as safer and more environmentally benign alternatives to conventional liquid fuels such as petrol, diesel, and LPG. Natural gas is lighter than air and, in the event of a leak, disperses rapidly into the atmosphere instead of accumulating at ground level—minimizing fire and explosion risks. Both CNG and PNG systems operate under stringent safety standards prescribed by the Petroleum and Natural Gas Regulatory Board (PNGRB), including periodic leak detection, automatic pressure regulation, odorization for easy leak identification, and strict adherence to material and installation codes. CNG vehicles are equipped with high-strength cylinders tested for extreme pressure and temperature variations, while PNG pipelines use layered safety mechanisms and remote monitoring systems to prevent accidents. Compared to liquid fuels, natural gas produces no soot, negligible particulate matter, and lower CO and NOx emissions, enhancing both operational safety and public health. Consequently, CNG and PNG are considered among the safest and cleanest mainstream fuels for urban transport and domestic energy use.

4.14 State-wise CGD Network

Table 80: State-wise CGD Infrastructure

State/UT	CNG Stations	PNG connections		
		Domestic	Commercial	Industrial
Andhra Pradesh	232	2,95,128	547	64
Arunachal Pradesh	0	0	0	0
Assam	37	70,647	1,467	485
Bihar	226	2,82,368	260	51
Chandigarh	10	31,655	236	80
Chhattisgarh	61	15,477	0	1
Dadra and Nagar Haveli and Daman and Diu	12	19,581	166	129
Delhi	510	17,80,560	4,731	1,869
Goa	15	19,559	52	57
Gujarat	1,066	37,11,356	24,340	5,876
Haryana	574	5,28,642	1,676	2,931
Himachal Pradesh	26	11,552	52	14
Jharkhand	136	1,83,838	147	26
Karnataka	487	5,36,575	747	438
Kerala	237	1,50,277	195	41
UT of Ladakh	0	0	0	0
Madhya Pradesh	411	3,10,767	686	630
Maharashtra	1,176	43,74,011	5,448	1,233
Manipur	0	0	0	0
Meghalaya	4	0	0	0
Mizoram	0	0	0	0
Nagaland	0	0	0	0
Odisha	143	1,68,618	80	7
Puducherry	15	0	0	0

Punjab	282	1,22,897	929	370
UT of Jammu & Kashmir	3	0	0	0
Rajasthan	468	4,76,308	564	1,858
Sikkim	0	0	0	0
Tamil Nadu	452	1,11,034	87	73
Telangana	228	2,56,992	172	172
Tripura	28	67,487	529	48
Uttar Pradesh	1,317	20,47,314	3,717	4,422
Uttarakhand	54	90,704	123	137
West Bengal	218	1,13,665	21	4
Total	8,428	15,627,037	46,972	21,016

Data as of September 2025

Source: PPAC, Crisil Analysis

As of September 2025, India had a total of 8,428 CNG stations and ~1.57 crore domestic PNG connections, along with 46,972 commercial and 21,016 industrial PNG connections. Maharashtra, Gujarat, and Uttar Pradesh are the leading states in terms of both CNG infrastructure and PNG coverage. Maharashtra tops the chart with over 43 lakh domestic PNG connections and more than 1,000 CNG stations. Gujarat follows closely with about 37 lakh domestic PNG connections and a similar number of CNG stations, while Uttar Pradesh leads with the highest number of CNG stations at 1,317 and over 20 lakh domestic PNG connections. Delhi, Haryana, and Karnataka also show significant penetration, especially in urban centers. On the other hand, states in eastern and northeastern India, such as Odisha, Assam, and Tripura, are witnessing gradual development.

States with High CNG Station Penetration

1. **Uttar Pradesh:** Uttar Pradesh leads in terms of CNG infrastructure, vehicle conversion to CNG in urban and semi-urban areas.
2. **Maharashtra:** With major urban centers like Mumbai and Pune, Maharashtra shows extensive CNG deployment driven by environmental regulations and public transport needs.
3. **Gujarat:** Gujarat, a pioneer in city gas distribution (CGD), has robust infrastructure, facilitated by early investment and industrial demand.
4. **Haryana:** High number of CNG stations despite their smaller size, driven by proximity to Delhi and a growing number of CNG-fueled vehicles.
5. **Delhi (UT):** Strong regulatory push to combat pollution has led to extensive CNG adoption in public transport and private vehicles.
6. **Karnataka:** Bangalore and other Tier-2 cities are gradually seeing increased CNG adoption.

4.15 Pollution Parameters

Table 81: Pollution Parameters in TGL GAs

State/Union Territory	AQI	Particulate Matter (PM 2.5) (µg/m3)	Particulate Matter (PM 10) (µg/m3)	Carbon Monoxide (ppb)	Sulfur Dioxide (ppb)	Nitrogen Dioxide (ppb)
Uttar Pradesh	108	22	81	377	6	8
Maharashtra	127	50	124	672	12	17
Gujarat	101	26	76	320	12	10
Puducherry	100	13	30	365	3	3
Punjab	103	29	61	542	4	8
Rajasthan	109	37	83	505	5	9
Tamil Nadu	99	34	45	581	5	6

Telangana	104	28	78	435	7	8
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Source: National AQI, Crisil Intelligence

The variation in pollutant levels across these regions is a result of diverse pollution sources—industrial activity, vehicular emissions, power generation, climatic conditions, and policy implementation. For instance, states with high vehicular density and rapid urbanization, such as Maharashtra and Tamil Nadu, tend to have higher concentrations of CO and NO₂, while regions with industrial clusters like Gujarat exhibit elevated SO₂ levels. Coastal states like Puducherry benefit from natural ventilation, which disperses air pollutants more effectively.

Maharashtra emerges as the most polluted among the states, with the highest AQI value of 127, indicating moderate to poor air quality. It also records the highest levels of both PM_{2.5} (50 µg/m³) and PM₁₀ (124 µg/m³), which are harmful fine particles that penetrate deep into the lungs. These high particulate concentrations are likely due to a combination of factors, including dense vehicular traffic in urban centers like Mumbai and Pune, industrial emissions, road dust, and ongoing construction activities. The state also has the highest levels of carbon monoxide (672 ppb) and nitrogen dioxide (17 ppb), pointing toward substantial fuel combustion, particularly from transport and industrial sources. Rajasthan and Uttar Pradesh also show elevated AQI levels of 109 and 108, respectively. Rajasthan's high PM₁₀ concentration (83 µg/m³) is likely influenced by dust from arid and semi-arid regions, in addition to urban pollution sources. Uttar Pradesh records a high PM₁₀ level (81 µg/m³) and carbon monoxide concentration (377 ppb), reflective of pollution from vehicular emissions, crop residue burning, and industrial processes, especially in heavily populated and industrialized cities like Kanpur and Ghaziabad. Gujarat, with an AQI of 101, shows relatively moderate levels of PM_{2.5} (26 µg/m³) and PM₁₀ (76 µg/m³). However, it records high sulfur dioxide levels (12 ppb), which may be attributed to emissions from power plants and petrochemical industries. Despite being a heavily industrialized state, the carbon monoxide level is lower (320 ppb), indicating some degree of emission control.

Puducherry, on the other hand, exhibits the cleanest air among all regions listed, with an AQI of 100 and the lowest concentrations of PM_{2.5} (13 µg/m³), PM₁₀ (30 µg/m³), sulfur dioxide (3 ppb), and nitrogen dioxide (3 ppb). This can be attributed to its coastal geography that promotes dispersion of pollutants through sea breeze, relatively low vehicular and industrial activities, and higher greenery coverage.

Punjab, Telangana, and Tamil Nadu show moderate AQI levels ranging from 99 to 104. Tamil Nadu records a slightly lower AQI of 99, with PM_{2.5} at 34 µg/m³ and PM₁₀ at 45 µg/m³. However, its carbon monoxide level is high at 581 ppb, potentially due to vehicular emissions in cities like Chennai and Coimbatore. Punjab also displays high carbon monoxide (542 ppb) and particulate levels, influenced by agricultural residue burning and urban traffic. Telangana, with an AQI of 104, has moderate levels of particulate matter but high CO levels (435 ppb), again likely due to urbanization and traffic growth in cities like Hyderabad.

4.15.1 Seasonality in AQI values across India

Table 82: All India monthly average AQI across all the reporting cities*

Avg. AQI	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2019	203	155	134	143	149	122	86	68	70	139	186	183
2020	157	145	98	85	93	77	61	53	78	147	179	180
2021	173	157	142	126	91	86	69	67	57	109	185	179
2022	155	138	144	141	122	106	61	65	70	111	164	174
2023	172	145	115	114	103	88	65	77	71	114	167	153

*The data per month is for 512 stations spread across 271 cities in India as of 2023. Color grading is relative to the numbers, and has no correlation with its impact on health and environment

Source: CPCB, Crisil Analysis

Figure 85: Breakpoints and Health Statements for AQI categories

AQI	Category	Color Code	Possible Health Impacts
0-50	Good		Minimal Impact
51-100	Satisfactory		Minor breathing discomfort to sensitive people
101-200	Moderate		Breathing discomfort to the people with lungs, asthma and heart diseases
201-300	Poor		Breathing discomfort to most people on prolonged exposure
301-400	Very Poor		Respiratory illness on prolonged exposure
401-500	Severe		Affects healthy people and seriously impacts those with existing diseases

Source: CPCB

Air Quality Index (AQI) is a metric used for communicating the quality of air pollution levels as health-related alerts. There are six AQI categories, namely Good + Satisfactory, Moderately polluted, Poor, Very Poor, and Severe. Each of these categories is decided based on ambient concentration values of air pollutants and their likely health impacts (known as health breakpoints). AQ sub-index and health breakpoints are evolved for eight pollutants (PM₁₀, PM_{2.5}, NO₂, SO₂, CO, O₃, NH₃, and Pb) are computed to calculate the AQI. Keeping in mind that all the population exposed to air pollution is not represented by the current monitoring network, the above table provides a glimpse of current all-India average AQI. General observations stemming out from the above table is:

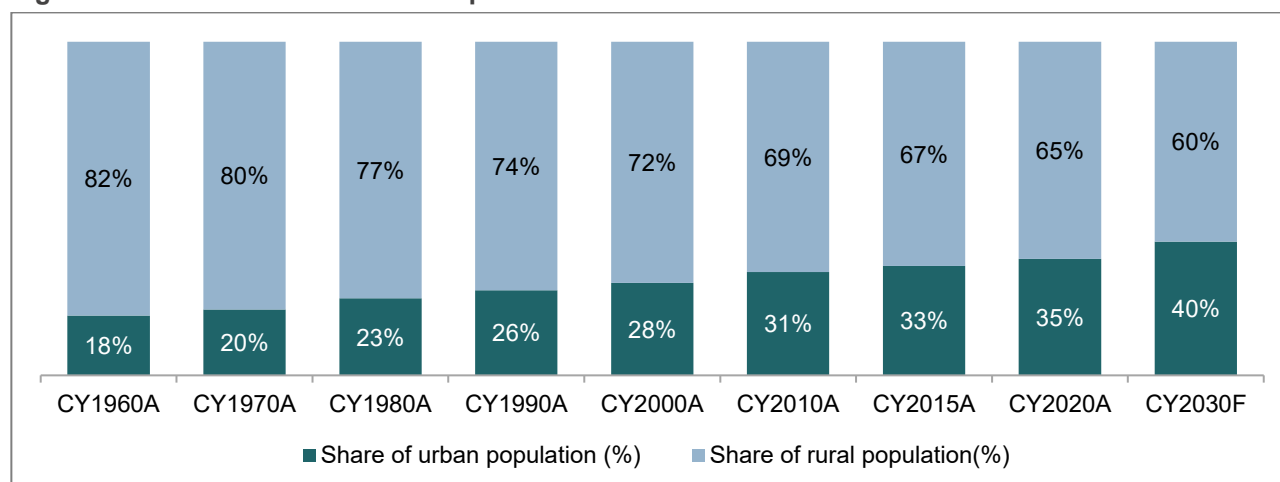
- Overall air quality in India shuttles between moderate and satisfactory categories
- The winter months (December to February) continue to be worse than the summer/monsoonal months (June to September).
- Overall drop in the AQI from 2015 to 2023, while some of it is due to reductions in emission intensities in the big cities, most of it is due to an increase in the representativeness of the network.

India's policy-led clean-air agenda has provided a strong structural tailwind to the adoption of natural gas, including Piped Natural Gas (PNG), across industrial, commercial and domestic segments. Regulatory interventions such as the Commission for Air Quality Management (CAQM) in the NCR, the Taj Trapezium Zone (TTZ) regulations and state-level air-shed action plans have progressively restricted the use of high-polluting fuels such as coal, furnace oil, pet coke and biomass, mandating or encouraging a shift towards cleaner alternatives. PNG and natural gas, being sulphur-free and low in particulate and NO_x emissions, offer a materially lower emissions profile, enabling end-users to comply with evolving environmental norms while ensuring operational continuity. The substitution of solid and liquid fuels with gas has a direct and measurable impact on ambient air quality through reduction in PM_{2.5}, SO₂ and carbon intensity, particularly in urban and industrial clusters. In parallel, the Government's broader energy transition push—supported by city gas distribution expansion, fuel-switching directives and increasing enforcement under environmental compliance frameworks—positions natural gas as a bridge fuel that balances economic growth with sustainability imperatives. Consequently, increased penetration of PNG and natural gas is expected to play a critical role in improving AQI outcomes, supporting India's climate commitments, and enabling environmentally responsible industrialization, especially in highly polluted and regulated regions.

4.16 Urbanization

India's urban population has been rising over years and is expected to continue with the rise in economic growth. From ~31% of the total population in 2011, it is projected to rise to nearly 40% by 2030, according to a UN report on urbanisation. People from rural areas move to cities for better job opportunities, education, and quality of life. The entire family or only a few individuals (generally an earning member or students) may migrate, while the other members continue to live in their rural homes.

Consulting

Figure 86: India's Urban vs Rural Population


F: Forecasted

Source: World Urbanization Prospects: The 2018 Revision, UN, CRISIL MI&A

India's urbanization landscape is undergoing a significant transformation, with projections indicating that the urban population will reach 600 million by 2036. Currently, approximately 35% of India's population resides in urban areas, contributing almost 70% of the country's GDP. However, a notable shift is occurring in the economic advantage traditionally held by tier 1 cities, with emerging tier 2 and 3 cities gaining prominence in the national economic landscape.

Cities like Pune, Jaipur, Indore, Chandigarh, and Kochi are experiencing rapid growth, driven by multiple factors that make them increasingly attractive to both businesses and residents. One of the primary advantages these emerging cities offer is significantly lower operational and living costs compared to metropolitan areas. Housing costs in these cities are typically 25-35% lower than tier 1 cities, while commercial real estate prices are also substantially reduced. This cost advantage creates a compelling value proposition for businesses looking to establish or expand their operations while providing employees with better savings potential and improved quality of life.

Infrastructure development has played a crucial role in this shifting dynamic. The government's Smart City initiatives, coupled with extensive investments in transportation networks, digital connectivity, and urban utilities, have transformed these emerging cities into viable alternatives to traditional metropolitan centers. Better connectivity through highways and airports, planned urban development with modern amenities, and the implementation of smart city solutions have significantly enhanced the appeal of these cities for both businesses and residents.

The business opportunities in tier 2 and 3 cities are particularly noteworthy. Lower setup and operational costs, availability of skilled workforce, government incentives, and growing local markets make these cities attractive for business establishment and expansion. Additionally, these markets often present less competition compared to saturated metropolitan markets, offering better growth potential for businesses. The quality-of-life factors in these cities, including lower pollution levels, reduced population density, better work-life balance, and shorter commute times, further enhance their appeal.

India, currently the third largest emitter of greenhouse gases globally, facing mounting pressure to decarbonize its economy. In response, the government is implementing carbon markets which is expected to operationalize by 2026. This will be a market-based mechanism to drive emissions reductions, particularly within hard to abate sectors. Under this framework, industries exceeding emissions thresholds set by the Bureau of Energy Efficiency will be required to purchase carbon credits, bearing the additional cost for emitting higher greenhouse gases. This regulatory

development positions natural gas as a transition fuel, offering lower carbon alternative that can enable industrial establishments to remain within compliance limits while maintaining operational continuity.

Table 83: CGD Network Growth Trend

CGD	Unit	FY-21	FY-22	FY-23	FY-24	FY-25	FY-26
Domestic PNG Sales	MMSCMD	2.5	2.6	2.7	2.9	3.4	3.57
Commercial PNG Sales	MMSCMD	0.7	0.6	0.7	0.7	0.9	0.97
Industrial PNG Sales	MMSCMD	15.4	14.0	11.2	11.7	12.9	12.79

Source: PPAC

Table 84: CGD Network Growth Trend

CGD Network	FY-21	FY-22	FY-23	FY-24	FY-25	FY-26
Domestic PNG Connections	7,820,000	9,330,000	11,029,000	12,731,148	12,922,516	16,949,377
Commercial PNG Connections	32,339	34,854	37,772	41,000	45,373	49,994
Industrial PNG Connections	11,803	13,215	16,563	18,700	20,461	21,831

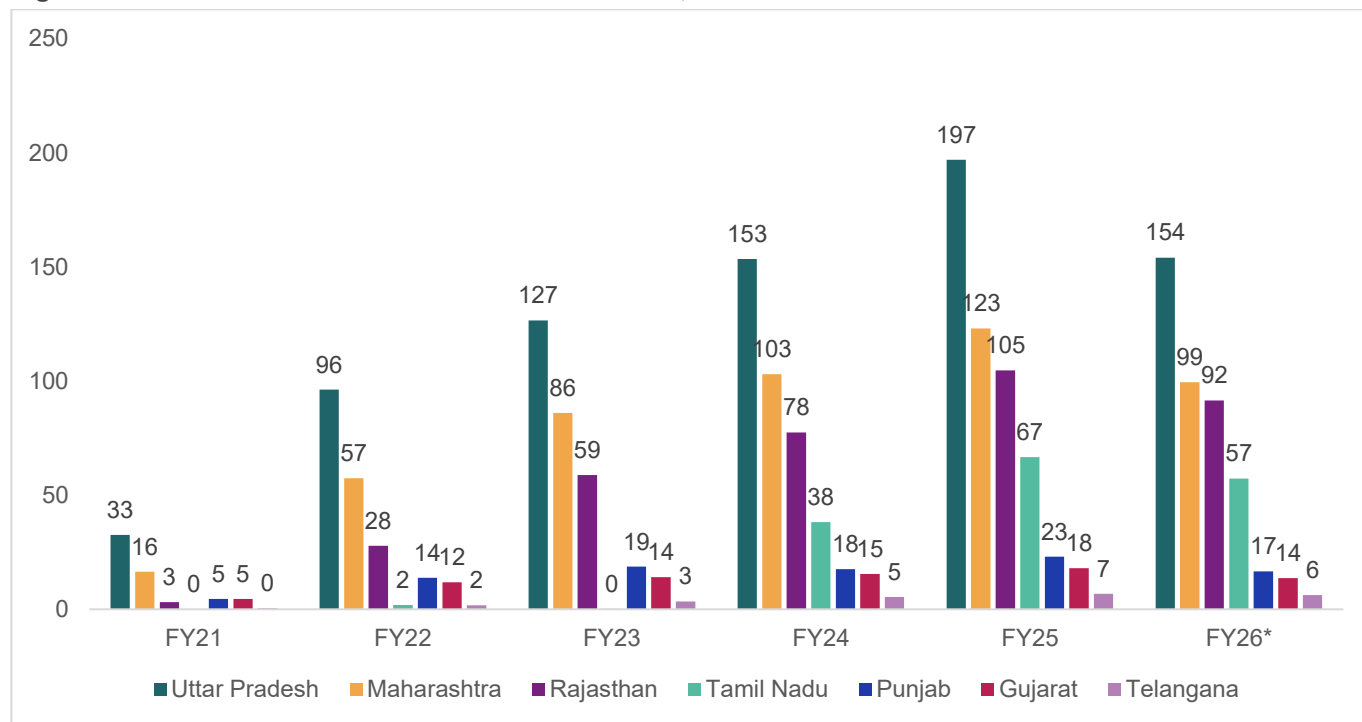
Source: PPAC

With increasing urbanization, the CGD network in India is witnessing a rapid transformation, driven by steady growth across domestic, commercial, and industrial PNG segments. Domestic PNG connections have surged from around 7.8 million in FY21 to ~16.9 million in FY26 (as of March 2026). Commercial and industrial PNG connections, though smaller in absolute terms, have also shown consistent growth, commercial connections increased from about 32,339 to 49,994, while industrial connections rose from 11,803 to 21,831 during the same period. This expansion in the consumer base is directly translating into higher gas sales across all segments. Domestic PNG sales have grown from 927 MMSCM in FY21 to ~1305 in FY26, while commercial and industrial segments collectively contribute the bulk of total consumption. Such sustained growth is reshaping the demand structure of the CGD industry and intensifying the need for stronger last-mile infrastructure across India.

From an infrastructure standpoint, this evolving demand mix imposes major last-mile requirements on CGD entities. The rapid expansion of MDPE pipelines and service lines that connect local networks to individual households and commercial establishments. In parallel, the increase in distributed load necessitates additional sub-transmission pipelines, pressure-regulating stations (PRS), and city gate stations (CGS). These assets are crucial for maintaining stable gas pressure and ensuring reliable supply during demand peaks.

4.17 State Wise CNG Sales Growth

Figure 87: Torrent Gas State wise CNG Sales Growth; MMSCM



*FY26 data till Nov 2025

Source: Company Filing, Crisil Analysis

Torrent Gas' CNG sales trajectory reflects a balanced mix of scale-driven growth and maturing early-stage markets, with Uttar Pradesh—supported by one of India's highest CNG station densities and effective vehicle conversion programs—expanding from 33 MMSCM in FY21 to 197 MMSCM in FY25. Maharashtra's growth from 16 MMSCM in FY21 to 123 MMSCM in FY25 aided by high-demand corridors such as Mumbai and Pune as well as regulatory emphasis on cleaner mobility. States like Tamil Nadu, Rajasthan, Punjab, Gujarat and Telangana continue to gain momentum, supported by STU conversion to CNG, regulatory push to combat emissions, along with rise in commercial and passenger CNG vehicles.

4.18 Per Station CNG Throughput Analysis

Table 85: CNG Throughput Analysis per station

State	Torrent Gas			State Level	
	CNG Stations	Average CNG Sales per Station (SCMD)	CNG Sales (SCMD)	CNG Stations	Average CNG Sales per Station (SCMD)
Gujarat	18	2,749	4,729,632	1,056	4,479
Maharashtra	69	4,885	4,726,027	1,128	4,190
Uttar Pradesh	177	3,462	3,356,164	1,217	2,758
Rajasthan	86	2,985	702,956	457	1,538
Telangana	17	1,089	338,861	225	1,506
Punjab	32	1,970	288,392	272	1,060

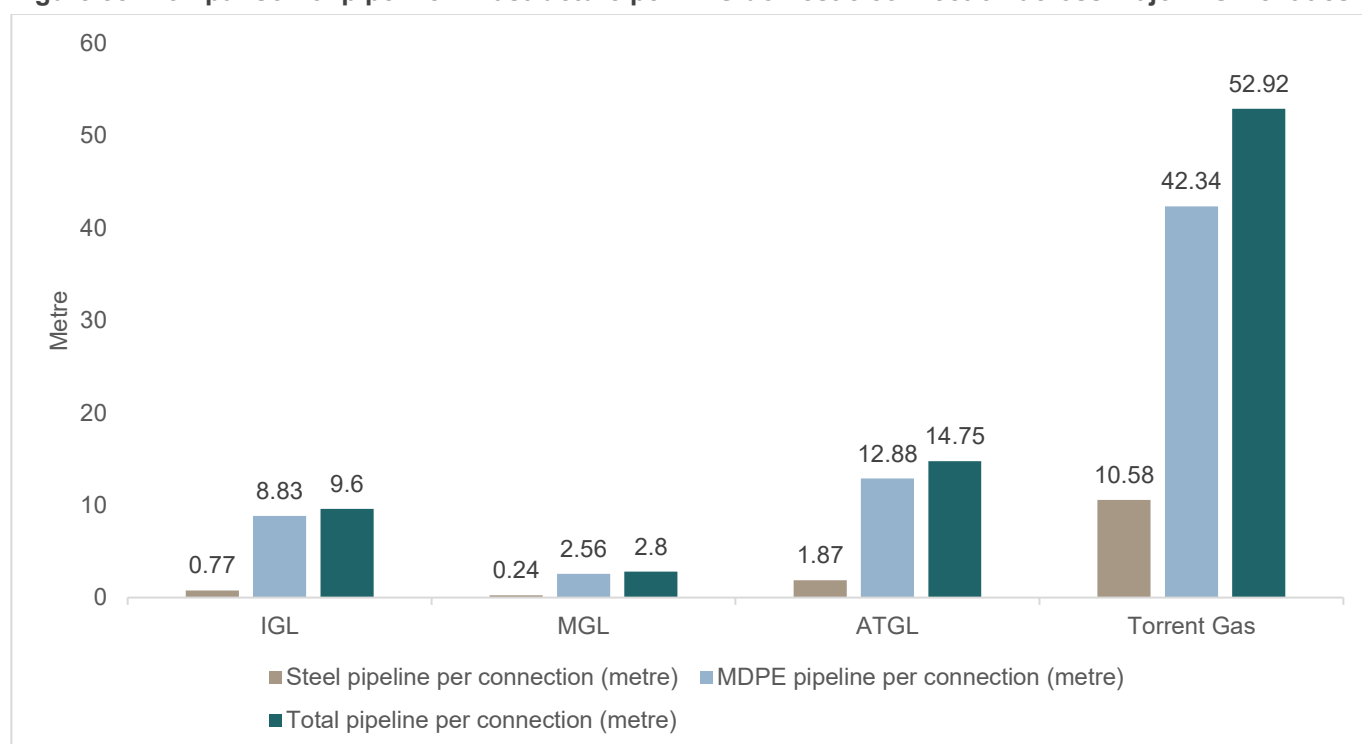
Tamil Nadu	84	1,369	439,798	437	1,006
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Note: CNG Stations data as of April 2025, CNG sales are in SCMD, For Torrent Gas average sales of FY25 for each GA are taken into consideration for computing state level throughput. Density of gas assumed 0.76 kg/scm

Source: Company Filings, PPAC, Crisil Analysis

4.19 Comparison of pipeline infrastructure per PNG domestic connection across major CGD entities

Figure 88: Comparison of pipeline infrastructure per PNG domestic connection across major CGD entities



Note: IGL represents Indraprastha Gas Limited, MGL represents Mahanagar Gas Limited and ATGL represents Adani Total Gas Limited

Source: PNGRB, Crisil Intelligence

5 Government / Regulatory Environment

Table 86: Government/ Regulatory Environment in TGL States

State	Government Initiatives	Pollution Control Board	Single Window Clearance
Uttar Pradesh	-Policy framework to promote natural gas adoption and facilitate the conversion of State Transport Undertakings (STUs) to CNG -This shall lead to 25-30% reduction in carbon emissions, decreased particulate matter, lower NOx emissions, and improved urban air quality -Taj Trapezium Zone: Banned the use of coal and coke in industries located within the TTZ – an area of 10,400 sq.km around the Taj Mahal – mandating a switch to natural gas (NG), relocation to outside of TTZ, or closure -Mathura Vrindavan Sensitive Zone: Ecologically sensitive zone within the TTZ addressing the problem of untreated pollution being added to Yamuna River by enhancing the use of NG within the zone	- The Uttar Pradesh Pollution Control Board (UPPCB) serves as the primary regulatory body for monitoring and controlling air and water pollution by implementing the Water (Prevention and Control of Pollution) Act, 1974, and the Air (Prevention and Control of Pollution) Act, 1981 -The National Green Tribunal (NGT) has directed the UPPCB to take appropriate actions, including imposing penalties, against industrial units found violating environmental norms. - Uttar Pradesh Clean Air Action Plan (UCAP): Govt. pioneered airshed approach to combat PM2.5 emissions and bring it down to 43 µg/m3 from 61 µg/m3 by 2030	- The state has a dedicated single window clearance portal – Nivesh Mitra – which acts as unified digital platform for clearances, payments, and tracking, ensuring transparency and time-bound approvals under the Public Service Delivery Guarantee Act
Punjab	-Punjab govt. has implemented a comprehensive strategy to promote NG usage and facilitate the conversion of State Transport Undertakings (STUs) to CNG -The STU conversion program has been implemented through a systematic approach, with phased conversion of state transport buses to CNG, particularly in major cities like Patiala, Ludhiana, Amritsar, and Jalandhar. -Policy development continues to evolve, with enhanced incentive schemes, stricter emission norms, green corridor development, and improved interstate coordination being key focus areas.	-The Punjab Pollution Control Board (PPCB) serving as the primary regulatory body. Working alongside PPCB, the Department of Environment and Climate Change focuses on policy formulation and implementation, climate change mitigation strategies, and environmental awareness programs -The implementation strategies for natural gas promotion have been carefully structured to ensure maximum effectiveness. This includes the systematic development of CNG infrastructure, comprehensive public awareness campaigns, technical support for conversion, training programs, and demonstration projects.	- The state's CGD policy (2018) clearly outlines the availability and timelines pertaining to CGD infrastructure

		- The impact of these efforts is measured through both environmental and economic benefits. Environmental benefits include reduced air pollution levels, lower greenhouse gas emissions, and improved air quality index. Economic benefits are reflected in healthcare cost savings, improved industrial efficiency, job creation in the clean energy sector, reduced fuel import dependency, and enhanced energy security.	
Telangana	-The Telangana government has implemented comprehensive initiatives to promote natural gas adoption through various policy frameworks and implementation strategies. -These initiatives focus on infrastructure development, complemented by the Green Transport Initiative targeting vehicular emission reduction and the Public Transport Modernization Program emphasizing clean fuel adoption.	- The Telangana State Pollution Control Board (TSPCB) serves as the primary authority for pollution control in the state. -Working in tandem with TSPCB, the Environmental Protection Training and Research Institute (EPTRI) plays a vital role in promoting natural gas adoption through environmental impact studies, technical training programs, and research on clean fuel technologies -The transport department has been particularly active in implementing clean fuel programs through promotion of CNG vehicles and implementation of green tax mechanisms -Collective measures have resulted in documented reductions of 20-25% in PM2.5 levels, 30-35% in NOx emissions, and 40-45% in SO2 levels, leading to an overall AQI improvement of 15-20%. The impact has been particularly notable in the industrial sector, where emission reductions of 25-30% have been achieved	- The state has a dedicated single window clearance portal TSIPASS for obtaining industrial approvals. The portal enables self-certification-based clearances via a single online application form, time-bound approvals ranging from 1 to 30 days and deemed approvals if timelines lapse. It incorporates penalties for delays and a single-query mechanism to avoid repetitive documentation, ensuring transparency and accountability.
Rajasthan	- The Rajasthan government has demonstrated a strong commitment to promoting natural gas usage in the transportation sector with the Rajasthan State Road Transport Corporation (RSRTC)'s ambitious announcement in	- The pollution control framework in Rajasthan is primarily led by the Rajasthan State Pollution Control Board (RSPCB) working in conjunction with Department of Transport, Department of Environment to oversee the implementation of pollution control initiatives	- Rajasthan's CGD policy 2025 aims to provide a dedicated CGD portal linked to a single window clearance system

	2021 to introduce 2,000 CNG buses by 2025. -The city-wise implementation has been particularly successful in major urban centers, with Jaipur City Transport Services Ltd. (JCTSL) operating approximately 300 CNG buses as of 2023, while Kota City Transport Services introduced 50 CNG buses in 2022. - Recommendations for further improvement include enhanced financial support mechanisms and streamlined approval processes, such as the proposed single-window clearance for CNG infrastructure development	- Pollution control measures in Rajasthan are multi-faceted involving installation of continuous air quality monitoring stations across major cities enables real-time pollution monitoring and implementation of the Graded Response Action Plan (GRAP) in districts adjoining NCR. - The vehicular pollution control measures include strict enforcement of PUC certification, promotion of CNG vehicles, and implementation of BS-VI standards.	
Gujarat	- Gujarat has emerged as a pioneer in natural gas adoption with the state's comprehensive approach to convert STUs from conventional fuels to CNG under the ambit of fleet conversion program 2020-21. In its first phase, the Ahmedabad division alone converted over 500 buses to CNG and ultimately to current number of 800 CNG buses demonstrating a substantial 40% reduction in fuel costs. - Similarly, Ahmedabad's auto-rickshaw sector witnessed a remarkable transformation with over 75,000 vehicles converting to CNG, leading to a 30-40% increase in daily earnings for drivers due to reduced fuel costs. - Looking ahead, Gujarat's future plans are ambitious and well-structured. GSRTC has set a target to convert 100% of its fleet to CNG by 2025. The initiative has also generated significant employment opportunities, with over 5,000 new jobs created in CNG station operations and maintenance.	-The pollution control framework in Gujarat is spearheaded by the Gujarat Pollution Control Board (GPCB), which operates as the primary regulatory authority for environmental protection and pollution control in the state. The GPCB operates an extensive network of continuous ambient air quality monitoring stations (CAAQMS) across major industrial clusters and urban centers. - The state has also implemented the Online Continuous Emission Monitoring System (OCEMS) for industrial units, making Gujarat a pioneer in digital environmental compliance monitoring. - Gujarat's pollution control entities have implemented several successful programs. The 'Clean Gujarat Green Gujarat' campaign has been instrumental in raising awareness about clean fuel adoption. The state's 'Industrial Cleaner Production Program' provides technical and financial assistance to industries for adopting cleaner technologies, including natural gas-based systems.	- Gujarat has a dedicated single window clearance portal: Investor Facilitation Portal which manages industrial approval and clearances

Maharashtra	-The Maharashtra government has demonstrated a strong commitment to promoting natural gas usage, particularly in the public transportation sector. The Green Transport Policy of 2017 and the Maharashtra EV Policy 2021 have created a robust framework for the transition to cleaner fuels, with specific provisions for CNG vehicles. - The government's commitment is evidenced by substantial financial support, such as the INR 75 crores subsidy provided in 2019-20 for CNG station development in the Mumbai Metropolitan Region (MMR). - The Mumbai Metropolitan Region achieved 100% CNG public transport operation, resulting in a 35% reduction in pollution levels and annual cost savings of INR 300 crores. - In the Pune region, where 80% of public transport has been converted to CNG, the establishment of over 150 CNG stations and integrated transport planning has created a comprehensive clean transport ecosystem. The Pune-Nashik highway CNG corridor project exemplifies successful inter-city implementation, enabling 200 inter-city buses to transition to CNG operation. - Transport corporations have reported fuel cost reductions of 30-40%, maintenance cost reductions of 15-20%, and extended vehicle life of 2-3 years.	- Maharashtra's pollution control framework is anchored by several key entities, with the Maharashtra Pollution Control Board (MPCB) serving as the primary regulatory authority. Working alongside MPCB, the Maharashtra Energy Development Agency (MEDA) focuses on promoting renewable energy and clean fuels, implementing energy efficiency programs, and providing technical support for clean fuel adoption. - Specific regional programs have demonstrated notable success. In the Mumbai region, the implementation of CNG for public transport and industrial PNG connections has led to significant emission reductions. - The impact of these efforts is evident in measurable improvements in air quality across major cities. There has been a significant reduction in PM2.5 and PM10 levels, along with lower SO2 and NOx emissions.	The Maha Parwana single-window system offers time-bound approvals for industrial units, expediting CGD and natural gas infrastructure growth
Tamil Nadu	- The Tamil Nadu government has implemented a comprehensive approach to promote natural gas usage and facilitate the conversion of State Transport Undertakings (STUs) to CNG. - The government has established strategic	- The pollution control framework in Tamil Nadu is primarily governed by three key entities: the Tamil Nadu Pollution Control Board (TNPCB), the Tamil Nadu Environment Department, and the Tamil Nadu Energy Development Agency (TEDA)	The Tamil Nadu Single Window Portal (TNSWP) acts as a central body for all industrial and CGD related approvals and clearances

	partnerships with major CGD companies such as AG&P Pratham, Torrent Gas, and Indian Oil-Adani Gas Private Limited (IOAGPL), leading to significant infrastructure development including CNG corridors, mother stations, and daughter booster stations across the state. -The benefits of conversion of STUs to CNG has proven to be both economical and environmental. Economic advantages include a 25-30% reduction in fuel costs, 15-20% decrease in maintenance expenses, and extended engine life. Environmental impacts are equally impressive, showing a 25% reduction in CO2 emissions, 95% reduction in particulate matter, and 35% reduction in NOx emissions, as evidenced by improved air quality measurements at major bus terminals. - Future plans are ambitious and well-structured, targeting the conversion of over 1000 buses by 2025. Cities like Madurai and Trichy are slated for dedicated CNG corridors and bus fleet conversion.	-TNPCB serves as the primary regulatory body responsible for pollution control, monitoring air and water quality, issuing environmental clearances. The Tamil Nadu Environment Department focuses on policy formulation, environmental protection initiatives, coordination with central agencies. TEDA complements these efforts by promoting clean energy adoption, implementing renewable energy projects, and providing technical guidance. - Policy initiatives have been crucial, including the Clean Air Action Plan, industrial emission guidelines, vehicle emission standards, and the development of green corridors - The promotion of natural gas as a cleaner fuel alternative has been a key focus area, supported through various regulatory measures. These include simplified approval processes for CNG stations, incentives for natural gas adoption, priority environmental clearances, and streamlined compliance requirements.	
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Source: Crisil Intelligence

Table 87: CGD Infrastructure (aggregate numbers) in states where TGL is present, Aug 2025

State	GAs	CNG Stations	PNG Connections		
			Domestic	Commercial	Industrial
Uttar Pradesh	43	1,300	2,024,592	3,676	4,390
Punjab	16	281	119,035	917	369
Telangana	9	227	256,793	170	171
Rajasthan	13	464	465,970	548	1,853
Gujarat	35	1,057	3,685,089	24,293	5,877
Maharashtra	3	1,150	4,341,415	5,407	1,221
Tamil Nadu	18	447	104,970	79	70

Source: PPAC, Crisil Analysis

5.1 National Support

5.1.1 Pollution Control Board in India

India's central-level pollution control framework is primarily led by key organizations that work in coordination to manage environmental challenges and promote cleaner fuel alternatives. The Ministry of Environment, Forest and Climate Change (MoEFCC) serves as the principal authority for environmental policymaking and regulation in India. Working alongside the MoEFCC, the Central Pollution Control Board (CPCB) functions as its technical wing, focusing on monitoring air and water quality while setting industry-specific emission standards.

Ministry of Environment, Forest and Climate Change (MoEFCC)

The MoEFCC stands as the nodal agency for environmental policymaking and regulation in India. Its comprehensive approach includes formulating environmental legislation, implementing national programs like the National Clean Air Programme (NCAP), and coordinating international environmental agreements. The ministry oversees the environmental clearance process for development projects, ensuring that economic growth aligns with environmental protection. Through initiatives like the Green India Mission and various climate change action plans, the MoEFCC has contributed significantly to enhancing forest cover, reducing industrial pollution, and improving environmental compliance across sectors. The ministry's role in balancing development needs with environmental protection has been crucial in steering India towards sustainable development.

Central Pollution Control Board (CPCB)

The CPCB functions as India's premier technical organization for environmental protection and pollution control. As the technical wing of the Ministry of Environment, Forest and Climate Change, it plays a crucial role in implementing the National Air Quality Monitoring Programme (NAMP) and setting national standards for various environmental parameters. The board's responsibilities encompass air and water quality monitoring, industrial emission regulation, and providing technical guidance to state pollution control boards. The CPCB has been particularly successful in establishing an extensive network of continuous ambient air quality monitoring stations across the country, developing comprehensive environmental databases, and ensuring the implementation of stricter emission standards like BS-VI for vehicles. Its role in coordinating with state boards and providing technical expertise has been fundamental in creating a unified approach to pollution control across India.

Commission for Air Quality Management (CAQM) for Delhi-NCR

The CAQM, established in 2020, serves as a dedicated statutory body focusing on air quality management in the Delhi-NCR region. This commission has been instrumental in implementing comprehensive pollution control measures through its Graded Response Action Plan (GRAP), which provides a systematic approach to addressing varying levels of air pollution. The CAQM's authority extends across state boundaries, enabling coordinated action in Delhi and adjacent areas of Haryana, Uttar Pradesh, and Rajasthan. Its initiatives include strict monitoring of construction activities, regulation of industrial emissions, and promotion of clean fuel adoption. Industries in designated areas are now required to shift to PNG or biomass-based fuels, while transport initiatives have expanded the adoption of CNG, LNG, and electric mobility. Complementing these regulatory measures, the Government of India has expanded the CGD network coverage to over 95% of the population, ensured priority allocation of domestic APM gas to the CNG and PNG sectors, and encouraged blending of biofuels and renewable gases under the SATAT and GOBAR-DHAN programs. The commission has achieved notable success in reducing stubble burning incidents through farmer engagement programs and implementing effective winter action plans. Through its real-time monitoring systems and emergency response protocols, the CAQM has demonstrated its capability in managing acute pollution episodes and maintaining sustained air quality improvement efforts.

Petroleum and Natural Gas Regulatory Board (PNGRB)

The PNGRB has emerged as a key player in India's transition to cleaner fuels through its regulation of natural gas distribution and infrastructure development. The board's efforts in expanding the City Gas Distribution (CGD) network

and promoting CNG and PNG adoption have significantly contributed to reducing vehicular and industrial emissions. Through its systematic approach to infrastructure development and market regulation, the PNGRB has facilitated increased access to clean fuels across urban and industrial areas. Its work in developing natural gas pipeline networks and ensuring fair pricing has been instrumental in making clean fuel alternatives more accessible and economically viable for both domestic and industrial consumers

The PNGRB plays a crucial role in developing India's gas market infrastructure and ensuring the growth of the natural gas sector in an organized manner. It has also launched some policies, some of them are mentioned below:

1. "Aage Badho PNG Chuno"
This flagship initiative by PNGRB aims to revolutionize household cooking fuel consumption patterns in India. The campaign focuses on creating widespread awareness about the benefits of Piped Natural Gas (PNG) and encourages households to transition from traditional cooking fuels like LPG cylinders. The policy emphasizes PNG's advantages including safety, convenience, continuous supply, and cost-effectiveness. Through this initiative, PNGRB coordinates with City Gas Distribution (CGD) entities to simplify the PNG connection process, organize awareness camps, and provide special connection schemes to accelerate adoption rates.
2. "National Gas Grid Vision"
This ambitious policy framework aims to create an interconnected natural gas pipeline infrastructure across India. The vision involves developing a comprehensive network of trunk pipelines connecting major gas sources to consumption centers. It includes detailed planning for regional gas hubs, interconnection points, and storage facilities. The policy also addresses funding mechanisms, right-of-way issues, and coordination with various stakeholders including state governments and industry companies.
3. "One Nation One Gas Grid"
This transformative policy initiative works towards creating a unified gas transportation system across India. It focuses on implementing a standardized tariff structure to ensure equitable gas pricing regardless of geographical location. The policy includes mechanisms for capacity trading, establishing market-based pricing, and developing a national gas exchange platform. It also addresses technical standards for pipeline integration and operational protocols for seamless gas movement across different networks.
4. "Gas4India" Campaign
This multi-faceted awareness campaign promotes natural gas as the fuel of choice for various applications. The initiative includes educational programs about natural gas benefits, safety protocols, and environmental advantages. It targets different stakeholder groups including domestic consumers, industrial users, and automotive sector participants. The campaign utilizes various media channels, social media platforms, and ground-level activities to disseminate information effectively.
5. "CGD Coverage Expansion"
This strategic initiative focuses on expanding City Gas Distribution networks across India through systematic bidding rounds. The policy includes detailed guidelines for network development, minimum work program requirements, and monitoring mechanisms. It addresses various aspects including technical standards, safety protocols, and service quality parameters. The initiative also includes provisions for supporting infrastructure development in challenging geographical areas and ensuring uniform service quality across regions
6. Promoting Transparency and Competition in Petroleum & Gas Infrastructure
PNGRB in its action plan for 2026-27 stated that it shall enable competition and infusion of capex through third parties in the GA where pipeline and infrastructure exclusivity has expired. Improve visibility of

infrastructure capacity, Unbundling of Functions, and creation of an Independent Transmission System Operator (TSO).

7. Outreach Initiatives

As part of its Action Plan for FY 2026-27, PNGRB has proposed outreach and policy initiatives aimed at accelerating the adoption of Piped Natural Gas (PNG) across India. Key measures include encouraging States to formulate and implement dedicated CGD policies, enhancing consumer awareness regarding the benefits of PNG, and promoting the development of LPG-free zones in residential colonies and wards to facilitate greater PNG penetration. The action plan also emphasizes engagement with statutory and regulatory bodies such as PESO, NHA and various State agencies to strengthen institutional support and streamline implementation of CGD infrastructure projects, which is expected to support the expansion of PNG networks and improve consumer access to natural gas.

Table 88: Recent Initiatives and reform by PNGRB:

Setting up City Gate Station (CGS) outside their authorized Geographical Areas (GAs)	- Amendment on 23.12.2024 was introduced in the regulations to allow entities for setting up of compression facilities along with CGS outside the GA boundary for an initial period of 2 years from the date of approval of PNGRB. - Further, an amendment was brought in the regulations to allow pipeline connectivity from CGS to pass through other authorized GAs. Additionally, entities were allowed to set up and operate compression facilities along with such CGS for an initial period of 2 years from the date of its authorization. - PNGRB brought the amendment in the Regulations vide notification dated 30.06.2020 and allowed entities to establish CGS (s) outside their Geographical boundaries. However, the entity was not allowed to carry any commercial activities that might violate the exclusivity of the adjoining territorial GA.
Declaration of CGD Networks as Common Carrier / Contract Carrier – Opening of exclusivity of CGD entities:	- Recently, PNGRB has initiated process for declaration of 74 CGD networks as common carrier or contract carrier. The declaration aims to enhance accessibility and transparency in the nation's gas infrastructure by allowing multiple entities to utilize these networks on a non-discriminatory basis. - PNGRB has also notified Determination of Transportation Rate for CGD and Transportation Rate for CNG Regulations, 2020 for determining transportation rates in respect of non-bid out GAs on a "cost of service" methodology. The methodology involves calculating tariffs based on a 12% post-tax return on capital employed, ensuring that the authorized entity recovers its costs of infrastructure post declaration of the network as common carrier and earns a reasonable return
Reduction in Performance Bank Guarantee (PBG) for CGD Sectors	- Earlier, the PBG of the entities were kept with PNGRB till the end of the authorization. As of March 2025, the total PBG values of all the authorized 307 GAs is Rs. 28,641 crores, ranging from Rs. 3.0 crore to Rs. 4,248 crores. Even after completion of the Minimum Work Program of the GA, it used to be with PNGRB. - Subsequently, it was clarified that reduction in value of PBG to 40% of initial PBG after 100% achievement of the work programme as per the authorization terms and conditions shall be applicable to all authorized entities irrespective of the year of authorization. This helped in unlocking the capital for creation of the infrastructure.
Insurance for DPNG consumers	PNGRB has successfully spearheaded a unanimous acceptance for the inclusion of insurance in the City Gas Distribution (CGD) sector, ensuring better consumer protection. Through this and upon its final implementation, CGD consumers PAN India including third party or collateral damage will be insured akin to LPG consumers.

Allowing Mobile Refuelling CNG Station against MWP Targets	The growing demand for cleaner and more sustainable energy sources has made natural gas a crucial component of India's energy transition. However, its availability remains a challenge, especially in remote and underserved areas where pipeline infrastructure is limited or not available yet. For LNG transport by specialized tankers high capex needs to be incurred. To bridge this gap and enhance accessibility, PNGRB has taken the following initiatives to expand the reach of natural gas.
Unified Pipeline Tariff	This tariff is a single, standardized rate for transporting natural gas across multiple pipelines, aiming to create a "one nation, one grid, one tariff" system. This approach simplifies pricing for natural gas transportation, encourages wider gas usage, and promotes the development of a national gas grid

Source: Crisil Intelligence

5.1.2 Exclusivity Period

PNGRB may grant a CGD operator exclusivity for the laying, building, or expansion of a CGD network for the project's economic life, typically expected to be twenty-five years. During this period, the authorized entity is responsible for necessary expansions, including pipeline capacity enhancements and CNG infrastructure upgrades, to ensure the integrity of the network and to keep pace with technological advancements. The economic life of the project begins either from the date of authorization granted by the PNGRB for new projects or from the start date of physical activities for projects initiated before the appointed day, provided the entity has the necessary authorizations. At the conclusion of the economic life, PNGRB may consider extending the exclusivity period in ten-year increments, contingent upon the entity's compliance with service obligations and quality standards. Non-compliance with these provisions may result in penalties and the termination of exclusivity, allowing PNGRB to permit other operators to undertake CGD network activities.

Additionally, PNGRB can grant exclusivity from common carrier or contract carrier regulations for five years from the date of authorization, with specific conditions based on the entity's operational history prior to the appointed day, allowing for either three or five years of exclusivity depending on the duration of prior operations.

6 Consolidation and Asset Readiness

6.1 Historical Inorganic Activities

Historical inorganic activities in the natural gas sector in India encompass a range of strategic mergers, acquisitions, and partnerships that have significantly shaped the industry's landscape. From the establishment of key public sector undertakings like ONGC and GAIL in the mid-20th century to the more recent acquisitions and joint ventures involving both public and private entities, these activities have bolstered exploration, production, and distribution capabilities. Notable milestones include the formation of ONGC Videsh Limited for international expansion, the creation of Petronet LNG to enhance LNG imports, and the strategic acquisitions by major companies like Reliance Industries and GAIL. These initiatives have not only strengthened India's natural gas infrastructure but also positioned the country to meet its ambitious energy goals in the coming decades. From 2018 to 2025, ~9 mergers/acquisitions were done, out of which 4 were done by Torrent Gas.

Table 89: Some Historical Inorganic Activities

Year	Target Entity	Acquirer	Stake	Purpose
2018	HPCL	ONGC	51.11%	ONGC expected that as an integrated oil conglomerate, it will have diversified cash flows and lower earnings volatility due to its midstream and downstream presence through HPCL, resulting in better valuation and higher shareholder value. The acquisition also provided ONGC access to HPCL's marketing network, which can be synergistically utilized for projects like MRPL and OPaL.
2018	Hazira LNG	Shell	26%	This acquisition allowed Shell to gain full ownership of the terminal, enabling them to integrate their gas value chain and strengthen their presence in the Indian market
2019	Adani Gas	Total	37.40%	Total acquired stakes in Adani Gas to leverage synergies between the companies' existing businesses, particularly in LNG and fuel retail, and bolstering Adani Gas's growth in the India CGD sector
2019	Maresh Gas	Torrent Gas	100%	Torrent Gas took over Maresh Gas to expand its CGD business in Pune district
2019	Siti Energy	Torrent Gas	100%	Torrent Gas took over Siti Energy to expand its CGD business in Uttar Pradesh
2019	Dholpur CGD (Essel Group)	Torrent Gas	100%	Torrent Gas acquired 100% stake in Dholpur CGD in March 2025 to expand its CGD business in Rajasthan
2021	Sanwariya Gas	Torrent Gas	100%	Torrent Gas acquired Sanwariya Gas to expand its CGD business in Mathura district of Uttar Pradesh
2024	Swan Energy	Botas Petroleum	51%	Swan Energy planned to sell its stake due to operational challenges and delays, including pandemic-related issues and a cyclone that impacted on the port facilities.
2024	Think Gas	Sumotimo Corporation India Pvt Ltd	-	In April 2024, Sumotimo Corp (a Japanese consortium) made primary investments in Think Gas to enter City Gas Distribution business in India
2025	AG&P Pratham	Think Gas	-	AG&P merged with Think Gas to expand their market reach in the CGD sector and improve operational efficiency

Note: *Transaction is under process

Source: Crisil Intelligence

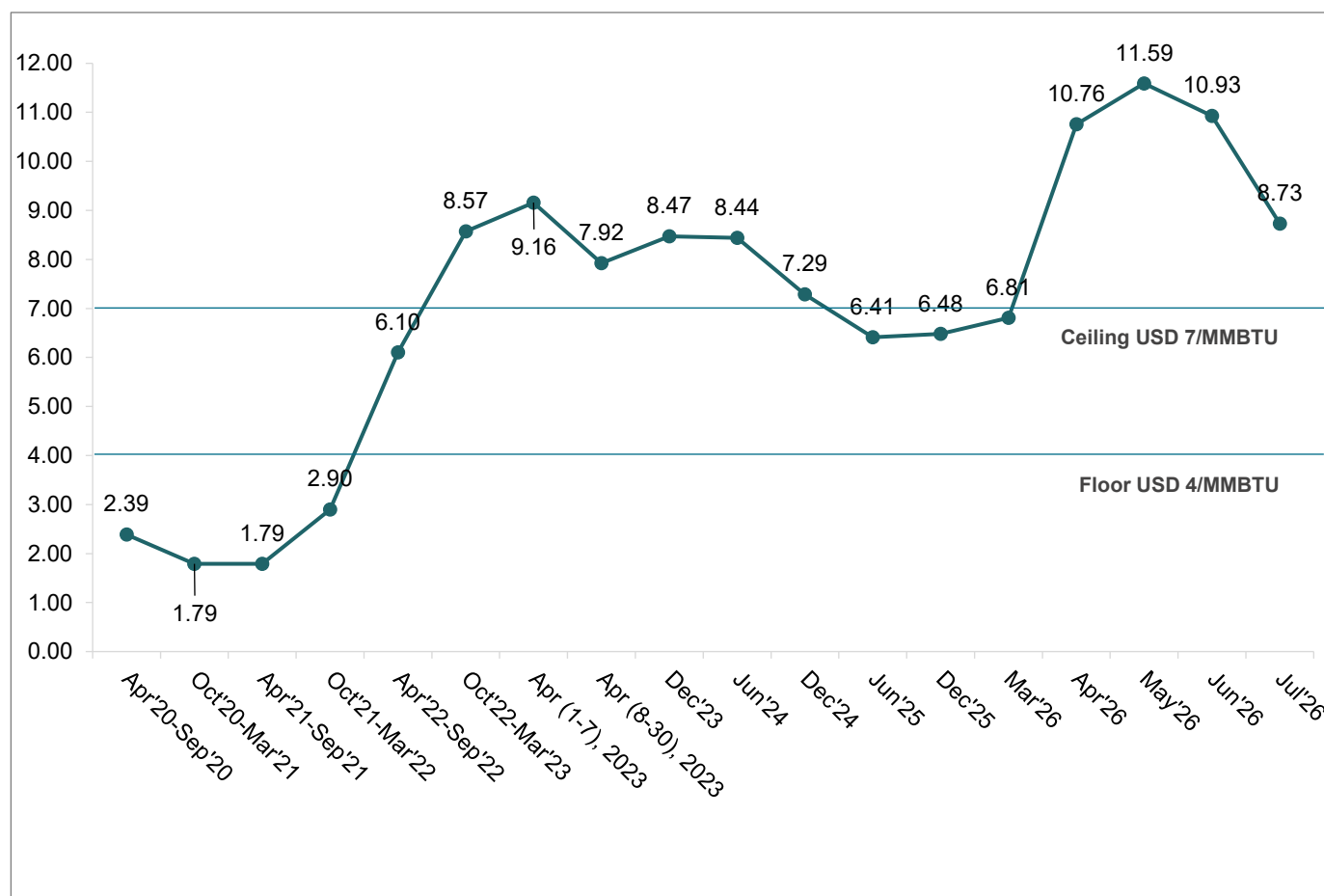
Scheme of Arrangement – GSPC Group

Effective May 1, 2026, the Composite Scheme of Arrangement of the GSPC Group came into force pursuant to the sanction of the Ministry of Corporate Affairs (MCA). Under the Scheme, Gujarat State Petroleum Corporation Limited (GSPC), Gujarat State Petronet Limited (GSPL) and GSPC Energy Limited (GEL) were amalgamated with Gujarat Gas Limited (subsequently renamed Gujarat Energy Limited), while the gas transmission business undertaking was demerged into GSPL Transmission Limited (GTL). The restructuring consolidates the Group's upstream, gas trading, city gas distribution and allied energy businesses under a single integrated entity, while establishing a dedicated gas transmission company to enhance operational focus, governance and business synergies across the natural gas value chain

6.2 Impact of reduced APM allocation to CGD sector

The reduction in APM gas allocation to the CGD sector has significant implications for cost structures, pricing dynamics, and demand growth across various consumer segments. In October 2024, GAIL reduced the APM gas allocation for the CNG segment by 20% of the CNG requirement. This shift in gas allocation policy is expected to have both short-term pricing challenges and long-term strategic consequences for CGD operators. The reduction in APM gas allocation could result in higher input cost for CGD companies, leading to increase in CNG prices for consumers.

Figure 89: Domestic Pricing for Natural Gas including APM floor and ceiling, USD/MMBTU, 2020-2026



Source: PNGRB, Crisil Intelligence

Impact on PNG Pricing and Competitiveness

- Domestic PNG: With a lower allocation of APM gas, CGD entities may explore a diversified gas sourcing strategy, balancing domestic gas with imported supplies. The focus will be on maintaining consumer affordability while ensuring steady expansion of domestic PNG connections. The sector's ability to optimize procurement and operational efficiencies will play a key role in sustaining competitiveness.
- Commercial & Industrial PNG: The industrial and commercial PNG segments, which already procure gas at market-linked prices, may experience shifts in sourcing strategies. Businesses will continue evaluating fuel options based on pricing and operational efficiencies, with CGD companies leveraging scale and infrastructure enhancements to strengthen PNG's value proposition.

CNG Price Volatility & Its Effect on Adoption

- CNG prices are expected to rise with reduced APM allocation, impacting its cost advantage over petrol and diesel.
- However, the CNG segment is expected to maintain its position as a cost-effective and environmentally friendly alternative to conventional fuels. While changes in gas sourcing could influence pricing, ongoing investments in infrastructure, technological advancements, and increasing OEM participation in factory-fitted CNG vehicles are likely to support sustained adoption.
- The expansion of CNG refueling infrastructure and continued policy support for clean mobility will further drive demand across passenger and commercial vehicle segments, reinforcing CNG's role in the broader energy transition.

Margin Compression & Profitability Impact for CGD Operators

- CGD entities that rely on low-cost APM gas for stable margins may face higher input costs, leading to lower profitability if price hikes are not fully passed on to consumers.
- Operators may need to optimize their pricing strategy to maintain margins while ensuring demand does not decline significantly.
- The shift towards more expensive gas sources may necessitate operational efficiencies and network optimization to offset margin pressures.

Regulatory & Policy Considerations

- The government may need to reassess APM gas allocation policies to ensure that CGD expansion targets under the National Gas Grid and clean energy transition remain on track.
- Potential policy interventions such as targeted subsidies, GST rationalization for gas, or a tiered allocation mechanism could help mitigate the impact on end-consumers.

Long-Term Strategic Considerations

- CGD companies may need to diversify gas sourcing strategies, including long-term LNG contracts and spot market optimization, to maintain cost competitiveness.
- Expansion into bio-CNG, hydrogen blending, and decentralized LNG solutions could help reduce dependency on APM gas over the long term.
- Investment in infrastructure efficiency and last-mile connectivity optimization will be critical to improving overall profitability despite higher input costs.

The reduction in APM gas allocation poses a significant challenge for the CGD sector, impacting pricing, consumer affordability, and long-term demand growth. CGD entities must adopt strategic pricing, supply diversification, and operational efficiencies to navigate this transition while continuing to drive city gas penetration and clean energy adoption.

6.3 Minimum Work Program – Impact on CGD companies & inorganic growth opportunities

The MWP is a critical regulatory requirement, mandated by PNGRB, that mandates CGD entities to achieve predefined milestones related to infrastructure development, consumer connections, and network expansion within a specified timeframe. The impact of MWP compliance on CGD companies is multifaceted:

Capex Pressure & Financial Strain:

- Companies are required to invest heavily in network expansion, including laying pipelines, establishing CNG stations, and providing PNG connections.
- This can create cash flow challenges, especially for smaller companies or those operating in low-demand geographies.

Operational Challenges in Difficult GAs:

- In regions with low population density, difficult terrain, or regulatory bottlenecks, meeting MWP targets may be logistically and financially challenging.
- Delays in land acquisition, right-of-way approvals, or infrastructure development can lead to penalties or potential license revocation.

Impact on Margins & Profitability:

- Initial years of MWP execution involve high fixed costs with limited revenue generation, impacting overall profitability.
- CGD companies need to balance rapid infrastructure rollout with ensuring economic viability of their operations.

Competitive Pressures & Market Positioning:

- Faster execution of MWP can provide first-mover advantages, allowing companies to lock in consumers early and establish a dominant market share.
- Conversely, delays can result in regulatory scrutiny, financial penalties, and competitive disadvantages.

Given the challenges associated with organic growth, CGD companies are increasingly exploring inorganic growth strategies to strengthen their market position and optimize operations. Key opportunities include:

Mergers & Acquisitions (M&A) for Faster Market Entry:

- Companies struggling with MWP targets may seek acquisition or strategic partnerships with larger, well-funded entities.
- Established CGD firms may acquire smaller operators to expand their footprint and optimize operational costs.

Asset Purchases from Non-Performing CGD Entities:

- Entities failing to meet MWP obligations may look to offload assets such as pipelines, CNG stations, and consumer bases to stronger entities.
- Such acquisitions can provide cost-effective expansion opportunities without the need for fresh infrastructure investment.

Strategic Investments in High-Density GAs:

Consulting

- Larger entities may focus on acquiring high-potential GAs where network penetration is easier, ensuring higher returns on investment.
- Companies with underperforming licenses may sell or divest their GAs, allowing better-capitalized entities to drive market expansion.

Joint Ventures & Strategic Partnerships:

- Collaboration with global gas suppliers, infrastructure developers, or investment funds can enable faster execution of MWP targets.
- Technology partnerships (such as smart metering, digital consumer onboarding, and remote monitoring) can enhance efficiency in meeting regulatory commitments.

The MWP serves as both a growth catalyst and a regulatory challenge for CGD companies. While it mandates rapid infrastructure expansion, it also increases financial and operational pressure, particularly for smaller companies. Inorganic growth strategies, including M&A, asset purchases, and partnerships, will play a crucial role in ensuring compliance while enhancing market positioning and profitability. Companies with strong financial backing and strategic execution capabilities will emerge as market leaders in the evolving CGD landscape.

Across the industry, several CGD entities have experienced delays in achieving certain MWP parameters due to various factors including delays in obtaining requisite approvals, right-of-use challenges, coordination with local authorities, infrastructure constraints in densely populated urban areas, utility shifting requirements, supply chain constraints, consumer preferences and disruptions arising from the COVID-19 pandemic and other execution related constraints.

Risk and Mitigation Strategies for Underperforming Assets

Risks

- Slower-than-planned network rollout due to delays in statutory and departmental clearances impacting timely MWP fulfilment.
- Lower initial demand uptake in newly awarded GAs leading to sub-optimal asset utilization versus MWP expectations

Mitigation

- Proactive use of Single Window Clearance (SWC) systems and state facilitation cells to fast-track multi-agency approvals
- Targeted marketing, early industrial onboarding and anchor-consumer outreach to improve initial throughput and asset utilization.

6.4 Industry PNG Connections have not picked up in the last 5 years

Despite the government's push for cleaner fuels and the expansion of CGD networks, industrial PNG connections have not witnessed significant growth over the past five years however there has been steady increase with a CAGR growth of 13%. Several factors have contributed to this sluggish adoption, ranging from economic considerations to infrastructure and regulatory challenges.

High Cost and Price Volatility of Natural Gas

- The competitive cost of PNG against alternate fuels such as coal, furnace oil, and LPG has fluctuated due to rising global LNG prices and reduced domestic gas allocation to non-priority sectors.
- Industrial consumers, especially small and medium enterprises (SMEs), have found it economically unviable to switch to PNG when alternate fuels remain cheaper or more predictable in pricing.

Capital Investment for PNG Infrastructure

- Unlike coal or furnace oil, switching to PNG requires significant upfront investment in pipeline connectivity, burners, and retrofitting existing industrial setups.
- Industries, especially in cost-sensitive segments like textiles, ceramics, and chemicals, have been hesitant to incur such costs, particularly in an uncertain economic environment.

Infrastructure Bottlenecks and Delays

- CGD network expansion has been slow in many industrial clusters due to right-of-way challenges, land acquisition issues, and delays in pipeline infrastructure development.
- Many industrial hubs still lack last-mile PNG connectivity, making the bulk transport of LNG via tankers a more viable option.

Policy and Regulatory Uncertainty

- Reduced APM gas allocation to the CGD sector has led to higher PNG prices for industrial users, making the transition less attractive.
- Frequent changes in tax structures (e.g., GST on natural gas) and lack of inclusion under GST have further discouraged adoption.

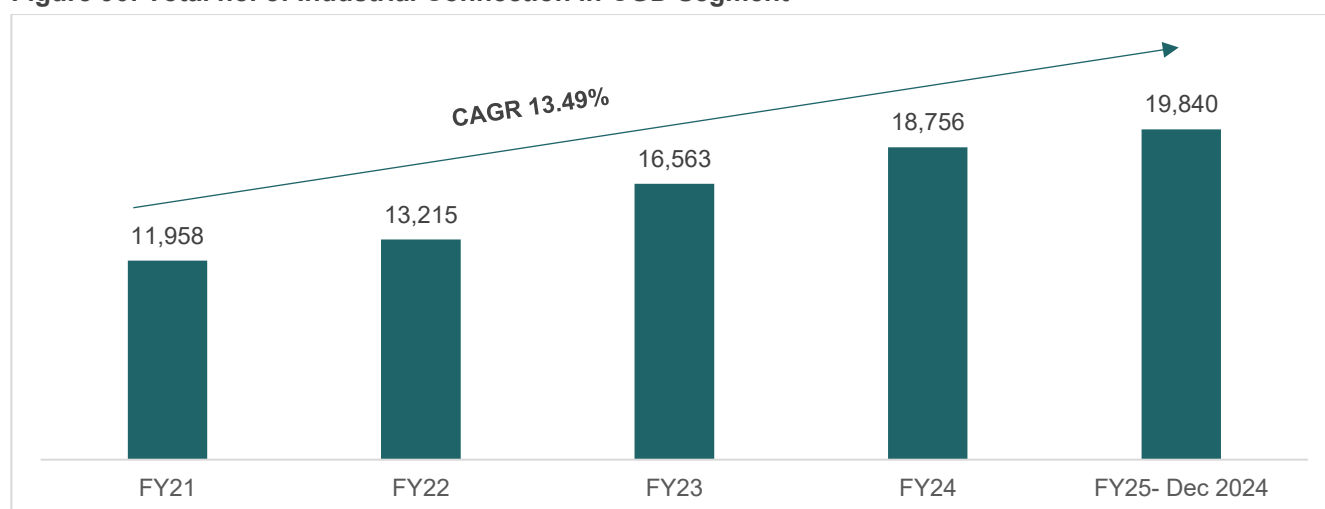
Reliability and Consistency of PNG Supply

- Gas supply constraints and disruptions have made industries wary of fully committing to PNG.
- Many industries prefer fuels like LPG or coal, which can be stored on-site for uninterrupted operations, unlike PNG, which relies on continuous pipeline supply.

Limited Incentives and Adoption Push

- Unlike CNG for transportation, there has been no strong policy push or subsidy mechanism for industries to adopt PNG.
- The government's focus has primarily been on expanding domestic and CNG segments, leaving industrial PNG growth largely market driven.

Figure 90: Total no. of Industrial Connection in CGD Segment



Source: PPAC

While PNG remains an attractive long-term alternative for industries due to its cleaner emissions profile and operational efficiency, its adoption has been hindered by cost concerns, infrastructure gaps, and policy uncertainties. To accelerate industrial PNG connections, targeted incentives, infrastructure development, and stable pricing mechanisms will be critical. Additionally, policy interventions, such as GST inclusion and a structured roadmap for gas pricing reforms, could help improve industrial uptake in the coming years.

6.5 CNG offline to online conversion possibilities

The transition from offline to online CNG dispensing presents a strategic opportunity to improve efficiency, accessibility, and operational economics in the CGD sector. As demand for CNG continues to grow, moving from offline supply models (cascade-based CNG supply) to direct pipeline-based online CNG dispensing can offer several advantages while addressing key challenges.

Advantages of Online CNG Dispensing

- **Cost Efficiency and Lower Logistics Dependence:** Online CNG stations receive direct pipeline gas supply, eliminating the need for cascade trucks that transport compressed gas to offline stations. This reduces transportation costs, fuel loss, and logistical bottlenecks.
- **Higher Reliability and Continuous Supply:** Online stations offer an uninterrupted supply of CNG since they are connected to the main pipeline network, unlike offline stations that rely on periodic refilling through cascades. This ensures better availability and reduces waiting times.
- **Faster Refueling and Improved Consumer Experience:** Since compression happens at the station itself, online CNG dispensing allows for higher throughput, reducing queue times for consumers. This is particularly beneficial in high-demand urban areas where vehicle volumes are high.
- **Better Safety and Operational Control:** The risks associated with handling and transporting high-pressure CNG cylinders are significantly reduced with online dispensing. It also allows for better pressure regulation and monitoring, enhancing overall safety.

Challenges in Converting Offline CNG to Online CNG

- **Pipeline Infrastructure and Network Availability:** Many existing offline stations operate in areas where CGD pipeline networks are either under development or absent. Expanding pipeline connectivity requires substantial investment and regulatory approvals, which may delay the transition.
- **High Initial Capital Investment:** Online stations require compressor units, and dedicated pipeline connections, leading to higher upfront costs compared to offline models. While long-term savings are substantial, CGD entities may prioritize high-demand zones first for conversion.
- **Land and Space Constraints:** Some existing offline CNG stations are located in areas where pipeline connectivity is not feasible, either due to land use restrictions, congestion, or commercial feasibility concerns.
- **Supply Prioritization and Gas Allocation:** Converting offline stations to online supply depends on the availability of gas allocation from domestic sources or imported LNG. Fluctuations in Administered Pricing Mechanism (APM) gas supply could impact project feasibility.

The transition from offline to online CNG dispensing has the potential to significantly enhance operational efficiency, reduce costs, and improve consumer convenience. However, challenges related to infrastructure availability, capital investment, and gas allocation must be addressed through a phased and strategic approach. The long-term benefits in terms of cost reduction, reliability, and safety make online CNG dispensing a key priority for the CGD sector's future growth.

6.6 LCV as a virtual pipeline infrastructure fungible to be used across all emerging charge areas

Light Commercial Vehicles (LCVs) play a crucial role in virtual pipeline infrastructure, enabling flexible and scalable gas distribution across regions where pipeline connectivity is limited or under development. Their ability to transport CNG, LNG, or LCNG makes them a fungible asset, capable of serving multiple emerging charge areas (ECAs) based on demand dynamics and infrastructure readiness.

Role of LCVs in Virtual Pipeline Infrastructure

- **Bridging the Infrastructure Gap:** In areas where CGD pipeline networks are not yet operational, LCVs act as mobile gas carriers, ensuring uninterrupted supply to CNG stations, industrial users, and remote locations.
- **Fungibility Across Multiple ECAs:** LCVs can be redeployed dynamically based on evolving demand, shifting supply between urban clusters, highway corridors, and industrial hubs without requiring fixed infrastructure investments.
- **Ensuring Gas Availability for Expanding Markets:** As newer ECAs develop, LCVs provide an immediate supply solution, allowing CGD entities to capture market share early before full pipeline connectivity is established.

Key Advantages of Using LCVs in Virtual Pipeline Networks

- **Cost-Effective vs. Fixed Pipelines:** Deploying LCVs requires lower capital investment compared to laying new pipelines, making them an economical short-to-medium-term solution.
- **Scalability and Quick Deployment:** Unlike pipelines that require land acquisition, approvals, and construction, LCV-based distribution can be scaled up or down quickly based on demand patterns.
- **Multi-Fuel Transport Capability:** LCVs can be configured for CNG, LNG, or LCNG, allowing CGD companies to optimize fuel transport based on cost and availability.
- **Supports Seasonal and Peak Demand Fluctuations:** LCVs can be deployed strategically to meet seasonal spikes in demand (e.g., higher winter PNG demand) or to supply high-traffic corridors during peak periods.

Challenges and Mitigation Strategies

- **Operational Costs & Logistical Complexities:**
 - While LCVs offer flexibility, fuel and maintenance costs can be significant. Route optimization and digital fleet management can enhance cost efficiency.
- **Regulatory Compliance & Safety Standards:**
 - Transporting gas via LCVs involves stringent safety and regulatory requirements. CGD companies must ensure adherence to best practices in handling, monitoring, and storage.
- **Integration with Long-Term Infrastructure Plans:**
 - LCVs should be viewed as an interim or complementary solution rather than a permanent alternative to pipelines. A phased transition strategy should be in place to replace LCV transport with direct pipeline connectivity as infrastructure expands.

LCVs serve as a critical enabler of virtual pipeline infrastructure, ensuring reliable and flexible gas supply across diverse demand centers. Their fungibility across ECAs makes them an essential asset for CGD companies looking to expand operations, capture new markets, and optimize distribution costs. While long-term pipeline infrastructure remains the ultimate goal, LCV-based virtual pipelines provide an immediate and scalable solution to bridge the supply gap in India's evolving gas market.

7 Investment Outlook until fiscal 2030

As India continues to expand its CGD network, capex intensity remains a critical factor influencing infrastructure development, network expansion, and operational scalability. Investment trends in the CGD sector will be shaped by evolving CNG and PNG infrastructure requirements, changing GA profiles, and the increasing penetration of natural gas across transport, industrial, commercial, and domestic segments.

7.1 Drivers of CNG capex intensity and its evolution over time

The capex required for CNG infrastructure development is influenced by several factors, including the type of station (mother, daughter booster), network connectivity, and the scale of deployment. These investments follow a structured pattern, evolving as the market matures and demand dynamics shift.

Mother / Online Stations: Mother stations form the backbone of CNG infrastructure, receiving gas via pipelines and compressing it for direct dispensing or distribution to daughter stations. The capex intensity for mother stations is high due to land acquisition, installation of high-pressure compressors, and dispensers. Initial investments are front-loaded, with ongoing incremental investments focused on capacity augmentation as demand scales up.

Daughter Booster Stations: Daughter stations operate on a cascade system, receiving CNG via mobile transportation from mother stations, while booster stations incorporate on-site compression. The capex for daughter stations is lower compared to mother stations but increases when transitioning to booster stations, as additional compression units and storage facilities are required. Expansion strategies often involve upgrading high-demand daughter stations into booster stations to optimize operational efficiency.

Pipeline and Storage Infrastructure: Pipeline connectivity plays a critical role in reducing reliance on cascade transportation. Initial capex requirements are high, particularly in greenfield geographies where pipeline networks are underdeveloped. However, as infrastructure matures, network optimization leads to reduced incremental investments and lower per-unit costs.

Indian government mandates such as Minimum Work Programme (MWP) significantly influence front-loaded capital expenditure in the development of CNG infrastructure by requiring intensive upfront investments to meet defined infrastructure targets within specified timelines. The strict targets necessitate heavy early-stage capital deployment to build pipelines, fuelling stations, and distribution networks promptly, effectively front-loading the capex. PNGRB mandates these MWPs and monitors compliance rigorously. Non-compliance risks loss of authorizations or regulatory penalties, prompting companies to accelerate capital expenditure early in the project to comply. This regulatory enforcement increases the pressure to commit large sums initially, rather than spreading costs evenly over the project duration.

Evolution of Capex Intensity for CNG Infrastructure Over Time

Capex intensity for CNG infrastructure evolves in three distinct phases:

Phase 1: Early Development (High Capex Intensity)

- Initial investments are focused on establishing core infrastructure, including mother stations, land acquisition, and foundational pipeline networks.
- Demand uncertainty leads to underutilized assets, resulting in higher per-unit capex.

- Daughter stations are predominant, leading to higher cascade transportation costs. (Cascade transportation refers to the use of mobile, modular storage units to transport CNG between mother stations and daughter stations. These cascades, often mounted on trailers, serve as temporary storage and transportation tanks, providing a flexible alternative to pipelines, especially in areas where pipeline infrastructure is not readily available)

Phase 2: Expansion and Network Optimization (Capex Rationalization)

- As vehicle penetration increases, station utilization improves, reducing per-unit investment costs.
- Daughter booster stations are systematically converted into online

Geographical Spread and Last-Mile Connectivity

- Higher capex is required in low-density areas, such as suburbs and smaller towns, where longer pipeline lengths are needed per connection.
- Urban clusters with high consumer density benefit from shared infrastructure, leading to a decline in per-connection capex.

How Capex Intensity for PNG Reduces Over Time

The reduction in PNG capex intensity follows a three-stage evolution as penetration deepens:

Phase 1: Initial Infrastructure Development (High Capex Intensity)

- Large-scale investments are required for laying trunk pipelines, network development, and regulatory compliance.
- The cost per connection is high due to low adoption rates and high installation expenses.
- Slow demand growth results in underutilized infrastructure, increasing per-unit capex.

Phase 2: Expansion and Consumer Scaling (Capex Rationalization)

- As customer adoption increases, network utilization improves, leading to better cost recovery.
- Shared infrastructure across multiple consumers reduces the incremental capex required per connection.
- Expansion is focused on densification within existing geographies, minimizing the need for extensive new pipeline investments.

Phase 3: Maturity and Network Optimization (Capex Stabilization)

- Majority of infrastructure is already in place; incremental investments are marginal and focused on last-mile connectivity.
- Higher customer density leads to economies of scale, lowering per-unit costs.
- The focus shifts from expansion to enhancing operational efficiency, such as integrating smart metering and reducing pipeline losses.

Factors Driving Reduction in Capex Intensity

The following factors contribute to the decline in PNG capex intensity as market penetration deepens:

- **Higher Consumer Density:** More connections per km of pipeline reduce per unit capex.
- **Standardization of Equipment & Processes:** Mass deployment reduces procurement and installation costs.
- **Improved Operational Efficiencies:** Lower maintenance costs due to optimized asset utilization.
- **Government Incentives & Policy Support:** Regulatory push can reduce initial investment burdens through subsidies and incentives.

PNG capex intensity follows a declining trajectory, driven by improved network utilization, economies of scale, and customer base expansion. While initial investments are high, sustained market penetration enables cost efficiency and better capital productivity, ensuring long-term financial sustainability for CGD operators.

7.2 Impact of GA profile on capex intensity in CGD

The capital expenditure (capex) intensity in a City Gas Distribution (CGD) network is significantly influenced by the profile of the Geographical Area (GA). Key factors such as population density, urbanization levels, industrial presence, and existing infrastructure determine the quantum and phasing of investments required. Understanding how GA characteristics impact capex intensity is crucial for optimizing financial planning and ensuring sustainable returns on investment.

Population Density and Urbanization Levels

- **High-density urban areas (metros and tier-1 cities):**
 - These regions offer a high consumer base per unit of infrastructure, leading to better utilization of pipelines and lower per-connection capex.
 - Network expansion is more cost-efficient, as shorter pipeline lengths are required to connect a larger number of consumers.
 - The presence of high-rise buildings enables cluster-based connections, further optimizing capital investments.
- **Low-density semi-urban and rural areas:**
 - Require higher capex per connection due to the need for extensive pipeline networks to cover a dispersed population.
 - Lower initial consumer adoption results in longer payback periods, increasing financial risk for operators.

Industrial and Commercial Presence

- **Industrial clusters within a GA:**
 - Regions with strong industrial demand (steel, cement, glass, pharmaceuticals, ceramics, etc.) require high-pressure pipeline networks and dedicated infrastructure.
 - Industrial PNG sales contribute to faster revenue realization, improving return on investment.
 - However, industries are price-sensitive, and capex deployment must align with projected demand.
- **Commercial hubs and business districts:**
 - High consumption from restaurants, hotels, malls, and corporate offices leads to efficient asset utilization.

- Commercial PNG provides higher margins, making investments in such areas more attractive.
- **Residential-dominated GAs:**
 - Typically require longer gestation periods before achieving significant PNG penetration.
 - Higher capex per connection due to the requirement for last-mile connectivity in multi-story buildings or distributed dwellings.

Existing Gas Infrastructure and Connectivity

- **GAs with established pipeline networks:**
 - Presence of trunk pipelines and nearby LNG terminals reduces the need for extensive primary infrastructure investments.
 - Lower cost of gas transportation and reduced dependency on virtual pipelines improve financial feasibility.
- **GAs with limited or no pipeline connectivity:**
 - Require investment in mother stations, daughter stations, and LNG storage facilities, leading to higher initial capex.
 - Dependence on LCVs (virtual pipeline) for gas transportation increases operational costs, impacting overall project viability.

Regulatory and Policy Framework

- **GAs awarded in earlier bid rounds:**
 - Typically, they have better infrastructure and easier expansion opportunities, leading to lower incremental capex intensity.
- **Newly allocated GAs in remote areas:**
 - Often require higher capex investment in pipeline development and compression stations before achieving financial viability.
 - Strict MWP obligations may force CGD operators to front-load capex, impacting short-term financial performance.

The profile of a GA plays a pivotal role in shaping the capex intensity of CGD investments. Densely populated urban areas and industrial hubs allow for more efficient infrastructure deployment, resulting in lower per-unit capex and faster revenue realization. Conversely, GAs with low population density, limited existing infrastructure, and regulatory constraints require higher initial investments and longer payback periods. A strategic approach to phased infrastructure rollout and demand aggregation is essential to optimizing capex efficiency across different GA profiles.

7.3 CGD segment to drive investment in natural gas sector over next 5 years

Sectoral natural gas demand took a hit from Covid-19 pandemic-led demand destruction, following a country-wide lockdown that started in March 2020. Gas demand from key sectors such as industrials, transportation and petrochemicals were impacted.

With lower demand and labour-related challenges, projects got postponed to FY-22, except those that were in advanced stage of commissioning. In fact, the government also gave leeway in the execution timelines for CGD projects. This impacted investments in FY-21; however, the pace picked up in FY-22 as normalcy returned.

In the past, investments in downstream natural gas transmission pipelines, LNG terminals, and CGD projects remained subdued up to FY-17, due to falling domestic gas production and surging LNG prices. However,

investments started picking up from FY-18 because of the government's push for infrastructure development and cleaner fuel.

Crisil Intelligence expects investments to improve in the future because of a likely rise in domestic production, increased availability of LNG and lower LNG prices, which would boost volume.

This is also clear from the increased pace of execution for the projects stuck for many years due to various challenges. For instance, several gas transmission pipelines had been awarded to GAIL, Reliance Gas Transmission Infrastructure Ltd (RGITL), and joint ventures of Gujarat State Petronet Ltd. However, implementation remained slow due to limited domestic gas availability and lack of anchor consumers along the route.

The Jagdishpur-Haldia pipeline (~INR 125 billion) was stuck due to delays in reviving closed fertiliser units in the eastern region. However, the government's policy push has put projects back on track. For example, the Jagdishpur-Haldia-Bokaro-Dhamra line has been fast-tracked to connect east India to the gas pipeline infrastructure. The first phase of the project, which included 755 km of pipeline, was completed in the first quarter of FY-20 and the second phase is expected to be ready by FY-23. The project has been developed under the Pradhan Mantri Urja Ganga Yojana to connect eastern states with the gas pipeline and develop CGD infrastructure in the region.

In Phase I, the pipeline connected Phulpur (Uttar Pradesh) to Dobhi (Bihar) with spur lines to Varanasi, Gorakhpur, Barauni, and Patna. In Phase II, the 1,200 km long pipeline would connect Dobhi to Duragpur-Haldia (West Bengal), Bokaro-Ranchi (Jharkhand) and Angul-Dhamra (Odisha). Further, Barauni-Guwahati pipeline (in discussion stage) is expected to connect the northeast with LNG infrastructure through Jagdishpur-Haldia pipeline by FY-23. The government is planning to build a gas grid in the northeast region to connect potential districts with gas pipeline infrastructure.

In case of LNG terminals, most planned projects, such as Ennore terminals (~INR 50 billion), were delayed as rising LNG prices impacted demand. However, Ennore terminal got commissioned in the first quarter of FY-20. Mundra terminal was inaugurated in September 2018 but was commissioned in the first quarter of FY-21.

Another terminal/ FSRU, namely Jaigarh, was expected to start operations in FY-21. Jaigarh LNG FSRU was commissioned in FY-19 itself; the regasification terminal is expected to commission in FY-26. Kakinada gasification plant is also proposed.

Even in the CGD sector, while the PNGRB had set a target of over 300 cities, rollout was lacklustre because of lack of domestic gas supply and rising LNG prices up to FY-17. However, FY-18 witnessed good growth in gas consumption due to lower LNG prices, the government's thrust to improve CGD penetration, and the ban on polluting fuels in the northern states.

In CGD bidding round 9 to 11, the PNGRB came up with 207 geographical areas. This round is expected to attract investments of INR 70,000 crore. Moreover, CGD round 10 is expected to attract investments of INR 50,000 crore while CGD round 11 and 12 are anticipated to attract INR 80,000 crore and INR 41,000 crores respectively.

Table 90: Future Investments by some CGD Companies

S. No.	CGD Company	Investment (INR Crore)	Investment Period
1	Gail Gas	10,000	Till 2030
2	Bharat Petroleum Corporation Ltd	25,000	Till 2030
3	Adani Total Gas	10,000 to 15,000	Till 2033 or 2035
4	Indian Oil Corporation Ltd	5,600	-
5	Indraprastha Gas Ltd	6000	Till 2027

Source: Crisil Intelligence

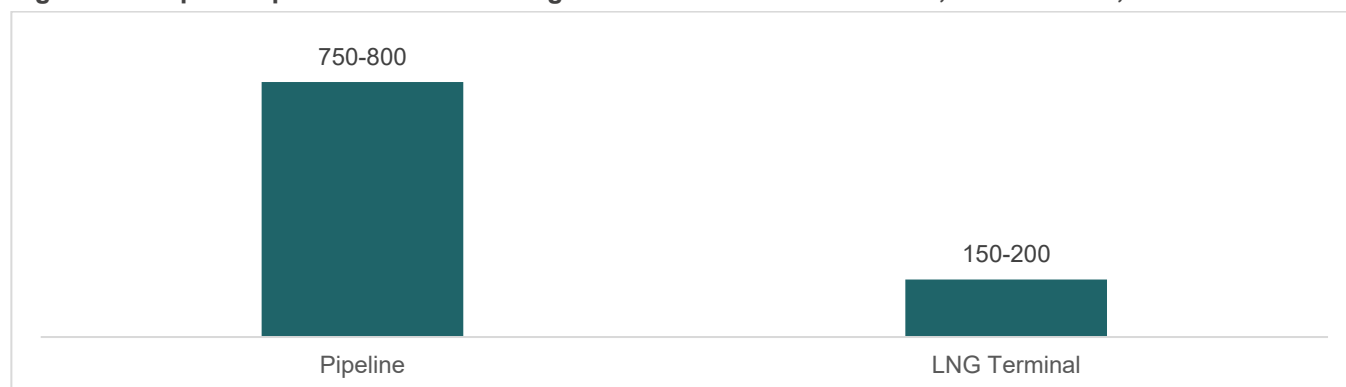
7.4 Capex to touch INR 900-1000 billion between FY-25 and FY-30

Crisil Intelligence expects investments in downstream gas infrastructure to improve in the medium term, as government push for cleaner fuel has led to investment opportunities in the sector, visible in the recent CGD bid rounds, development in the gas trunk pipelines and new regasification capacities (planned and under-construction).

Investments in gas transmission pipelines are likely to rise to INR 750-800 billion with an uptick in gas consumption. Moreover, in union budget 2025, the government has allocated INR 497.25 crore for development of infrastructure for injection of CBG in CGD network. The government is considering providing policy/financial support (such as viability gap funding) to improve the feasibility of new pipelines, which will boost investments. Similarly, healthy growth is expected in CGD investments due to improved domestic gas supply. In February 2014, the government announced allotment of domestic gas to meet the entire demand from the CNG and domestic PNG segments. Since guaranteed domestic gas allocation significantly improves project economics, we expect the government to assure domestic gas supplies to CGD entities in new geographical areas. Moreover, the Pradhan Mantri Urja Ganga Yojana is expected to increase gas consumption in eastern states. That would help in the revival of gas-based urea plants, gas supply in industrial units, and development of CGD infrastructure to cater to CNG and domestic and industrial PNG consumers. Commencement of the LNG terminal on the eastern coast (Ennore) would also intensify gas consumption in the region with a huge demand potential.

Investments in LNG terminals are expected to increase to INR 150-200 billion from fiscal 2025 to 2030. With natural gas demand increasing faster than domestic production, dependence on LNG would grow. Further, in line with the government's vision to increase gas share in the energy mix from the current level of ~6.5% to 15% by 2030, we expect government thrust for development of gas infrastructure only to intensify.

Figure 91: Capital expenditure outlook for gas downstream infrastructure, in INR billion, FY25-FY30



Source: Company investment plans, Crisil Intelligence

7.4.1 Role of Asset Monetization Models – InvITs

Infrastructure Investment Trusts (InvITs) have become an important instrument for unlocking capital and enabling long-term infrastructure financing in India's energy and gas sectors. They allow developers to monetize mature, revenue-generating assets while attracting stable, yield-seeking investors such as sovereign wealth funds and pension funds. InvIT corresponding to the gas sector is the Energy Infrastructure Trust's —sponsored by Brookfield Asset Management—Pipeline Infrastructure Limited (PIL), which operates the 1,375 km, 48-inch Kakinada–Bharuch natural gas pipeline (East–West Pipeline) connecting the KG Basin to western industrial markets. Supported by long-term capacity contracts, this model demonstrates the ability of InvITs to generate predictable cash flows.

Similarly, GAIL (India) Limited is preparing to monetize select gas pipelines, including the Dahej–Uran–Panvel–Dabhol and Dabhol–Bengaluru lines, through an InvIT structure to optimize its balance sheet and recycle capital into network expansion. Other energy PSUs such as HPCL and Indian Oil are also exploring InvIT-based models.

8 Torrent Gas Geographical Areas Profiling

Torrent Gas currently operates in 17 Geographical areas spread across 34 districts spanning across the country, catering to 4% of India's land mass and ~6% of India's population. The company has robust CGD infrastructure with 10000+ km of pipelines, 516 CNG Stations as of November 30, 2025. Furthermore, the company has achieved peak gas sales of 3 MMSCMD in span of ~8 years. Owing to its presence in industry rich areas, Torrent Gas has onboarded 600+ industrial consumers across sector as of November 30, 2025.

8.1 Effect of CGD Network on accelerating growth of CNG

The availability of City Gas Distribution (CGD) networks in various states in India, including Uttar Pradesh, Punjab, Rajasthan, Maharashtra, Tamil Nadu, Telangana, and Gujarat, has a significant impact on the growth of Compressed Natural Gas (CNG) as a fuel.

1. **Uttar Pradesh:** India's most populous state, UP, harmonises spiritual heritage and historical richness with expanding urbanisation and industrial growth. The region is evolving into a network of thriving centres for culture and trade driven by proximity to expansive industrial corridors and vibrant travel circuits, supported by a robust highway and road network that enables manufacturing, processing and logistics across areas such as Auraiya, Kanpur, Etawah, Gorakhpur, Moradabad, Gonda, Barabanki, Azamgarh, Mau, Ballia, Basti, and Mathura, where TGL operates. The CGD network in Uttar Pradesh has expanded rapidly in recent years, with cities like Lucknow, Kanpur, and Agra having a well-established network. This has led to an increase in CNG consumption, with many vehicles, especially public transport, switching to CNG. The availability of CGD networks has accelerated CNG growth in the state, with a significant reduction in air pollution. The CNG stations grew from 869 in Dec-2023 to 1,143 in Dec-2024, with a YOY growth of ~32%.
2. **Punjab:** Punjab, known for its fertile alluvial plains, blends robust agricultural leadership with expanding urban and industrial centres. Supported by robust highways and trade corridors, the state is evolving as a hub of commerce, logistics, and cultural vibrancy clearly evident across Patiala, SAS Nagar (Mohali), and Sangrur, the areas where TGL operates. Punjab's CGD growth has been gradual with only a few cities like Chandigarh and Ludhiana having a limited network. However, with the recent allocation of CGD licenses, the network is expected to expand, leading to increased CNG adoption. The state's agricultural sector, which is a significant consumer of diesel, is expected to benefit from the shift to CNG. The CNG stations grew from 214 in Dec-2023 to 261 in Dec-2024, with a YOY growth of ~22%.
3. **Rajasthan:** Rajasthan, India's largest state, harmonises its royal heritage and desert landscapes with established centres of trade and commerce. While tourism remains a cornerstone, Rajasthan also anchors industries spanning auto components, cement, engineering, IT, handicrafts, and minerals, well witnessed across Alwar, Jaipur, Kota, Dholpur, Baran, and Chittorgarh, the areas where TGL operates. Rajasthan has a growing CGD network, with cities like Jaipur, Jodhpur, and Udaipur having an established network. The state's CGD network has led to an increase in CNG consumption, particularly in the transportation sector. The availability of CGD networks has accelerated CNG growth in the state, with a focus on reducing air pollution in urban areas. The CNG stations grew from 270 in Dec-2023 to 386 in Dec-2024, with a YOY growth of ~43%.
4. **Maharashtra:** India's leading state for industrial output, automobile manufacturing, and IT services, exemplifies economic and technological leadership. Pune district, particularly regions outside Pune city such as Pimpri-Chinchwad, Talegaon, and Ranjangaon, drive commerce, manufacturing, and engineering industry, reinforcing Maharashtra's role as a strategic centre for trade, technology, and regional economic progress. Maharashtra has a well-developed CGD network, with cities like Mumbai, Pune, and Nagpur having an extensive network. The state is one of the largest consumers of CNG in India, with a significant number of vehicles, including public transport, running on CNG. The availability of CGD networks has

accelerated CNG growth in the state, with a focus on reducing air pollution and promoting sustainable transportation. The CNG stations grew from 819 in Dec-2023 to 1,028 in Dec-2024, with a YOY growth of ~26%.

5. **Tamil Nadu:** India's foremost state for automobile manufacturing and leather exports, Tamil Nadu exemplifies industrial and technological leadership, anchored by modern highways, ports, and logistics networks supporting robust industrial growth. Chennai, South India's most prominent metropolitan, drives progress in automobile, tyre industry and manufacturing, while regions such as Thiruvallur and surrounding areas bolster textiles, engineering, electronics and healthcare highlighting the state's role as a dynamic centre for trade, industry, and innovation. Tamil Nadu has a relatively underdeveloped CGD network, with only a few cities like Chennai and Coimbatore having a limited network. However, with the recent allocation of CGD licenses, the network is expected to expand, leading to increased CNG adoption. The state's industrial sector, which is a significant consumer of diesel, is expected to benefit from the shift to CNG. The CNG stations grew from 302 in Dec-2023 to 368 in Dec-2024, with a YOY growth of ~22%.
6. **Telangana:** Telangana, India's numero uno state for IT exports, pharmaceutical production, and biotechnology innovation, gains its economic leadership through expansive urban and semi-urban centres, modern road networks, and industrial and service corridors. Telangana has a growing CGD network, with cities like Hyderabad and Secunderabad having an established network. The state's CGD network has led to an increase in CNG consumption, particularly in the transportation sector. The availability of CGD networks has accelerated CNG growth in the state, with a focus on reducing air pollution in urban areas. The CNG stations grew from 170 in Dec-2023 to 211 in Dec-2024, with a YOY growth of ~24%.
7. **Gujarat:** The state stands as an industrial powerhouse, excelling in logistics infrastructure, textiles, petrochemicals, and agriculture, while hosting one of the country's largest LNG terminal facilities. Gujarat has a well-developed CGD network, with cities like Ahmedabad, Surat, and Vadodara having an extensive network. The state is one of the largest consumers of CNG in India, with a significant number of vehicles, including public transport, running on CNG. The availability of CGD networks has accelerated CNG growth in the state, with a focus on reducing air pollution and promoting sustainable

Table 91: Domestic PNG Connections, FY21 – FY26

Domestic Connections (in numbers)	31-Mar-21	31-Mar-22	31-Mar-23	31-Mar-24	31-Mar-25	31-Mar-26
Gujarat	2,421,755	2,677,063	2,975,194	3,282,257	3,570,911	3,896,217
YOY (%)		10.54%	11.14%	10.32%	8.79%	9.11%
Maharashtra	1,968,976	2,327,389	2,840,638	3,429,926	4,030,722	4,708,993
YOY (%)		18.20%	22.05%	20.74%	17.52%	16.83%
Rajasthan	56,209	139,338	213,830	308,973	424,779	561,678
YOY (%)		147.89%	53.46%	44.49%	37.48%	32.23%
Uttar Pradesh	960,573	1,163,591	1,367,777	1,626,498	1,899,878	2,307,929
YOY (%)		21.14%	17.55%	18.92%	16.81%	21.48%
Telangana	143,248	162,257	193,026	211,820	235,918	263,342
YOY (%)		13.27%	18.96%	9.74%	11.38%	11.62%
Punjab	10,981	36,965	67,344	85,572	105,429	201,307
YOY (%)		236.63%	82.18%	27.07%	23.21%	90.94%
Tamil Nadu	0	0	738	25,175	72,759	145,141
YOY (%)				3311.25%	189.01%	99.48%

Puducherry & Tamil Nadu	0	0	175	329	486	728
YOY (%)				88.00%	47.72%	49.79%

Note: Data is at state level.

Source: PPAC

8.2 GAs Maturity Level

Table 92: TGL GAs Maturity Level

State/ Union Territory	Geogra phical Area/ CGD Networ ks	Actual Progress vis-à-vis MWP Targets as on May 2026								
		CNG Station (Nos.)			D-PNG Connections Nos.)			Pipeline (inch-Km)		
		Total MWP Target	Achieve ment	Achieve ment (%)	Total MWP Target	Achieve ment	Achieve ment (%)	Total MWP Targ et	Achieve ment	Achieve ment (%)
Rajasthan	Alwar (Other than Bhiwadi) & Jaipur Districts	132	73	55%	1,320,000	19,329	1%	12,030	3,068	26%
Uttar Pradesh	Auraiya, Kanpur Dehat & Etawah Districts	27	41	152%	118,800	17,910	15%	1,602	1,224	76%
Uttar Pradesh	Azamga rh, Mau and Ballia Districts	40	30	75%	100,800	14,982	15%	1,008	636	63%
Uttar Pradesh	Basti and Ambedk arnagar Districts	18	18	100%	35,100	9,660	28%	207	245	118%
Tamil Nadu	Chennai & Tiruvallu r Districts	222	87	39%	3,300,000	5,253	0%	6,666	2,269	34%
Rajasthan	Dholpur District	14	9	64%	18,000	2,741	15%	412	133	32%
Uttar Pradesh	Gonda and Baraban ki Districts	36	31	86%	111,600	10,526	9%	756	1,250	165%
Uttar Pradesh	Gorakh pur, Sant Kabir Nagar & Kushina gar Districts	36	34	94%	178,200	18,764	11%	5,814	1,264	22%

Gujarat	Junagadh District	45	19	42%	77,400	17,709	23%	3,186	1,657	52%
Puducherry (UT) & Tamil Nadu	Karaikal & Nagapattinam Districts	27	9	33%	166,644	798	0%	495	262	53%
Rajasthan	Kota District (EAAA), Baran & Chittorgarh (Only Rawatbhata Taluka) Districts	27	19	70%	60,300	6,781	11%	3,393	645	19%
Uttar Pradesh	Mathura	5	13	260%	65,000	26,937	41%	347	397	114%
Telangana	Medak, Siddipet & Sangareddy Districts	54	21	39%	310,770	2,864	1%	5,076	1,467	29%
Punjab	SAS Nagar District (EAAA), Patiala & Sangrur Districts	54	45	83%	520,200	16,030	31%	2,610	1,053	40%
Uttar Pradesh	Moradabad	0	8	NA	127,000	43,181	34%	654	410	63%
Uttar Pradesh	Moradabad (EAAA) District	27	21	78%	154,800	13,433	9%	792	472	60%
Maharashtra	Pune District (EAAA)	0	79	NA	52,810	32,018	61%	1,800	2,901	161%

Note: Data as of May'26

MWP: Minimum Work Program, EAAA: Except Area Already Authorized

Source: PNGRB, Crisil Intelligence

8.3 Market Exclusivity

Table 93: Market Exclusivity

Unique ID	GA	Date of Authorization	Marketing Exclusivity
9.11	Junagadh	13-09-2018	01-09-2028
9.52	Patiala	26-09-2018	01-09-2028
9.5	Karaikal	28-09-2018	01-09-2028
9.71	Sanga Reddy	13-09-2018	01-09-2028

9.57	Kota	13-09-2018	01-09-2028
9.79	Kanpur	13-09-2018	01-09-2028
9.81	Gorakhpur	13-09-2018	01-09-2029
9.83	Moradabad	13-09-2018	01-09-2028
10.4	Gonda	29-03-2019	01-03-2029
10.36	Azamgarh	29-03-2019	01-09-2029
10.38	Basti	29-03-2019	01-09-2029
9.6	DCPL	28-09-2018	01-09-2028
9.62	TGCPL	07-09-2018	01-03-2030
9.56	TGJPL	27-08-2018	31-03-2030

TGCPL: Torrent Gas Chennai Private Limited, TGJPL: Torrent Gas Jaipuri Private Limited

Source: Torrent Gas, Crisil Intelligence

8.4 District Profile

Table 94: District Profile for TGL GAs

Districts	Physical Geography	Demographics			Infrastructure	
	Area (sq km)	Population (numbers)	Population Density (per sq km)	Literacy Rate (%)	Transportation networks	Industrial Area
Mathura	3,340	2,547,184	763	70.36	Strategically connected by Yamuna Express way, National Highway 44, and state highways 33 & 80 connecting Aligarh with Bharatpur in Rajasthan	Mathura Site-A, Mathura Site-B, Kosi Kalan, and Kosi Kotwan-IIIDC. Some major companies' presents are IOCL refinery, Varun Beverages, Plaza Chemical Industries, etc
Auraiya	2,016	1,379,545	684	78.95	Connected by National Highways 19 & State highway 21	Industrial areas in Achhalda, Auraiya, Bidhuna, Dibiyapur. Some major companies are GAIL, NTPC, etc

Districts	Physical Geography	Demographics			Infrastructure	
	Area (sq km)	Population (numbers)	Population Density (per sq km)	Literacy Rate (%)	Transportation networks	Industrial Area
Kanpur Dehat	3,021	1,796,191	595	75.78	Connected with national highways NH-19, NH-27 and state highways SH-83 and SH-68	Has industrial areas in Raina, jainpur, jhijnhak and rasulabad

Etawah Districts	2,311	1,581,810	684	78.41	Connected with national highways NH 19, NH 234, NH 719 and state highways SH 83 and SH 62	Has rural industrial estate Jaswant Nagar and large industrial estate Sarai Aisar
Gorakhpur Districts	3,484	4,440,895	1,275	78.83	Connected with national highways NH 27, NH 24, NH 727A, NH 727BB and state highways SH 1	Has industrial area with more than 20 production units
Sant Kabir Nagar Districts	1,646	1,706,706	1,037	66.72	Connected with national highways NH 27, NH 328, NH 328A and state highways SH 88 and 34E	Has industrial area in Khalilabad, Malauli, Haisher Bazar and Chapiya Doyam, Mehdawal
Kushinagar Districts	2,906	3,564,544	1,227	65.25	Connected with national highways NH 27, NH 727 and NH 730	Has industrial areas in Padrauna, Kasya, Sirgatiya Karanpatti, Nadwar, Shunpur, Siswa, Bujurg
Moradabad Districts	10,863	3,406,061	314	58.67	Connected with national highways NH 9, NH 509 and state highways SH 76, SH 49, SH69W, SH 78	Has industrial area SEZ 1&2, with more than 100 production units
Azamgarh	4,054	4,612,000	1,138	70.93	Connected with national highways NH 128C and NH 28 and state highways SH 66A, and SH 6	Has industrial area in Nizamabad, Sofipur, Lalganj, Sarfuddinpur
Mau	1,713	2,205,170	1,287	75.16	Connected with national highways NH 24 and NH 128B and state highways SH 34	Has industrial area in Sajipur, Sahadatpura, Ghosi

Districts	Physical Geography	Demographics			Infrastructure	
	Area (sq km)	Population (numbers)	Population Density (per sq km)	Literacy Rate (%)	Transportation networks	Industrial Area

Balia	2,981	3,239,774	1,087	86	Connected with national highways NH 31 and NH 727B and state highways SH 150B	Has industrial area in Modhopur and Banarhi
Basti Districts	2,688	2,464,464	917	67.22	Connected with national highways NH 27, NH 28 and state highways SH 25 and SH-93E	Has industrial with more than 40 production units
Ambedkarnagar Districts	2,350	2,397,888	1,020	74.37	Connected with national highways NH-28, NH-135A and NH-128 and state highways SH-135E, SH-113E, and SH-82E	Has industrial area in Tenduai Kalan, Fatehpur, Kankardela
Gonda District	4,003	3,433,919	858	58.71	Connected with national highways NH-330, NH 330B and NH-927 and state highways SH-30	Has industrial area in Manakpur, Kadipur, Amdohwa
Barabanki Districts	3,892	3,260,699	838	61.75	Connected with national highways NH-27, NH-727H, and NH-927 and state highways SH-13	Has industrial area in Kursi road, Dewa Road, Rasool Panah, Fatehpur Ismailpur, Amarsanda
Pune District	15,643	9,426,959	603	87.2	Connected with national highways NH-48, NH-65, and NH-753 and state highways SH 61, SH54, SH 111, SH 53, SH 65 and SH 57	Has industrial area in Pimpri, Kurkumbh, Chakan, Talegaon, Jejuri Ranjangaon, Baramati and Indapur
Junagadh District	5,093	1,527,329	300	78.55	Connected with national highways NH-927D, NH-151 and state highways SH-22, SH-99, SH-96, SH-26, SH-97 and SH-111	Has industrial area in Shil, Visavadar with more than 150 factories

Districts	Physical Geography	Demographics			Infrastructure	
	Area (sq km)	Population (numbers)	Population Density (per sq km)	Literacy Rate (%)	Transportation networks	Industrial Area

Karaikal Districts	161	200,222	1,244	87.05	Connected with national highways NH-32 and state highways SH-147	Has industrial area in Kottucherry
Nagapattinam Districts	1,940	1,616,450	833	83.59	Connected with national highways NH-83, NH-32 and state highways SH-67, SH-148, SH-200, SH-1043, SH-467, SH-63, SH-737	Has industrial area in Nagore and Kulichar Village, Mayiladuthurai
SAS Nagar District	1,110	994,628	896	83.3	Connected with national highways NH-7, NH-152 and NH-205 and state highways SH-12A	Has industrial area in Mohali
Patiala Districts	3,222	1,895,686	588	75.3	Connected with national highways NH-7, NH-64, and NH-71 and state highways SH-10, SH-8, and SH-12A	Has industrial area in Rajpura, Patiala, Nabha
Sangrur Districts	3,625	1,655,169	457	67.99	Connected with national highways NH-52, NH-7, NH-148B and state highways SH-11, SH-51, and SH-12A	Has industrial area in Malerkotla, Sunam
Jaipur District	14,068	6,663,971	474	75.51	Connected with national highways NH-48, NH-21, NH-52 and state highways SH-52, SH-37, SH-19, SH-2, SH-12 and SH-55	Has industrial area in Ramchandrapura, Vishwakarma Industrial Area, Jhotwara, Malviya, Sudarshanpura and Kaladera
Alwar Districts	8,383	3,671,999	438	70.72	Connected with national highways NH-248A and state highways SH-14 and SH-25	Has industrial area in Bhiwadi, Matsya Industrial Area, Khushkhera, Chopanki and Neemrana

Districts	Physical Geography	Demographics			Infrastructure	
	Area (sq km)	Population (numbers)	Population Density (per sq km)	Literacy Rate (%)	Transportation networks	Industrial Area
Kota District	5,217	1,950,481	374	76.56	Connected with national highways NH-248A and state highways SH-14 and SH-25	Has Indraprastha Industrial Area, in Kuber (Ranpur), Chambal, Ramganjmandi

Baran District	6,992	1,223,921	175	66.66	Connected with national highways NH-27 and state highways SH-1, SH-37A, and SH 51	Has industrial area in Baran and Chhabra
Chittorgarh Districts	7,508	1,544,392	206	61.71	Connected with national highways NH-27 and state highways SH-11A and S-9	Has industrial area in Nimbahera, Kapasan, Manpura, Soniyana
Dholpur District	3,034	1,207,293	398	69.08	Connected with national highways NH-23 and NH-44	Has old & new industrial area, RIICO industrial area, growth centre at Agra Road
Chennai Districts	426	6,748,026	15,840	90.18	Connected with national highways NH-48, NH-16, NH-716 and state highways SH-2, SH-114, SH-113 and SH-205	Has Vyasarpadi co-op industrial estate, Dr.VSI.Estate, Arumbakkam SIDCO industrial estate
Tiruvallur Districts	3,422	2,721,363	795	84.03	Connected with state highways SH-52, SH-114, SH-50A and SH-56	Has Ambattur industrial estate, electrical industrial estate, SIDCO industrial estate
Medak Districts	2,757	767,428	278	56.12	Connected with national highways NH-44 and state highways SH-15	Has industrial areas in Jeedimetla and Patancheru
Siddipet Districts	3,647	1,012,065	278	62	Connected with national highways NH-765DG, NH-365B and state highways SH-1	It has biotech park in Karakapatla
Sangareddy Districts	4,464	1,527,628	342	64.08	Connected with national highways NH-65, and NH-161 and state highways SH-14, SH-13, SH-17 and SH 15	Has industrial area in Ameenpur Mandal

Source: Crisil Intelligence

8.5 Transport Segment

Gujarat

Table 95: Year on Year Break of Total Vehicles by Type of Fuel Used in Gujarat

Fuel Type	FY-22	FY-23	FY-24	FY-25
CNG	38,668	55,504	79,048	92,384
Diesel	157,127	200,568	264,018	2,38,336

Diesel/Hybrid	2	176	604	829
Dual Diesel/CNG	4	0	0	0
Electric (BOV)	19,033	81,120	88,434	31,460
Petrol	967,783	1,196,247	1,280,716	13,06,266
Petrol/CNG	53,560	79,228	118,001	1,39,666
Petrol/Hybrid	8,646	18,919	20,211	14,715
LNG	0	5	29	41
Others (Petrol/Ethanol, Pure EV, Strong Hybrid EV)	4,217	4,592	23,368	70,905
Total	1,249,040	1,636,359	1,874,429	1,802,218

Source: Vahan Dashboard, Crisil Intelligence

Table 96: Year on Year Break by Type of Vehicle in Gujarat

Vehicle Type	FY-22	FY-23	FY-24	FY-25
Two-Wheeler	831,622	1,114,635	1,236,528	1,276,275
Three-Wheeler	28,042	52,814	79,425	82,957
Four-Wheeler	615	769	854	735
Heavy Goods Vehicle (HGV)	15,374	20,968	20,601	22,061
Heavy Motor Vehicle (HMT)	462	390	105	106
Heavy Passenger Vehicle (HPV)	1,411	1,742	2,671	1,876
Light Goods Vehicle (LGV)	35,224	45,799	54,895	55,818
Light Motor Vehicle (LMV)	320,745	376,653	452,518	423,120
Light Passenger Vehicle (LPV)	6,093	11,052	14,109	17,323
Medium Goods Vehicles (MGV)	2,276	1,824	1,883	2,197
Medium Motor Vehicle (MMV)	1,344	1,102	910	384
Medium Passenger Vehicle (MPV)	530	1,533	1,265	1,600
Others	5,302	7,078	8,665	10,150
Total	1,249,040	1,636,359	1,874,429	1,811,673

Note: Here Four-Wheeler implies 4WIC: Four-Wheeler (Invalid Carriage): Motor vehicle specifically designed for specially abled persons

Source: Vahan Dashboard, Crisil Intelligence

Table 97: Year on Year Vehicular Density in Gujarat

Parameter	FY-22	FY-23	FY-24
Vehicular Density	6.37	8.35	9.56

Source: Vahan Dashboard, Crisil Intelligence

Table 98: Year on Year Historical Electric Vehicle Type in Gujarat

Vehicle Type	FY-22	FY-23	FY-24	FY-25
Two-Wheeler	16,764	75,703	77,104	58,440
Three-Wheeler	786	1,670	3,524	4,107
Four-Wheeler	2	7	21	14
Heavy Goods Vehicle (HGV)	0	183	81	0
Heavy Motor Vehicle (HMT)	0	0	0	0
Heavy Passenger Vehicle (HPV)	104	208	243	190
Light Goods Vehicle (LGV)	1	2	202	120

Light Motor Vehicle (LMV)	1,225	3,296	7,231	6,219
Light Passenger Vehicle (LPV)	37	35	41	43
Medium Goods Vehicles (MGV)	0	0	0	0
Medium Motor Vehicle (MMV)	0	0	0	0
Medium Passenger Vehicle (MPV)	59	0	0	2
Others	55	16	1	4
Total	19,033	81,120	88,448	69,139

Source: Vahan Dashboard, Crisil Intelligence

Table 99: Year on Year Historical CNG and CNG/Petrol Vehicle Penetration in Gujarat

Fuel Type	FY-22	FY-23	FY-24	FY-25
CNG & CNG/Petrol	92,228	134,732	197,049	232,050
Total	1,249,040	1,636,359	1,874,429	1,802,218
Share (%)	7.4%	8.2%	10.5%	12.9%

Source: Vahan Dashboard, Crisil Intelligence

Table 100: Year on Year Historical CNG and CN/Petrol Vehicle Type in Gujarat

Vehicle Type	FY-22	FY-23	FY-24	FY-25
Two-Wheeler	0	0	0	9,105
Three-Wheeler	24,171	43,531	65,159	66,993
Four-Wheeler	92	122	174	230
Heavy Goods Vehicle (HGV)	1,351	791	364	315
Heavy Motor Vehicle (HMTV)	0	0	0	0
Heavy Passenger Vehicle (HPV)	2	29	55	174
Light Goods Vehicle (LGV)	12,867	11,530	14,803	16,896
Light Motor Vehicle (LMV)	50,397	72,790	108,258	126,321
Light Passenger Vehicle (LPV)	2,093	5,185	8,054	11,516
Medium Goods Vehicles (MGV)	1,144	292	115	222
Medium Motor Vehicle (MMV)	0	0	1	0
Medium Passenger Vehicle (MPV)	110	462	63	248
Others	1	0	3	2
Total	92,228	134,732	197,049	232,050

Source: Vahan Dashboard, Crisil Intelligence

Uttar Pradesh

Table 101: Year on Year Break of Total Vehicles by Type of Fuel Used in Uttar Pradesh

Fuel Type	FY-22	FY-23	FY-24	FY-25
CNG	36,034	49,384	57,540	58,029
Diesel	236,861	276,934	295,496	3,04,210
Diesel/Hybrid	2	58	140	252
Electric (BOV)	82,034	188,985	306,399	2,75,877
LPG Only	2,746	2,589	2,842	20
Petrol	2,366,130	2,505,726	2,710,018	2,858,714
Petrol/CNG	46,090	69,105	97,537	1,27,108

Petrol/Hybrid	11,463	25,410	27,421	21,751
Others (Petrol/Ethanol, Petrol/LPG, Pure EV, Strong Hybrid EV, Dual Diesel/CNG)	1,475	1,481	19,479	127,441
Total	2,782,835	3,119,672	3,516,872	3,792,964

Source: Vahan Dashboard, Crisil Intelligence

Table 102: Year on Year Break by Type of Vehicle in Uttar Pradesh

Vehicle Type	FY-22	FY-23	FY-24	FY-25
Two-Wheeler	2,182,584	2,321,723	2,547,948	2,548,010
Three-Wheeler	105,436	205,950	298,863	298,872
Four-Wheeler	184	238	317	317
Heavy Goods Vehicle (HGV)	14,837	24,859	23,557	23,445
Heavy Motor Vehicle (HMT)	981	1,561	973	972
Heavy Passenger Vehicle (HPV)	802	2,362	3,051	3,049
Light Goods Vehicle (LGV)	39,590	50,277	53,474	53,452
Light Motor Vehicle (LMV)	423,566	486,190	542,942	5,43,076
Light Passenger Vehicle (LPV)	5,529	15,987	31,975	31,898
Medium Goods Vehicles (MGV)	2,831	2,792	3,195	3,190
Medium Motor Vehicle (MMV)	1,453	955	1,040	1,039
Medium Passenger Vehicle (MPV)	357	2,248	2,702	2,702
Others	4,685	4,530	6,835	6,837
Total	2,782,835	3,119,672	3,516,872	3,792,964

Source: Vahan Dashboard, Crisil Intelligence

Table 103: Year on Year Vehicular Density in Uttar Pradesh

Parameter	FY-22	FY-23	FY-24
Vehicular Density	11.55	12.95	14.60

Source: Vahan Dashboard, Crisil Intelligence

Table 104: Year on Year Historical Electric Vehicle Type in Uttar Pradesh

Vehicle Type	FY-22	FY-23	FY-24	FY-25
Two-Wheeler	10,104	26,581	53,624	102,853
Three-Wheeler	71,454	161,315	246,364	266,800
Four-Wheeler	0	0	0	0
Heavy Goods Vehicle (HGV)	0	0	0	26
Heavy Motor Vehicle (HMT)	0	1	1	0
Heavy Passenger Vehicle (HPV)	325	384	0	43
Light Goods Vehicle (LGV)	30	23	646	183
Light Motor Vehicle (LMV)	115	631	5,687	7,861
Light Passenger Vehicle (LPV)	6	49	135	210
Medium Goods Vehicles (MGV)	0	0	0	0
Medium Motor Vehicle (MMV)	0	1	0	0
Medium Passenger Vehicle (MPV)	0	0	0	0
Others	0	0	0	91

Total	82,034	188,985	306,457	378,067
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Source: Vahan Dashboard, Crisil Intelligence

Table 105: Year on Year Historical CNG and CNG/Petrol Vehicle Penetration in Uttar Pradesh

Parameter	FY-22	FY-23	FY-24	FY-24
CNG and CNG/Petrol	82,124	118,489	155,077	185,137
Total	2,782,835	3,119,672	3,516,872	3,792,964
Share (%)	3.0%	3.8%	4.4%	4.8%

Source: Vahan Dashboard, Crisil Intelligence

Table 106: Year on Year Historical Electric Vehicle Penetration in Uttar Pradesh

Fuel Type	FY-22	FY-23	FY-24
EV	82,034	188,985	306,457
Total	2,782,835	3,119,672	3,516,872
Share (%)	2.9%	6.1%	8.7%

Source: Vahan Dashboard, Crisil Intelligence

Table 107: Year on Year Historical CNG and CNG/Petrol Vehicle Type in Uttar Pradesh

Vehicle Type	FY-22	FY-23	FY-24	FY-25
Two-Wheeler	0	0	0	5,629
Three-Wheeler	25,134	36,360	43,493	35,455
Four-Wheeler	16	28	31	79
Heavy Goods Vehicle (HGV)	1,759	1,394	1,190	1,322
Heavy Motor Vehicle (HMT)	0	0	0	0
Heavy Passenger Vehicle (HPV)	137	548	474	180
Light Goods Vehicle (LGV)	9,808	10,996	11,210	11,693
Light Motor Vehicle (LMV)	40,653	58,195	75,672	102,784
Light Passenger Vehicle (LPV)	2,661	9,142	21,380	26,104
Medium Goods Vehicles (MGV)	1,863	1,095	645	758
Medium Motor Vehicle (MMV)	0	0	0	0
Medium Passenger Vehicle (MPV)	93	730	981	1,129
Others	0	1	1	4
Total	82,124	118,489	155,077	185,137

Source: Vahan Dashboard, Crisil Intelligence

Maharashtra

Table 108: Year on Year Break of Total Vehicles by Type of Fuel Used in Maharashtra

Fuel Type	FY-22	FY-23	FY-24	FY-25
CNG	37,985	50,264	67,870	84,118
Diesel	246,825	310,231	295,980	325,508
Diesel/Hybrid	3	228	826	1,225
Electric (BOV)	51,440	158,672	212,258	100,794
LPG Only	1,469	3,558	6,847	7,034
Petrol	1,463,984	1,768,865	1,794,586	1,983,929

Petrol/CNG	76,185	109,928	142,621	184,902
Petrol/Hybrid	17,239	28,532	35,402	24,537
LNG	0	51	164	218
Others (Petrol/Ethanol, Petrol/LPG, Pure EV, Strong Hybrid EV, Dual Diesel/CNG)	17,301	16,923	58,125	240,147
Total	1,912,431	2,447,252	2,614,679	2,952,412

Source: Vahan Dashboard, Crisil Intelligence

Table 109: Year on Year Break by Type of Vehicle in Maharashtra

Vehicle Type	FY-22	FY-23	FY-24	FY-25
Two-Wheeler	1,312,945	1,692,978	1,820,636	2,083,513
Three-Wheeler	30,124	54,146	82,923	88,836
Four-Wheeler	379	499	607	522
Heavy Goods Vehicle (HGV)	23,961	37,245	39,057	38,870
Heavy Motor Vehicle (HMT)	439	367	948	950
Heavy Passenger Vehicle (HPV)	890	1,404	2,325	3,049
Light Goods Vehicle (LGV)	62,823	77,578	74,014	82,379
Light Motor Vehicle (LMV)	457,270	542,569	521,965	5,69,351
Light Passenger Vehicle (LPV)	10,732	23,405	50,670	58,518
Medium Goods Vehicles (MGV)	4,681	5,673	6,382	7,319
Medium Motor Vehicle (MMV)	1,932	2,018	1,022	1,323
Medium Passenger Vehicle (MPV)	557	2,081	3,631	3,868
Others	5,698	7,289	10,499	13,914
Total	1,912,431	2,447,252	2,614,679	2,952,412

Source: Vahan Dashboard, Crisil Intelligence

Table 110: Year on Year Vehicular Density in Maharashtra

Parameter	FY-22	FY-23	FY-24
Vehicular Density	6.22	7.95	8.50

Source: Vahan Dashboard, Crisil Intelligence

Table 111: Year on Year Historical Electric Vehicle Type in Maharashtra

Vehicle Type	FY-22	FY-23	FY-24	FY-25
Two-Wheeler	41,902	138,812	183,966	212,046
Three-Wheeler	2,563	7,860	12,592	15,073
Four-Wheeler	0	0	5	1
Heavy Goods Vehicle (HGV)	0	0	0	14
Heavy Motor Vehicle (HMT)	0	0	1	0
Heavy Passenger Vehicle (HPV)	432	232	654	981
Light Goods Vehicle (LGV)	5	30	1,022	1,088
Light Motor Vehicle (LMV)	6,394	10,720	12,394	16,213
Light Passenger Vehicle (LPV)	79	979	1,736	922
Medium Goods Vehicles (MGV)	0	0	0	0
Medium Motor Vehicle (MMV)	0	0	5	20
Medium Passenger Vehicle (MPV)	65	39	12	1
Others	0	0	0	9
Total	51,440	158,672	212,387	246,374

Source: Vahan Dashboard, Crisil Intelligence

Table 112: Year on Year Historical CNG and CNG/Petrol Vehicle Penetration in Maharashtra

Fuel Type	FY-22	FY-23	FY-24	FY-25
CNG and CNG/Petrol	114,170	160,192	210,491	269,020
Total	1,912,431	2,447,252	2,614,679	2,952,412
Share (%)	6.0%	6.5%	8.1%	9.1%

Source: Vahan Dashboard, Crisil Intelligence

Table 113: Year on Year Historical CNG and CNG/Petrol Vehicle Type in Maharashtra

Vehicle Type	FY-22	FY-23	FY-24	FY-25
Two-Wheeler	0	0	0	9,860
Three-Wheeler	21,821	36,955	56,507	59,081
Four-Wheeler	43	62	74	108
Heavy Goods Vehicle (HGV)	840	740	317	546
Heavy Motor Vehicle (HMT)	0	0	1	0
Heavy Passenger Vehicle (HPV)	277	136	158	226
Light Goods Vehicle (LGV)	16,767	15,021	12,843	16,081
Light Motor Vehicle (LMV)	67,558	90,058	102,926	136,308
Light Passenger Vehicle (LPV)	5,569	16,446	37,374	46,525
Medium Goods Vehicles (MGV)	1,190	537	100	233
Medium Motor Vehicle (MMV)	0	2	1	0
Medium Passenger Vehicle (MPV)	104	235	186	47
Others	1	0	4	5
Total	114,170	160,192	210,491	269,020

Source: National AQI, Crisil Intelligence

Tamil Nadu

Table 114: Year on Year Break of Total Vehicles by Type of Fuel Used in Tamil Nadu

Fuel Type	FY-22	FY-23	FY-24	FY-25
CNG	3,767	15,728	32,125	34,536
Diesel	122,459	155,663	160,734	153,129
Diesel/Hybrid	9	124	255	343
Electric (BOV)	39,659	71,864	101,230	76,369
LPG Only	1,530	1,327	3,018	2,149
Petrol	1,263,307	1,453,951	1,415,276	13,92,158
Petrol/CNG	3,485	9,740	16,397	28,048
Petrol/Hybrid	13,747	19,098	25,241	21,507
LNG	0	0	67	28
Others (Petrol/Ethanol, Petrol/LPG, Petrol (E20)/LPG, Pure EV, Strong Hybrid EV, Not Applicable, Dual Diesel/CNG)	2,089	4,715	134,646	228,578
Total	1,450,052	1,732,210	1,888,989	1,936,845

Source: Vahan Dashboard, Crisil Intelligence

Table 115: Year on Year Break by Type of Vehicle in Tamil Nadu

Vehicle Type	FY-22	FY-23	FY-24	FY-25
Two-Wheeler	1,152,721	1,352,234	1,453,988	1,501,488

Three-Wheeler	12,807	27,019	50,042	54,452
Four-Wheeler	196	265	317	15,516
Heavy Goods Vehicle (HGV)	9,659	15,862	16,413	15,516
Heavy Motor Vehicle (HMT)	173	386	483	278
Heavy Passenger Vehicle (HPV)	286	931	2,109	5,218
Light Goods Vehicle (LGV)	38,265	48,402	45,295	38,521
Light Motor Vehicle (LMV)	219,819	265,095	284,117	2,70,856
Light Passenger Vehicle (LPV)	4,768	8,350	20,946	34,944
Medium Goods Vehicles (MGV)	5,954	6,658	6,706	6,800
Medium Motor Vehicle (MMV)	1,501	1,415	1,247	889
Medium Passenger Vehicle (MPV)	643	1,859	2,425	2,500
Others	3,260	3,734	4,901	5,087
Total	1,450,052	1,732,210	1,888,989	1,936,845

Source: Vahan Dashboard, Crisil Intelligence

Table 116: Year on Year Vehicular Density in Tamil Nadu

Parameter	FY-22	FY-23	FY-24
Vehicular Density	11.15	13.32	14.52

Source: Vahan Dashboard, Crisil Intelligence

Table 117: Year on Year Historical Electric Vehicle Type in Tamil Nadu

Vehicle Type	FY-22	FY-23	FY-24	FY-25
Two-Wheeler	35,677	65,770	87,401	118,835
Three-Wheeler	1,898	2,760	6,174	9,418
Four-Wheeler	0	0	3	4
Heavy Goods Vehicle (HGV)	0	0	74	41
Heavy Motor Vehicle (HMT)	0	0	0	0
Heavy Passenger Vehicle (HPV)	0	0	130	37
Light Goods Vehicle (LGV)	900	219	572	828
Light Motor Vehicle (LMV)	1,171	3,100	6,465	7,975
Light Passenger Vehicle (LPV)	13	25	413	571
Medium Goods Vehicles (MGV)	0	0	0	0
Medium Motor Vehicle (MMV)	0	0	0	0
Medium Passenger Vehicle (MPV)	0	0	0	0
Others	0	0	0	0
Total	39,659	71,874	101,232	137,712

Source: Vahan Dashboard, Crisil Intelligence

Table 118: Year on Year Historical CNG and CNG/Petrol Vehicle Penetration in Tamil Nadu

Fuel Type	FY-22	FY-23	FY-24	FY-25
CNG and CNG/Petrol	7,252	25,468	48,522	62,584
Total	1,450,052	1,732,210	1,888,989	1,936,845
Share (%)	0.5%	1.5%	2.6%	3.2%

Source: Vahan Dashboard, Crisil Intelligence

Table 119: Year on Year Historical CNG and CNG/Petrol Vehicle Type in Tamil Nadu

Vehicle Type	FY-22	FY-23	FY-24	FY-25
Two-Wheeler	0	1	0	2,230
Three-Wheeler	3,271	15,347	30,412	30,014
Four-Wheeler	1	4	4	5
Heavy Goods Vehicle (HGV)	34	171	150	141
Heavy Motor Vehicle (HMT)	0	0	0	0
Heavy Passenger Vehicle (HPV)	0	7	8	65
Light Goods Vehicle (LGV)	951	1,658	1,721	1,667
Light Motor Vehicle (LMV)	2,334	5,595	7,655	28
Light Passenger Vehicle (LPV)	277	2,235	8,314	50
Medium Goods Vehicles (MGV)	381	410	197	275
Medium Motor Vehicle (MMV)	2	1	1	1
Medium Passenger Vehicle (MPV)	1	39	60	67
Others	0	0	0	0
Total	7,252	25,468	48,522	62,584

Source: Vahan Dashboard, Crisil Intelligence

Punjab

Table 120: Year on Year Break of Total Vehicles by Type of Fuel Used in Punjab

Fuel Type	FY-22	FY-23	FY-24	FY-25
CNG	4,034	4,226	4,511	3,939
Diesel	77,765	81,812	93,719	1,02,100
Diesel/Hybrid	4	37	120	233
Electric (BOV)	6,677	16,029	31,913	25,497
LNG	3	0	0	0
Petrol	398,197	463,214	500,316	5,36,510
Petrol/CNG	6,515	7,296	9,002	11,308
Petrol/Hybrid	2,185	10,807	13,433	12,249
Others (Petrol/Ethanol, Petrol/LPG, Pure EV, Strong Hybrid EV, Dual Diesel/CNG)	3	8	1,425	26,163
Total	495,383	583,429	654,439	717,999

Source: Vahan Dashboard, Crisil Intelligence

Table 121: Year on Year Break by Type of Vehicle in Punjab

Vehicle Type	FY-22	FY-23	FY-24	FY-25
Two-Wheeler	337,642	400,310	427,212	478,900
Three-Wheeler	4,478	11,491	25,183	23,666
Four-Wheeler	9	18	20	9
Heavy Goods Vehicle (HGV)	5,257	6,590	6,594	5,922
Heavy Motor Vehicle (HMT)	62	57	69	77
Human Powered Vehicle (HPV)	609	351	162	313
Light Goods Vehicle (LGV)	9,422	10,771	11,987	10,944
Light Motor Vehicle (LMV)	130,922	142,855	166,200	179,523
Light Patrol Vehicle (LPV)	2,603	7,122	11,247	12,978
Medium Goods Vehicles (MGV)	710	645	637	729

MMV	245	158	202	282
Multi-Purpose Vehicle (MPV)	81	248	476	565
Others	3,343	2,813	4,450	4,078
Total	495,383	583,429	654,439	717,999

Source: Vahan Dashboard, Crisil Intelligence

Table 122: Vehicular Density in Punjab

Parameter	FY-22	FY-23	FY-24
Vehicular Density	9.84	11.58	12.99

Source: Vahan Dashboard, Crisil Intelligence

Table 123: Year on Year Historical Electric Vehicle Type in Punjab

Vehicle Type	FY-22	FY-23	FY-24	FY-25
Two-Wheeler	4,483	8,053	10,103	23,348
Three-Wheeler	2,138	7,874	20,603	20,025
Four-Wheeler	0	0	0	0
Heavy Goods Vehicle (HGV)	0	0	0	0
Heavy Motor Vehicle (HMTV)	0	0	0	0
Heavy Passenger Vehicle (HPV)	0	0	1	10
Light Goods Vehicle (LGV)	3	37	86	78
Light Motor Vehicle (LMV)	43	59	1,102	1,692
Light Patrol Vehicle (LPV)	10	6	21	20
Medium Goods Vehicles (MGV)	0	0	0	0
MMV	0	0	0	0
Multi-Purpose Vehicle (MPV)	0	0	0	0
Others	0	0	0	0
Total	6,677	16,029	31,916	45,173

Source: Vahan Dashboard, Crisil Intelligence

Table 124: Year on Year Historical CNG and CNG/Petrol Vehicle Penetration in Punjab

Fuel Type	FY-22	FY-23	FY-24	FY-25
CNG and CNG/Petrol	10,549	11,522	13,513	15,247
Total	495,383	583,429	654,439	717,999
Share (%)	2.1%	2.0%	2.1%	2.1%

Source: Vahan Dashboard, Crisil Intelligence

Table 125: Year on Year Historical CNG and CNG/Petrol Vehicle Type in Punjab

Vehicle Type	FY-22	FY-23	FY-24	FY-25
Two-Wheeler	1,662	2,992	3,773	432
Three-Wheeler	0	0	0	2,691
Four-Wheeler	0	0	0	0
Heavy Goods Vehicle (HGV)	573	298	135	183
Heavy Motor Vehicle (HMTV)	0	0	0	0
Heavy Passenger Vehicle (HPV)	4	2	2	1
Light Goods Vehicle (LGV)	1,794	880	645	545
Light Motor Vehicle (LMV)	4,474	2,739	2,929	3,746

Light Passenger Vehicle (LPV)	1,555	4,433	5,953	7,570
Medium Goods Vehicles (MGV)	464	161	62	68
Medium Motor Vehicle (MMV)	0	0	0	0
Medium Passenger Vehicle (MPV)	23	17	14	7
Others	0	0	0	0
Total	10,549	11,522	13,513	15,247

Source: Vahan Dashboard, Crisil Intelligence

Rajasthan

Table 126: Year on Year Break of Total Vehicles by Type of Fuel Used in Rajasthan

Fuel Type	FY-22	FY-23	FY-24	FY-25
CNG	6,840	10,859	14,716	20,866
Diesel	165,536	220,636	251,923	2,50,252
Diesel/Hybrid	1	23	117	151
Electric (BOV)	31,395	88,330	98,328	55,663
LPG Only	1,068	2,211	3,183	3,290
Petrol	819,673	1,000,192	1,147,879	11,68,895
Petrol/CNG	11,639	16,376	26,939	44,994
Petrol/Hybrid	3,846	12,060	11,650	10,263
LNG	0	0	27	79
Others (Petrol/Ethanol, Petrol/LPG, Pure EV, Strong Hybrid EV, Dual Diesel/CNG)	3,703	7,563	18,286	70,173
Total	1,043,701	1,358,250	1,573,048	1,624,626

Source: Vahan Dashboard, Crisil Intelligence

Table 127: Year on Year Break by Type of Vehicle in Rajasthan

Vehicle Type	FY-22	FY-23	FY-24	FY-25
Two-Wheeler	735,686	943,348	1,103,580	1,152,723
Three-Wheeler	19,614	39,189	52,128	46,110
Four-Wheeler	98	157	288	229
Heavy Goods Vehicle (HGV)	19,521	31,547	34,146	31,984
Heavy Motor Vehicle (HMT)	314	273	179	170
Heavy Passenger Vehicle (HPV)	241	344	935	1,487
Light Goods Vehicle (LGV)	24,060	39,510	42,150	36,355
Light Motor Vehicle (LMV)	233,149	286,666	316,334	330,501
Light Passenger Vehicle (LPV)	4,711	8,398	13,563	15,550
Medium Goods Vehicles (MGV)	889	1,023	805	692
Medium Motor Vehicle (MMV)	433	608	586	509
Medium Passenger Vehicle (MPV)	288	778	1,130	1,362
Others	4,697	6,409	7,224	6,954
Total	1,043,701	1,358,250	1,573,048	1,624,626

Source: Vahan Dashboard, Crisil Intelligence

Table 128: Year on Year Vehicular Density in Rajasthan

Parameter	FY-22	FY-23	FY-24
Vehicular Density	3.05	3.97	4.60

Source: Vahan Dashboard, Crisil Intelligence

Table 129: Year on Year Historical Electric Vehicle Type in Rajasthan

Vehicle Type	FY-22	FY-23	FY-24	FY-25
Two-Wheeler	19,316	61,793	62,695	76,252
Three-Wheeler	11,286	24,461	31,635	23,570
Four-Wheeler	0	1	5	2
Heavy Goods Vehicle (HGV)	0	0	14	17
Heavy Motor Vehicle (HMV)	0	0	0	0
Heavy Passenger Vehicle (HPV)	0	10	9	19
Light Goods Vehicle (LGV)	12	0	171	340
Light Motor Vehicle (LMV)	769	2,006	5,071	6,594
Light Passenger Vehicle (LPV)	12	59	90	64
Medium Goods Vehicles (MGV)	0	0	0	0
Medium Motor Vehicle (MMV)	0	0	0	0
Medium Passenger Vehicle (MPV)	0	0	0	0
Others	0	0	0	0
Total	31,395	88,330	99,690	106,858

Source: Vahan Dashboard, Crisil Intelligence

Table 130: Year on Year Historical CNG Vehicle and CNG/Petrol Penetration in Rajasthan

Fuel Type	FY-22	FY-23	FY-24	FY-25
CNG	18,479	27,235	41,655	65,680
Total	1,043,701	1,358,250	1,573,048	1,624,626
Share (%)	1.8%	2.0%	2.6%	4.0%

Source: Vahan Dashboard, Crisil Intelligence

Table 131: Year on Year Historical CNG and CNG/Petrol Vehicle Type in Rajasthan

Vehicle Type	FY-22	FY-23	FY-24	FY-25
Two-Wheeler	0	7,780	0	3,398
Three-Wheeler	4,233	0	11,405	12,290
Four-Wheeler	9	14	21	32
Heavy Goods Vehicle (HGV)	337	216	173	350
Heavy Motor Vehicle (HMV)	1	2	0	0
Heavy Passenger Vehicle (HPV)	27	32	11	59
Light Goods Vehicle (LGV)	2,581	2,666	3,042	4,134
Light Motor Vehicle (LMV)	10,109	13,758	22,212	37,952
Light Passenger Vehicle (LPV)	848	2,452	4,605	7,412
Medium Goods Vehicles (MGV)	273	214	93	100
Medium Motor Vehicle (MMV)	0	1	0	0
Medium Passenger Vehicle (MPV)	58	100	91	114
Others	3	0	2	5
Total	18,479	27,235	41,655	65,680

Source: Vahan Dashboard, Crisil Intelligence

8.6 Physical Infrastructure

Table 132: Physical Infrastructure of TGL

Parameter	UOM	FY-23	FY-24	FY-25	FY-26	FY-27*
CNG Stations	numbers	384	439	483	557	557
Steel Pipeline	km	1,345	1,589	1,746	-	-
MDPE Pipeline	km	3,901	5,657	7,424		
D-PNG Connections	numbers	66,574	121,801	182,469	240,728	258,916

*FY27 includes till May'26

Source: Torrent Gas, Crisil Intelligence

8.7 Industrial Clusters

Table 133: Industrial Clusters in TGL GAs

S. No	GA ID	GA Name	Name of the Industrial clusters	Status of Connectivity (Connected/To be Connected)
1	1.03	Mathura	Masani Road	Connected
2	1.03	Mathura	Jai Gurudev Industrial Area	Connected
3	1.03	Mathura	Krishna Nagar	Connected
4	1.03	Mathura	Gaur Kendra	Connected
5	4.08	Pune District (EAAA)	Ranjangaon MIDC	Connected
6	4.08	Pune District (EAAA)	Baramati MIDC	Connected
7	4.08	Pune District (EAAA)	Khed MIDC	Connected
8	4.08	Pune District (EAAA)	Jhejhuri Industrial area	To be Connected
9	4.08	Pune District (EAAA)	Indapur Industrial area	To be Connected
10	4.08	Pune District (EAAA)	Kurkumbh MIDC	Connected
11	4.08	Pune District (EAAA)	Chakan Industrial area	Connected
12	4.08	Pune District (EAAA)	Bhigwan Industrial area	To be Connected
13	4.08	Pune District (EAAA)	Pandare MIDC	To be Connected
14	9.11	Junagadh District	GIDC	To be Connected
15	9.11	Junagadh District	GIDC 2	To be Connected
16	9.11	Junagadh District	Majevdi	To be Connected
17	9.11	Junagadh District	Dhoraji Road	Connected
18	9.11	Junagadh District	Bhesan Road	Connected
19	9.11	Junagadh District	Gandhigram	To be Connected
20	9.50	Karaikal & Nagapattinam Districts	Nedungadu	To be Connected
21	9.50	Karaikal & Nagapattinam Districts	Thirunallar	To be Connected
22	9.50	Karaikal & Nagapattinam Districts	T R Pattinam	To be Connected
23	9.50	Karaikal & Nagapattinam Districts	Narimanam	To be Connected
24	9.52	SAS Nagar District (EAAA), Patiala & Sangrur Districts	Urban Estate Industrial Area	Connected

25	9.52	SAS Nagar District (EAAA), Patiala & Sangrur Districts	Lalru Industrial Area	Connected
26	9.52	SAS Nagar District (EAAA), Patiala & Sangrur Districts	Rajpura Industrial Area	Connected
27	9.52	SAS Nagar District (EAAA), Patiala & Sangrur Districts	Nabha Old Focal Point	To be Connected
28	9.52	SAS Nagar District (EAAA), Patiala & Sangrur Districts	Maler Kotla Focal Point	To be Connected
29	9.52	SAS Nagar District (EAAA), Patiala & Sangrur Districts	Samana Industrial Area	To be Connected
30	9.52	SAS Nagar District (EAAA), Patiala & Sangrur Districts	Kurali Industrial Area	To be Connected
31	9.52	SAS Nagar District (EAAA), Patiala & Sangrur Districts	Sandharsi Industrial Area	Connected
32	9.52	SAS Nagar District (EAAA), Patiala & Sangrur Districts	Dera Bassi Industrial Area	Connected
33	9.52	SAS Nagar District (EAAA), Patiala & Sangrur Districts	Patiala Focal Point	Connected
34	9.52	SAS Nagar District (EAAA), Patiala & Sangrur Districts	Sangrur Industrial Area	To be Connected
35	9.52	SAS Nagar District (EAAA), Patiala & Sangrur Districts	Amritsar Kolkata Intergrated Industrial Corridor	Upcoming
36	9.52	SAS Nagar District (EAAA), Patiala & Sangrur Districts	HMT Park	Upcoming
37	9.52	SAS Nagar District (EAAA), Patiala & Sangrur Districts	Nabha New Focal Point	Upcoming
38	9.52	SAS Nagar District (EAAA), Patiala & Sangrur Districts	Biotechnology Park Mohali	Upcoming
39	9.52	SAS Nagar District (EAAA), Patiala & Sangrur Districts	Plastic Park Sangrur	Upcoming
40	9.56	Alwar (Other than Bhiwadi) & Jaipur Districts	Giloth Industrial Area	Connected
41	9.56	Alwar (Other than Bhiwadi) & Jaipur Districts	Neemrana Industrial zone	Connected
42	9.56	Alwar (Other than Bhiwadi) & Jaipur Districts	Behror Industrial Area	Connected
43	9.56	Alwar (Other than Bhiwadi) & Jaipur Districts	Keshwana Industrial Area	Connected
44	9.56	Alwar (Other than Bhiwadi) & Jaipur Districts	Manda Industrial Area	Connected
45	9.56	Alwar (Other than Bhiwadi) & Jaipur Districts	VKI Industrial Area	To be Connected
46	9.56	Alwar (Other than Bhiwadi) & Jaipur Districts	Sitapur Industrial Area	To be Connected

47	9.56	Alwar (Other than Bhiwadi) & Jaipur Districts	Mahindra SEZ Cluster	To be Connected
48	9.56	Alwar (Other than Bhiwadi) & Jaipur Districts	Bagru Industrial Area	To be Connected
49	9.56	Alwar (Other than Bhiwadi) & Jaipur Districts	Bassi Industrial Area	To be Connected
50	9.56	Alwar (Other than Bhiwadi) & Jaipur Districts	Matsaya Industrial Area	To be Connected
51	9.56	Alwar (Other than Bhiwadi) & Jaipur Districts	Kushkhara Industrial Area	To be Connected
52	9.57	Kota (EAAA), Baran & Chittorgarh (only Rawat Bhata) Districts	Ranpur Industrial Area	To be Connected
53	9.57	Kota (EAAA), Baran & Chittorgarh (only Rawat Bhata) Districts	RIICO Industrial Area - Baran	Connected
54	9.57	Kota (EAAA), Baran & Chittorgarh (only Rawat Bhata) Districts	Bhimpura Industrial Area	To be Connected
55	9.6	Dholpur District	RIICO	Connected
56	9.62	Chennai & Tiruvallur Districts	Gummidipoondi SIPCOT	Connected
57	9.62	Chennai & Tiruvallur Districts	Thervoykandigai SIPCOT	To be Connected
58	9.62	Chennai & Tiruvallur Districts	Padi Industrial Area	Connected
59	9.62	Chennai & Tiruvallur Districts	Ambattur Industrial area	Connected
60	9.71	Medak, Siddipet & Sangareddy Districts	Siddipet Industrial Park	Connected
61	9.71	Medak, Siddipet & Sangareddy Districts	Pashamailaram Industrial Area	Connected
62	9.71	Medak, Siddipet & Sangareddy Districts	Indresham Industrial Area	Connected
63	9.71	Medak, Siddipet & Sangareddy Districts	Fasalwadi	Connected
64	9.71	Medak, Siddipet & Sangareddy Districts	Tunikibollaram	Connected
65	9.71	Medak, Siddipet & Sangareddy Districts	Vantimamidi	Connected
66	9.71	Medak, Siddipet & Sangareddy Districts	Mulugu Mandal	To be Connected
67	9.71	Medak, Siddipet & Sangareddy Districts	Gauraram	To be Connected
68	9.71	Medak, Siddipet & Sangareddy Districts	Muppireddypalli Industrial Park	Connected
69	9.71	Medak, Siddipet & Sangareddy Districts	Kalakkal Industrial Area	Connected
70	9.71	Medak, Siddipet & Sangareddy Districts	Bandathimapur Food Area	Connected
71	9.71	Medak, Siddipet & Sangareddy Districts	Kokkonda Industrial Area	Connected
72	9.71	Medak, Siddipet & Sangareddy Districts	Bandamailram Industrial Area	Connected
73	9.71	Medak, Siddipet & Sangareddy Districts	Kallakal Industrial Area	Connected

74	9.71	Medak, Siddipet & Sangareddy Districts	Shabhashpalli Industrial Area	Connected
75	9.71	Medak, Siddipet & Sangareddy Districts	Chegunta Industrial Area	To be Connected
76	9.71	Medak, Siddipet & Sangareddy Districts	Ismailkhanpet Industrial Area	Connected
77	9.71	Medak, Siddipet & Sangareddy Districts	Bonthapalli Industrial Area	Connected
78	9.71	Medak, Siddipet & Sangareddy Districts	Karakapatla Industrial Area	Connected
79	9.71	Medak, Siddipet & Sangareddy Districts	Jeedipalli Industrial Area	To be Connected
80	9.71	Medak, Siddipet & Sangareddy Districts	Kodakandla Industrial Area	To be Connected
81	9.71	Medak, Siddipet & Sangareddy Districts	Kucharam Industrial Area	Connected
82	9.71	Medak, Siddipet & Sangareddy Districts	Jarasangam Industrial Area	To be Connected
83	9.71	Medak, Siddipet & Sangareddy Districts	Zaheerabad Industrial Area	Upcoming
84	9.79	Auraiya, Kanpur Dehat & Etawah Districts	Rania Industrial Area	Connected
85	9.79	Auraiya, Kanpur Dehat & Etawah Districts	Jainpur Industrial Area	Connected
86	9.79	Auraiya, Kanpur Dehat & Etawah Districts	Choubepur Industrial Area	To be Connected
87	9.81	Gorakhpur, Sant Kabir Nagar & Kushinagar Districts	Khalilabad	Connected
88	9.81	Gorakhpur, Sant Kabir Nagar & Kushinagar Districts	GIDA Sector 13 & 15	Connected
89	9.81	Gorakhpur, Sant Kabir Nagar & Kushinagar Districts	Betihata	Connected
90	9.81	Gorakhpur, Sant Kabir Nagar & Kushinagar Districts	GIDA Sector 26	To be Connected
91	9.81	Gorakhpur, Sant Kabir Nagar & Kushinagar Districts	Bargadwa Industrial Area	To be Connected
92	10.36	Azamgarh, Mau & Ballia Districts	Ghajipur-Tiraha Industrial Area	To be Connected
93	10.36	Azamgarh, Mau & Ballia Districts	Tajopur Industrial Area	To be Connected
94	10.38	Basti & Ambedkar Nagar Districts	Plastic Complex - Industrial Area Basti	Connected
95	10.38	Basti & Ambedkar Nagar Districts	Tandi Industrial Area	To be Connected
96	10.4	Gonda and Barabanki Districts	Saumiya Nagar	Connected
97	10.4	Gonda and Barabanki Districts	Kursi Industrial Area	Connected
98	98.03/9.83	Moradabad & Moradabad (EAAA) District	Lakri Fazalpur	Connected
99	98.03/9.83	Moradabad & Moradabad (EAAA) District	Virpur Industrial Area	Connected

100	98.03/9.83	Moradabad & Moradabad (EAAA) District	Pital Nagri	Connected
101	98.03/9.83	Moradabad & Moradabad (EAAA) District	Prem Nagar Industrial Area	Connected
102	98.03/9.83	Moradabad & Moradabad (EAAA) District	Harthala Industrial Area	Connected
103	98.03/9.83	Moradabad & Moradabad (EAAA) District	Moradabad SEZ Cluster	Connected

Source: Torrent Gas, Crisil Intelligence

Torrent Gas' industrial portfolio is backed by large, diversified industrial zones across Maharashtra (Pune–Ranjangaon–Talegaon corridor), Rajasthan (Kota, Jaipur, Neemrana), Tamil Nadu (Chennai, Karaikal, SIPCOT clusters) and Uttar Pradesh (Moradabad, Kanpur, Mathura, Barabanki), enabling strong PNG demand from automotive, OEM, engineering, handicraft, aerospace, F&B, smelting and agro-processing units. The network has facilitated a clear shift away from polluting fuels with over 600 industrial consumers onboarded, ~80% of whom have transitioned from gaseous fuels and ~20% from liquid fuels. The portfolio also includes marquee clients across automotive, FMCG, pharmaceuticals, plastics, food processing and engineering sectors, reinforcing the company's strong industrial demand base.

8.8 State Wise I-PNG Sales

Table 134: State Wise I-PNG Sales Q1-FY26, SCMD

State	I-PNG Sales
Gujarat	5,206,492
Uttar Pradesh & Rajasthan	1,256,043
Maharashtra	1,214,086
Haryana	952,095
Uttar Pradesh	813,549
Assam	460,041
Punjab	383,251
Rajasthan	345,721
Telangana	180,662
Tamil Nadu	113,059

Note: State wise I-PNG Sales from Apr-June 2025 for Top 5 states along with states where TGL is present

Source: PPAC, Crisil Analysis

8.9 Infrastructure Developments

Table 135: Infrastructure Developments in TGL GAs

Geographical Areas	Infrastructure Development
Mathura	- Mathura has been designated as one of 12 heritage cities for the HRIDAY scheme, focusing on civic infrastructure and public amenities for locals and tourists - New housing project to launched under Mukhyamantri Urban Expansion/New City Promotion Scheme during June 2025 to December 2025 in 12 districts of Uttar Pradesh, including Mathura - A six-lane expressway connecting Mathura to Aligarh, via the Yamuna Expressway, is planned to enhance connectivity and tourism - A proposed 15.4-kilometer bypass, estimated to cost INR1,645.72 crore, will connect NH-19 to the Yamuna Expressway, improving traffic flow and connectivity

Auraiya, Kanpur Dehat & Etawah Districts	- The Uttar Pradesh government is focusing on the development of SEZs, under Master Plan-2051, across key regions including Auraiya and Kanpur Dehat - New 92 km expressway connecting Etawah to Hardoi in Uttar Pradesh has been planned. The expressway will link Ganga expressway to the Agra-Lucknow expressway near Etawah
Gorakhpur, Sant Kabir Nagar & Kushinagar Districts	- 800-acre industrial corridor along the Gorakhpur Link expressway is underway - 5,500-acre land at Dhuriapar Industrial City is under development
Moradabad	- The Moradabad Master Plan 2031 aims to strengthen the city's traffic by ring road, and industrial corridor to connect a SEZ with the industrial area in the city - The master plan also proposes a MSME cluster, an industrial logistic park, knowledge city and a medicity - New housing project to launched under Mukhyamantri Urban Expansion/New City Promotion Scheme during June 2025 to December 2025 in 12 districts of Uttar Pradesh, including Moradabad
Azamgarh, Mau and Ballia Districts	- Under PM Gatishakti National Master Plan Prayagraj-Dohrighat Corridor Project has been initiated, spanning across Prayagraj, Jaunpur and Azamgarh district. - A 35 km long Ballia Link Expressway is planned to connect Ballia with Purvanchal Expressway to enhance the connectivity
Basti and Ambedkarnagar Districts	- A 22km four lane ring road is under construction in the Basti city to improve the connectivity
Gonda and Barabanki Districts	- A bypass on NH-330 is under construction in Gonda to improve the connectivity - A four lane road has been proposed to enhance connectivity between Ayodhya, Gonda and Bahraich districts to improve transportation - A 101 km four lane highway has been proposed between Barabanki and Bahraich
Pune District (EAAA)	- The authorities have started Pune Ring Road project aimed at alleviating traffic congestion by diverting large vehicles away from the city's main area. The project, expected to be completed by December 2026, will improve connectivity between industrial and residential areas. - Pune's Smart Cities Mission has been initiated which aims to transform the city through technology, enhancing public services and quality of life with smart infrastructure and digital initiatives. The project will improve public safety, transportation, and citizen engagement
Karaikal & Nagapattinam Districts	- PWD of Puducherry has launched multiple road improvement projects across Karaikal district to enhance connectivity - Puducherry through smart civic infrastructure and smart service delivery, the Puducherry Government are developing sustainable urban development through the Smart City Project
Alwar (Other than Bhiwadi) & Jaipur Districts	- A six lane highway between Paniyala in Kotputli and Barodamev in Alwar is under construction which will provide connectivity from Rajasthan to Chandigarh, enhancing access to Delhi-Mumbai Expressway - Authorities have allotted more than 25 hectares of land in Kathumar for new industrial hub - Under the smart city mission Jaipur Smart City Ltd has been implemented to enhance residents' quality of life
Medak, Siddipet & Sangareddy Districts	- Greenfield expressway corridor connecting Indore to Hyderabad will pass through Kamareddy, Medak, and Sangareddy districts - Telangana government has started expanding urban development authorities to manage urbanization. Sangareddy Urban Development Authority has been established to encompass Sangareddy Town, along with five municipalities and 466 villages within Sangareddy District. This development area is expected to promote well-planned urbanisation and mitigate uncontrolled growth. - Siddipet Urban Development Authority has been expanded to include an additional four municipalities and 286 villages in Siddipet District

Source: Crisil Intelligence

8.10 Neighbouring GAs

Table 136: Neighbouring GAs of TGL

TGL GA	Neighbouring GAs	CGD Operator in Neighbouring Gas
Mathura	Agra	Indian-Oil Adani Gas Private Limited
	Bulandshahr District (EAAA), Aligarh & Hathras Districts	Green Gas Limited
	Firozabad (Taj Trapezium Zone)	GAIL Gas Limited
Auraiya, Kanpur Dehat & Etawah Districts	Kanpur (EAAA) District, Fatehpur and Hamirpur Districts	Indraprastha Gas Limited
	Kanpur	Central UP Gas Limited
	Mainpuri and Kannauj Districts	Hindustan Petroleum Corporation Limited
Gorakhpur, Sant Kabir Nagar & Kushinagar Districts	Gopalganj, Siwan, West Champaran, East Champaran and Deoria districts	Bharat Petroleum Corporation Limited
Moradabad	Amroha & Sambhal districts	Megha City Gas Distribution Private Limited
Basti and Ambedkarnagar Districts	Faizabad & Sultanpur Districts	Green Gas Limited
	Siddharth Nagar & Maharajganj districts	Bharat Petroleum Corporation Limited
Azamgarh, Mau and Ballia Districts	Gorakhpur, Sant Kabir Nagar, Kushinagar & Basti Districts	Torrent Gas Private Limited
	Aurangabad, Kaimur & Rohtas Districts	Indian Oil Corporation Limited
	Gaya & Nalanda Districts	Indian-Oil Adani Gas Private Limited
Gonda and Barabanki Districts	Amethi, Pratapgarh & Raebareli Districts	Bharat Petroleum Corporation Limited
	Lakhimpur Kheri, Sitapur, Bahraich, Shrawasti, Balrampur, Siddharth Nagar & Maharajganj districts	Bharat Petroleum Corporation Limited
SAS Nagar District (EAAA), Patiala & Sangrur Districts	Chandigarh	Indian-Oil Adani Gas Private Limited
	Bhatinda District	Gujarat Gas Limited
	Ludhiana District (EAAA), Barnala & Moga Districts	Think Gas Ludhiana Private Limited
	Sirsa, Fatehabad and Mansa (Punjab) Districts	Gujarat Gas Limited
	Kaithal District	Indraprastha Gas Limited
Junagadh District	Jamnagar	Gujarat Gas Limited
	Rajkot	Gujarat Gas Limited
	Porbandar District	Adani Total Gas Limited
	Amreli District	Gujarat Gas Limited
	Diu & Gir Somnath Districts	IRM Energy Private Limited
Pune	Ahmednagar & Aurangabad Districts	Bharat Petroleum Corporation Limited
	Sangli & Satara Districts	Bharat Petroleum Corporation Limited
	Mumbai & Greater Mumbai	Mahanagar Gas Limited

	Pune City including Pimpri – Chichwad & adjoining contigeneous areas Hinjewadi, Chakan, Talegaon	Maharashtra Natural Gas Limited
	Thane urban and adjoining Municipalities	Mahanagar Gas Limited
Karaikal & Nagapattinam Districts	Cuddalore, Nagapattinam & Tiruvarur Districts	Adani Total Gas Limited
	Tiruvannamalai, Villupuram and Kallakurichi districts	Megha City Gas Distribution Private Limited
	Ariyalur and Perambalur districts	Megha City Gas Distribution Private Limited
	Pudukottai, Sivaganga and Thanjavur districts	Megha City Gas Distribution Private Limited
Alwar (Other than Bhiwadi) & Jaipur Districts	Ajmer, Pali and Rajsamand Districts	Indraprastha Gas Limited
Alwar (Other than Bhiwadi) & Jaipur Districts	Mathura	Torrent Gas Private Limited
	Jhunjhunu, Sikar and Nagaur districts	Indian Oil Corporation Limited
	Dausa, Karauli, SawaiMadhopur and Tonk	Hindustan Petroleum Corporation Limited
	Bhiwadi (in Alwar District)	Haryana City Gas Distribution (Bhiwadi) Limited
	Nuh and Palwal Districts	Adani Total Gas Limited
	Rewari District	Indraprastha Gas Limited
	Jhajjar District	Haryana City Gas (KCE) Private Limited
	Faridabad-2	Adani Total Gas Limited
	Gurugram-2	Haryana City Gas Distribution Limited
Kota District (EAAA), Baran & Chittorgarh (Only Rawatbhata Taluka) Districts	Chittorgarh (Other than Rawatbhata Taluka) & Udaipur Districts	Adani Total Gas Limited
	Bhilwara & Bundi Districts	Adani Total Gas Limited
	Guna District	Indian Oil Corporation Limited
	Shivpuri District	Think Gas Bhopal Private Limited
Dholpur District	Agra	Green Gas Limited
	Firozabad (Taj Trapezium Zone)	GAIL Gas Limited
	Gwalior	Aavantika Gas Limited
	Morena District	Indian Oil Corporation Limited
Chennai & Tiruvallur Districts	Kanchipuram District	AGP CGD India Private Limited
Medak, Siddipet & Sangareddy Districts	Jagtial, Peddapalli, Karimnagar & RajannaSircilla Districts	Indian Oil Corporation Limited
	Jangaon, Jayashankar Bhupalpally, Mahabubabad, Warangal Urban & Warangal Rural Districts	Megha City Gas Distribution Private Limited
	Hyderabad	Bhagyanagar Gas Limited

Source: PNGRB, Crisil Analysis

8.11 Segment wise Affordability

Table 137: Domestic PNG Prices for TGL GAs

Geographical Area	Domestic PNG Prices (INR/MMBTU)	LPG Prices (INR/MMBTU)
Uttar Pradesh		
Mathura	1,369.16	1,390.03
Auraiya	1,395.17	1,432.85
Kanpur Dehat	1,395.17	1,404.00
Etawah	1,395.17	1,426.44
Gorakhpur	1,399.78	1,475.68
Sant Kabir Nagar	1,399.78	1,475.68
Kushinagar	1,399.78	1,489.42
Moradabad (EAAA)	1,350.65	1,408.58
Azamgarh	1,399.78	1,491.71
Mau	1,399.78	1,504.53
Ballia	1,399.78	1,504.53
Basti	1,399.78	1,477.28
Ambedkarnagar	1,399.78	1,504.53
Gonda	1,392.88	1,463.54
Barabanki	1,392.88	1,435.37
Moradabad	1,350.65	1,408.58
Maharashtra		
Pune District (EAAA)	1,350.72	1,380.412
Gujarat		
Junagadh	1,280.36	1,405.373
Punjab		
SAS Nagar District (EAAA)	1,331.29	1,390.946
Patiala	1,331.29	1,390.946
Sangrur	1,331.29	1,407.892
Rajasthan		

Alwar (Other than Bhiwadi)	1,177.77	1,407.892
Jaipur	1,177.77	1,381.328
Kota District (EAAA)	1,278.64	1,409.495
Chittorgarh (Only Rawatbhata Taluka)	1,278.64	1,439.265
Dholpur	1,335.91	1,405.373
Tamil Nadu		
Chennai	1,215.16	1,400.564
Tiruvallur	1,215.16	1,400.564
Puducherry & Tamil Nadu		
Karaikal	1,154.73	1,423.235
Nagapattinam	1,154.73	1,409.495
Telangana		
Medak	1,322.14	1,488.5
Siddipet	1,322.14	1,486.897
Sangareddy	1,322.14	1,459.417

Note: GCV for LPG is assumed to be 46 MJ/KG, and 1MMBTU=1055MJ

EAAA: Except Area Already Authorized

Source: Company Website, Crisil Intelligence

Table 138: CNG Prices for TGL GAs

Geographical Area	CNG Prices (INR/kg)	Petrol Prices (INR/L)	Diesel Prices (INR/L)
Maharashtra			
Pune District (EAAA)	91.50	104.04	90.57
Uttar Pradesh			
Ambedkarnagar	94.50	95.31	88.49
Auraiya	94.75	95.25	88.41
Azamgarh	94.50	95.81	88.95
Ballia	94.50	96.18	89.17
Barabanki	95.75	94.96	88.13
Basti	94.50	95.25	88.44
Etawah	94.75	95.13	88.28
Gonda	95.75	94.83	87.99
Gorakhpur	94.50	95.13	88.29
Kanpur Dehat	94.75	94.84	87.97
Kushinagar	94.50	94.87	88.01
Mathura	94.00	94.59	87.65
Mau	94.50	95.45	88.62

Moradabad	93.50	95.02	88.18
Sant Kabir Nagar	94.50	95.03	88.20
Punjab			
Patiala	92.75	97.68	87.51
Sangrur	90.75	97.35	87.27
SAS Nagar	92.43	98.61	88.39
Rajasthan			
Alwar (including Neemrana)	89.41	105.17	90.80
Baran	91.21	105.38	90.21
Dholpur	91.56	105.19	90.61
Jaipur (including Kotputali)	89.41	104.72	90.21
Kota	91.21	104.76	90.23
Rawatbhata	91.21	104.34	89.88
Gujarat			
Junagadh	82.67	95.49	91.17
Telangana			
Medak	96.00	107.91	96.12
Sangareddy	96.00	108.62	96.78
Siddipet	96.00	107.57	95.81
Tamil Nadu			
Chennai	90.50	100.80	92.39
Tiruvallur	90.50	101.90	93.46
Puducherry			
Karaikal	78.00	96.03	86.31
Nagapattinam	78.00	102.22	93.82

Source: Company Website, Crisil Intelligence

9 Blending of CBG in CGD Sector

Compressed Bio Gas (CBG) is a renewable energy source derived from Bio Gas that has been upgraded and compressed to serve as an alternative to fossil fuels. Produced through the anaerobic digestion of organic materials like agricultural residues, food waste, and animal manure, raw Bio Gas is refined to remove impurities such as carbon dioxide, moisture, and other contaminants, resulting in a high-quality biomethane. Once compressed, CBG can be efficiently stored, transported, and used as fuel for vehicles, heating systems, and power generation. This sustainable fuel not only helps reduce greenhouse gas emissions and waste but also supports a circular economy by transforming organic waste into a valuable energy resource.

CBG is emerging as a viable renewable energy source in India. With both environmental and energy security concerns on the rise, CBG—produced by upgrading Bio Gas to meet natural gas quality standards—is receiving increasing policy attention. The overall drive is to reduce the country's dependence on imported fossil fuels, lower greenhouse gas emissions, and create value out of agricultural residues, municipal solid waste, or industrial organic waste.

In 2023, the National Biofuels Coordination Committee (NBCC) gave the green light to a phased introduction of mandatory CBG blending in the CNG (transport) and PNG (domestic) segments of the CGD sector. Initially, CBG blending was voluntary until the FY-25, but will be mandatory starting from the FY-26. The mandatory blending targets are set at 1% for FY-26, 3% for FY-27, and 4% for FY-28, with a target of 5% from FY-29 onwards. This move aims to increase the availability of CBG in the country, promoting a gas-based and circular economy, reducing foreign exchange outflows, and helping to achieve net-zero emissions.

CBG is progressively also proposed to be used as a cooking fuel, and for household purposes. Only 97 CBG plants have been commissioned in India as of June 2024, out of the planned 5,000 plants expected to be operational by the end of 2024-25 under the Sustainable Alternative Towards Affordable Transportation (SATAT) scheme. The industry is gaining momentum, as evidenced by 2,061 active letters of intent to various stakeholders.

India's compressed Bio Gas potential to be around 40 to 60 MMTPA (million metric tons per annum) with current installed capacity at <1%. Currently, India has already made significant strides in the CBG sector, having sold 31,423 tons of CBG. The SATAT initiative's ambitious target is to produce 15 million metric tonnes per annum (MMTPA) of Compressed Bio Gas (CBG), by establishing 5,000 Bio Gas plants, with investment in infrastructure to support its distribution across the country. Achieving this target can reduce India's LNG imports by about 55%, while creating significant employment in plant construction, operation and maintenance, while improving waste management practices nationwide. This initiative also aims to produce a remarkable 50 MMTPA of bio-manure.

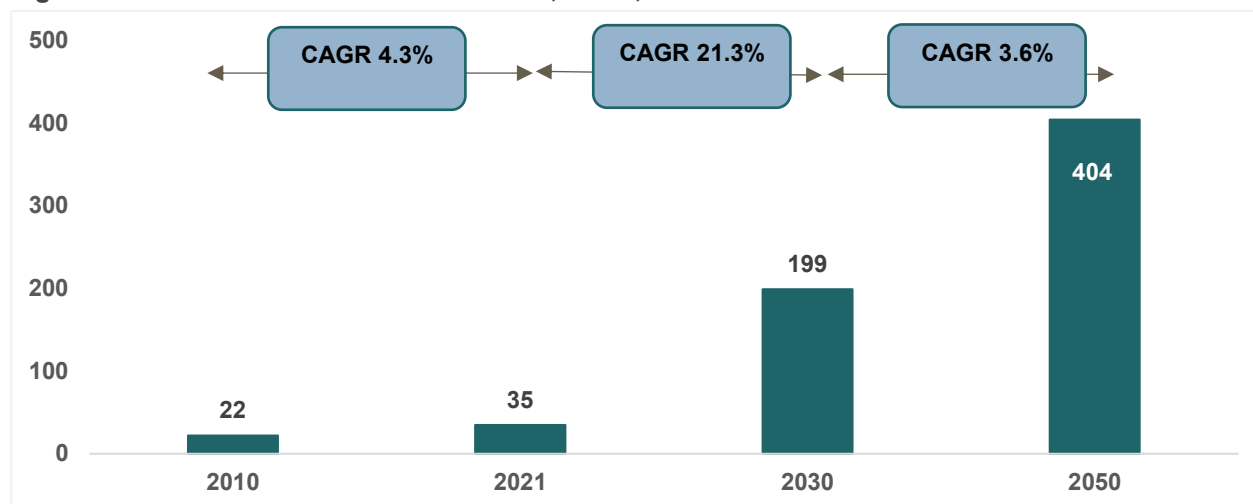
Status of operative/upcoming CBG plants across country:

- i. Operative ~ 160 nos of rated production capacity of 1.36 MMSCMD
- ii. Under construction: ~244 nos of rated production capacity of 2.78 MMSCMD
- iii. Yet to start Construction: ~ 744 nos of rated production capacity of 3.58 MMSCMD

Torrent Gas Limited recorded CBG offtake of ~25950 SCMD in FY25, accounting for about 20% of India's total CBG offtake, thereby positioning it as one of the largest CGD entities as compared to the listed CGD entities in India in terms of CBG procurement and integration into its gas portfolio

9.1 Global CBG Outlook

Figure 92: Global Bio Gas demand outlook, bcme, 2010-2050



BCME: billion cubic meter equivalents

Source: IEA world energy outlook

The global CBG market is experiencing significant growth due to increasing demand for sustainable and renewable energy sources. Europe, in particular, Germany has been a pioneer in the CBG sector driven by stringent environmental regulations and substantial investments. Germany has scripted a success story as a world leader in Bio Gas/Bio-Methane production. As of 2018, Germany had 9,706 operational Bio Gas plants and 9,494 operating CHP Bio Gas plants with a total installed capacity of 4.8 GW. Netherlands has set an objective to consume 2 billion cubic metres (BCM) of CBG and has given a mandate to achieve 20% CBG blending rate by 203. France is implementing a CBG production certificate programme from 2026 onwards. These Green Certificates will mandate gas suppliers to incorporate a specific percentage of CBG in their gas sales to consumers.

The Asia-Pacific region, particularly India and China, is also seeing rapid growth due to an increasing need for clean energy given the rapid urbanization and industrialization that these countries are experiencing. Achieving net-zero energy target by the fiscal year 2050, the total Bio Gas demand globally is expected to surge to 404 bcme, indicating a CAGR of 9.0% during 2021 to 2050.

Key factors contributing to the CBG market growth

- Government targets to increase renewable energy share
- Push to reduce environmental pollution through better waste management
- Increasing investments in decentralized energy production in rural and peri-urban areas
- Focus on meeting the energy needs of the transport and power sectors with cleaner fuels

Initiatives Undertaken by Various Indian Ministries

a. Ministry of New and Renewable Energy (MNRE)

- MNRE has been promoting Bio Gas and CBG production as part of its broader renewable energy portfolio.
- The ministry has supported demonstration projects and pilot programs that focus on technology upgradation in Bio Gas plants and striving for better quality CBG that can blend with natural gas.
- Policy incentives, such as capital subsidies and soft loans, are extended in select regions to ease the investment burden on CBG plant operators.

b. Ministry of Petroleum and Natural Gas

- This ministry is increasingly looking at integrating renewable gases like CBG into the national energy mix.
- Initiatives include efforts to develop infrastructure for injection of CBG into existing natural gas grids and establishing quality standards to ensure compatibility with transport fuels and domestic pipelines.
- Strategic policy discussions are underway about promoting CBG as an alternative transport fuel to reduce petroleum dependence.

c. Ministry of Agriculture and Farmers' Welfare

- Recognizing the immense potential of agricultural residues, the ministry supports converting biomass waste into energy via Bio Gas generation and subsequent upgrading to CBG.
- Schemes and collaborative programs—often run in tandem with state governments—aim to provide farmers with an alternative revenue stream and promote sustainable waste management practices.

d. Ministry of Environment, Forest and Climate Change

- Environmental clearances and guidelines are in place to ensure that the production of CBG adheres to sustainability and pollution control norms.
- The ministry also plays a role in facilitating waste-to-energy projects by promoting policies that incentivize responsible waste management and emission reduction.

Table 139: Some Key Companies of CBG in India

Manufacturer	Location	Installed Capacity
Verbio	Sangrur, Punjab	33.23 TPD
IOCL	Hapur, Uttar Pradesh	5 TPD
	Gorakhpur, Uttar Pradesh	20 TPD
Spectrum Renewable Energy Private Limited	Kolhapur, Maharashtra	8 TPA
Chennai Corporation	Chennai, Tamil Nadu	100 TPA
	Tiruvannamalai, Tamil Nadu	100 TPA
Indore Smart City Development Ltd	Indore, Madhya Pradesh	35 TPD
HPCL-Budaun CBG plant	Badaun, Uttar Pradesh	14 TPD
Green Elephant Engineering Pvt Ltd	Satara, Maharashtra	339,540 Nm ³ /month
Carbon Masters	Malur, Karnataka	547 TPA
Carbon Masters & Hasiru Dala Innovation Joint Venture	Harohalli, Karnataka	30 TPD

Source: Crisil Intelligence

Supply Chain Dynamics Towards Operating a CBG Plant

Feedstock Collection and Pre-processing: The first step involves collecting raw materials such as agricultural residues, animal manure, municipal organic waste, or industrial biodegradable waste, which form the essential feedstock for a CBG plant. This phase entails establishing efficient logistics to gather these materials from various sources, setting up collection hubs, and ensuring proper storage. Pre-processing activities like sorting, shredding, or drying ensure the feedstock is in an optimal state for efficient anaerobic digestion, while long-term supply agreements are often established with farmers, municipal bodies, or waste generators to secure a consistent supply.

Anaerobic Digestion and Bio Gas Production: Once the feedstock is prepared, it is fed into anaerobic digesters where microbes break down the organic matter in the absence of oxygen. This process produces raw Bio Gas—a mix of methane, carbon dioxide, and other impurities. The efficiency of this stage is closely monitored by controlling

parameters such as temperature, pH, and retention time, ensuring a steady and high-quality output of Bio Gas that forms the base for further refining into CBG.

Upgrading to CBG: Raw Bio Gas contains impurities such as hydrogen sulfide, moisture, and carbon dioxide that must be removed to meet the quality standards of CBG. The upgrading process involves cleaning and purification steps where these impurities are filtered out or chemically removed, thereby enriching the methane content. This refined CBG meets specified quality norms, allowing it to be safely used in natural gas grids or as an eco-friendly fuel alternative in various applications.

Storage, Distribution, and End-use: After the gas has been upgraded to CBG, it is compressed and stored in high-pressure tanks or cylinders to facilitate safe handling and transportation. The distribution phase involves channeling the compressed gas through established networks—be it pipelines for blending with natural gas or direct delivery for use in transport and industrial applications. End users, including public transport operators, industrial entities, or rural energy consumers, rely on a robust distribution network supported by existing fuel infrastructure and government-backed initiatives to ensure timely and reliable access to the fuel.

Regulatory Compliance and Quality Control: Throughout the entire supply chain, stringent quality control and regulatory compliance measures are essential. CBG plants follow national and sometimes international standards through systematic testing, certification protocols, and periodic audits to ensure that the gas is safe and meets established benchmarks. Investments in quality control laboratories, advanced metering technology, and smart monitoring systems help maintain transparency, build consumer trust, and facilitate the continuous alignment of operations with evolving regulatory requirements.

9.2 Regulatory Framework

India's regulatory framework for Compressed Bio Gas (CBG) production, distribution, and blending into the natural gas network is structured around a network of central and state agencies designed to ensure environmental sustainability, safety, and energy security. Key bodies such as the Ministry of New and Renewable Energy (MNRE) and the Ministry of Petroleum and Natural Gas (MoPNG), along with regulatory authorities like the Petroleum and Natural Gas Regulatory Board (PNGRB) and the Petroleum and Explosives Safety Organization (PESO), oversee everything from feedstock processing and plant safety to the technical standards for gas blending and pipeline injection. This integrated framework not only promotes the production of renewable energy through stringent quality and environmental norms but also facilitates the gradual integration of CBG into existing natural gas infrastructure under evolving guidelines and pilot initiatives.

Regulatory Bodies and Key Ministries

- **Ministry of New and Renewable Energy (MNRE)**
 - MNRE formulates policies and programs that incentivize the production of renewable fuels, including CBG derived from agricultural, municipal, and industrial waste.
 - Various schemes and support measures (such as capital subsidies and technology upgradation incentives) are available under MNRE guidelines that promote the establishment of Bio Gas plants.
- **Ministry of Petroleum and Natural Gas (MoPNG)**
 - This ministry is responsible for framing policies related to the natural gas sector, including regulation of blending and injection of alternate gases into the natural gas grid.
- **Petroleum and Natural Gas Regulatory Board (PNGRB)**
 - The PNGRB issues the technical and safety guidelines governing the injection of CBG (or biomethane) into the existing natural gas grid.

- Guidelines on the quality parameters, blending ratios, metering, and safety protocols are part of the PNGRB's regulatory purview.
- **Petroleum and Explosives Safety Organization (PESO)**
 - PESO sets and enforces safety standards regarding the production, storage, transportation, and use of combustible gases, including CBG.
- **State Regulatory Authorities and Policies**
 - State-level agencies also play a role in implementing and monitoring city gas distribution (CGD) networks and may offer additional incentives or requirements regarding local production, distribution infrastructure, or blending mandates.

Production of CBG

- **Feedstock and Process Guidelines**
 - Production of CBG from plant and animal waste is governed by technical guidelines issued by MNRE and other relevant agencies. These cover aspects from feedstock selection and pre-treatment to process control in anaerobic digestion or gasification.
- **Safety and Environmental Norms**
 - The production facilities must comply with environmental clearances typically issued by state pollution control boards and the Ministry of Environment, Forest and Climate Change (MOEFCC).
 - Safety requirements, as prescribed by PESO, must be followed to prevent hazards related to gas processing and storage.

Distribution and Infrastructure

- **City Gas Distribution (CGD) Regulations**
 - CBG, when intended for injection into the natural gas distribution network, must conform to the standards and guidelines issued by the PNGRB.
 - The existing CGD infrastructure is governed by the PNGRB (and related state agencies), which ensure that all gases (natural gas and blended CBG) meet quality and safety standards.
- **Pipeline Quality Standards and Metering**
 - Specific quality standards (e.g., calorific value, methane content, and contaminants) have been prescribed for gases entering the pipelines.
 - Metering systems and injection points must be aligned with PNGRB guidelines to ensure accurate measurement, billing, and safety.

Blending with Natural Gas

- **Blending Mandates and Limits**
 - The PNGRB and MoPNG have been exploring viable pathways for the blending of renewable gases (such as CBG or biomethane) with conventional natural gas.
 - Current guidelines may set a maximum blend percentage (for example, proposals for 20% blending have been seen in pilot projects), but these figures are subject to change based on further technological validation and policy adjustments.
- **Technical Compatibility and Safety**
 - Before blending, the quality of CBG must be carefully controlled. This ensures that the resultant gas mixture does not compromise combustion efficiency or safety in end-use applications.
 - Injection protocols and safety checks must be strictly adhered to, with oversight from both PNGRB and PESO.

9.3 Strategies of TGL to Integrate CBG

Torrent Gas has adopted a practical and forward-looking strategy to integrate CBG into its existing infrastructure, reflecting its commitment to sustainability and alignment with national green energy initiatives. Rather than entering the production side of the business TGL has opted for an off-taker model, sourcing CBG from producers in its GAs and nearby regions at preferential prices and distributing it through its CGD networks. This approach reduces logistical complexity, ensures localized supply, and supports the company's goal of maximizing operational efficiency while maintaining a low-carbon profile.

In addition to integrating CBG, TGL is actively exploring broader green energy opportunities across India's evolving natural gas ecosystem. This includes leveraging the development of trunk pipelines, expanding its CGD infrastructure, and participating in emerging platforms like the India Gas Exchange (IGX) for gas trading. TGL is also monitoring the growth of LNG as a transport fuel, recognizing its potential as a low-emission alternative for heavy-duty vehicles. While CBG remains its most prominent green initiative, these complementary efforts show TGL's intent to position itself as a company in eco-friendly gas distribution, contributing to both economic development and environmental sustainability.

TGL's current CBG strategy positions the company well to meet any potential Compressed Bio Gas Obligation (CBO) that may be introduced by the government. By securing significant volumes of CBG from local and nearby suppliers and prioritizing the injection of CBG into its CGD network, TGL ensures that the gas is effectively used within its operational areas. This not only supports supply chain optimization but also helps in decarbonizing urban gas consumption. The company's strong participation in CBG procurement and the use of government-backed infrastructure schemes like the Development of Pipeline Infrastructure (DPI) highlight its readiness to scale up supply and distribution to meet any future regulatory mandates.

9.3.1 CBG Blending Key Challenges and Mitigation Strategies

The implementation of CBG blending into the natural gas grid and city gas distribution (CGD) network presents a significant decarbonization opportunity but is accompanied by technical, commercial and regulatory challenges. The foremost constraint lies in the limited and inconsistent availability of feedstock—agricultural residues, press-mud, dung, and municipal waste—whose seasonal and dispersed nature affects continuous CBG production. This, in turn, leads to supply volatility, underutilization of upgrading plants, and uncertainty in meeting mandated blending ratios. The second challenge stems from logistics and infrastructure gaps: India's gas pipeline and compression network were designed for natural gas and require upgrading to enable injection, quality monitoring, and storage of CBG at scale. In addition, quality standardization under BIS/PNGRB norms mandates ≥90 % methane content, while several small-scale plants face constraints in consistently achieving this specification.

Commercially, the absence of long-term offtake contracts and market-based pricing mechanisms remains a key deterrent. CBG projects often rely on ad-hoc offtake through Oil Marketing Companies (OMCs) or CGD companies, leading to revenue uncertainty. Financing challenges arise due to the perceived technology risk, long gestation, and limited credit history of developers, while regulatory coordination between MoPNG, PNGRB, and state agencies on blending protocols and carbon credit attribution is still evolving.

These challenges, however, are being actively mitigated through policy and institutional measures. The Government of India has announced a phased mandatory blending roadmap (beginning with 1 % in FY2025-26, scaling to 5 % by FY2028-29), creating predictable offtake visibility. PNGRB is issuing CBG blending and injection guidelines and working on grid interconnection standards to assure quality and operational safety. OMCs and CGD companies have initiated centralized procurement frameworks under the SATAT programme to de-risk offtake.

9.3.2 Integrating Green Hydrogen with CBG

Integration of Green Hydrogen with Compressed Bio Gas (CBG) is potentially emerging as a key future pathway in India's low-carbon gas transition. Hydrogen-enriched Bio Gas can enhance calorific value, improve combustion efficiency, and deliver deeper emission reductions using existing CGD and industrial gas infrastructure. Globally, pilot programs in Europe have demonstrated up to 20% hydrogen blending without major grid modifications. For instance, Snam in collaboration with Baker Hughes tested 10% blending of hydrogen with natural gas in UK. In India, alignment with the National Green Hydrogen Mission (targeting 5 MMTPA by 2030) creates scope for co-located hydrogen-CBG facilities producing synthetic methane or high-purity bio-CNG. Such integration can diversify feedstock risk, improve plant utilisation, and enable carbon-credit monetisation.

While biomass gasification holds significant promise as a pathway for green hydrogen production, it remains in the early stages of technological development and is not yet commercially competitive. Several technical and operational challenges must be addressed before large-scale deployment is viable. These include increasing syngas yield through optimised reaction conditions, minimising tar formation and other contaminants in the syngas to improve downstream processing and enhance the overall reliability and stability of the gasification process. Additionally, the inherent variability in biomass feedstocks such as differences in moisture content, composition, and availability—poses further hurdles to consistent performance.

10 TGL Positioning for the Future

10.1 Government Policies & Initiatives

The Indian government has implemented comprehensive policies to boost the CGD sector as part of its vision to increase natural gas usage in the national energy mix from 6% to 15% by 2030. Key initiatives include the National Gas Grid Policy creating nationwide pipeline infrastructure, PNGRB regulations establishing market frameworks, and priority gas allocation for domestic and transport sectors. Financial support comes through tax benefits, Viability Gap Funding, and integration with broader initiatives like the Smart Cities Mission and National Clean Air Programme. Recent developments focus on the "One Nation, One Gas Grid" vision and hydrogen blending initiatives, collectively creating a supportive ecosystem for CGD expansion across India while promoting cleaner energy adoption.

Table 140: Some Government Initiatives

Initiatives	Description
Pradhan Mantri Urja Ganga Project	- 2,540 km pipeline project connecting eastern and northeastern regions - Facilitates CGD development in previously underserved areas - Integrates regional pipeline networks
Smart Cities Mission	- Incorporates CGD networks as essential urban infrastructure - Promotes clean fuel adoption in urban planning - Provides funding support for CGD infrastructure
National Clean Air Programme (NCAP)	- Encourages transition to cleaner fuels like natural gas - Supports CGD expansion to reduce air pollution - Sets targets for improving air quality in urban areas

10.2 Advantages of CGD over pollution parameters

CGD using natural gas offers dual advantages. On one side, it improves the environment by reducing emissions and enhancing air quality; on the other, it creates favourable business conditions for CGD operators such as Torrent Gas Ltd.

Cleaner Burning, Reduced Emissions, and Improved Air Quality

- Natural gas burns more efficiently than conventional fuels such as coal, diesel, biomass, and kerosene. It results in lower emissions of harmful pollutants like particulate matter (PM), nitrogen oxides (NOx), sulfur oxides (SOx), carbon monoxide (CO), and volatile organic compounds (VOCs).
- In states like Uttar Pradesh, Maharashtra, Gujarat, Puducherry, Punjab, Rajasthan, Tamil Nadu, and Telangana, where urban air quality can be compromised by outdated fuels and practices, introducing natural gas through CGD networks directly lowers the Air Quality Index (AQI) by reducing the levels of airborne pollutants.
- Cleaner combustion in households, industries, and transport leads to fewer health issues related to respiratory and cardiovascular diseases, which is indicative of broader improvements in public health and environmental standards.

Shift in Residential, Commercial, and Institutional Energy Use

- Households and small businesses are dependent on polluting fuels switch to the cleaner alternative provided by natural gas. This transition reduces household air pollution and contributes to an overall reduction in urban emission pools.
- Institutions and industries benefit from lower emissions while also often enjoying more efficient operations due to the reliability and efficiency of natural gas as compared to traditional fuels.

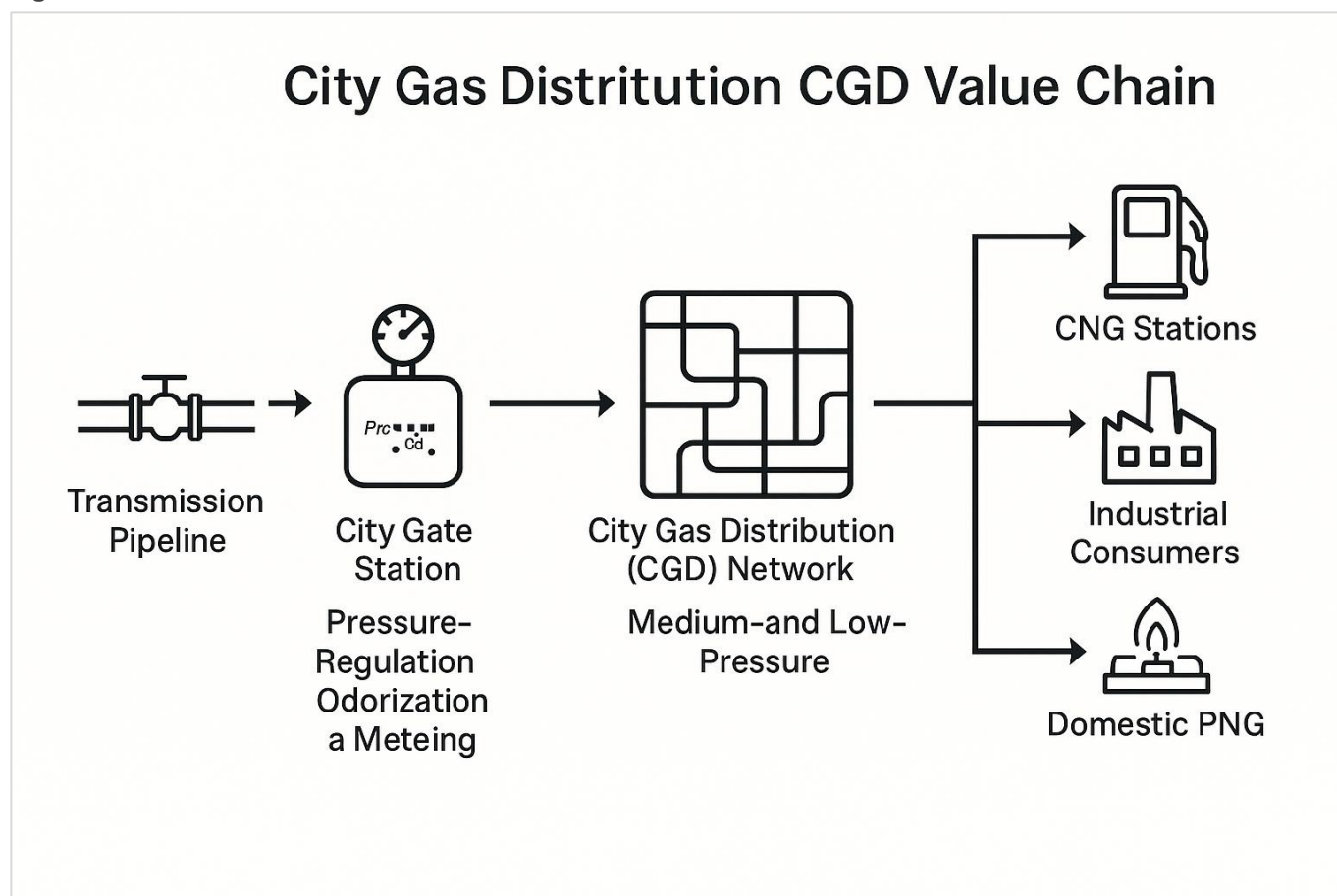
Benefits from the Adoption of CNG in Transportation

- CNG engines emit significantly fewer pollutants compared to diesel or petrol engines. The widespread adoption of CNG can further reduce traffic-related emissions, thus contributing to an improved AQI in urban areas. CNG emits about 25% less CO₂ than diesel for the same amount of energy and thus makes an important contribution to the reduction of CO₂ and pollutants

Table 141: Broader Benefits to Torrent Gas

Benefit	Description
Expanding Consumer Base	- Growing demand for cleaner fuels across residential, commercial, and industrial sectors - First-mover advantage in newly authorized geographical areas (GAs) - Potential to connect millions of households and businesses across their operational districts
Diversified Revenue Streams	- Multiple service offerings: PNG for domestic, commercial, and industrial use - CNG for transportation sector - Consistent revenue from distribution network charges
Government Support and Incentives	- Alignment with national clean air programs and climate commitments - Potential for subsidies, tax benefits, and expedited approvals - Marketing exclusivity in allocated geographical areas
Environmental Compliance	- Reduced regulatory risks as environmental standards tighten - Positioning ahead of potential carbon pricing mechanisms - Compliance with increasingly stringent emission norms
Enhanced Brand Reputation	- Recognition as an environmentally responsible company - Improved relations with local communities affected by air pollution - Stronger position with ESG-focused investors
Infrastructure Development	- Creation of valuable long-term assets (pipelines, stations) - Economies of scale as consumer density increases

Figure 93: CGD Value Chain



10.3 Road Infrastructure supporting CGD network

Road infrastructure significantly enhances operations for CGD companies across their service regions. Quality roads enable more efficient pipeline installation, reducing construction costs and timelines while facilitating optimal network planning. Operationally, good roads ensure quick access for maintenance teams, faster emergency response, and strategic CNG station placement. Business growth is supported through expanded market reach into previously inaccessible areas and improved customer service capabilities. Additionally, well-maintained roads generate cost efficiencies by reducing vehicle maintenance expenses, lowering transportation costs, and minimizing project delays. For Torrent Gas's operations across states like Uttar Pradesh, Maharashtra, and Gujarat, robust road infrastructure ultimately translates to faster network expansion, improved service delivery, and enhanced operational efficiency.

Table 142: Benefits to Torrent Gas from Road Infrastructure

Benefit	Description
Network Development Benefits	- Good roads allow for faster and more cost-effective laying of gas pipelines, reducing construction time and costs - Well-maintained roads minimize excavation difficulties and associated restoration costs - Existing road networks help in optimal planning of gas distribution infrastructure

Operational Advantages	- Quality roads ensure quick access to pipeline networks for regular maintenance and emergency repairs - Better roads enable faster response times to gas leaks or other emergencies - Strategic Road locations facilitate optimal placement of CNG stations for maximum customer access
Business Growth Opportunities	- Good road connectivity helps reach more potential consumers in remote areas - Better roads allow service teams to reach consumers more quickly for connections and service calls - Improved logistics for equipment transportation and material delivery
Cost Efficiencies	- Well-maintained roads lower maintenance costs for company vehicles - Smooth roads improve fuel efficiency for CNG transport vehicles - Fewer road-related obstacles mean fewer costly project delays

10.4 City Gate Stations

City Gate Stations (CGS) serve as the critical interface between the high-pressure national gas transmission grid and the downstream City Gas Distribution (CGD) network. At a CGS, natural gas is received, pressure-regulated, odorised, metered, and safely dispatched into the medium- and low-pressure pipeline system that feeds CNG stations, industrial consumers, commercial establishments, and domestic PNG households. As the primary control point for quality, flow, and pressure management, CGS infrastructure ensures stable and reliable gas supply across the entire city network. Critical components of a CGS are detailed below:

1. **Gas filtration:** Removing impurities and contaminants from the gas
2. **Pressure regulation:** Reducing the high pressure from transmission pipelines to distribution pressure levels
3. **Gas metering:** Measuring the volume of gas entering the distribution network for billing and accounting purposes
4. **Gas odorization:** Adding mercaptan (a sulfur-based odorant) to give natural gas its distinctive smell for safety reasons, as natural gas is odorless
5. **Gas heating:** Sometimes required to prevent temperature drops during pressure reduction
6. **System monitoring and control:** Including SCADA systems for remote monitoring

10.5 Usage of Cascades

Cascades are systems of interconnected tanks used for storing and dispensing CNG. Initially, Torrent gas commenced CNG sales through cascades and deployed more than 800 cascades creating rotational virtual pipeline to cater demand. Deployment of cascades helped TGL to achieve sales, while taking approval for pipelines. Usage of cascade helps Torrent in many ways:

Faster Market Access in GAs with Low Pipeline Coverage: Torrent Gas uses cascades proactively to supply CNG and PNG to industrial and commercial users even before the physical pipeline network is fully laid.

Early Customer Lock-in: By offering a quick fuel switch-over option using cascades, Torrent Gas secures long-term industrial clients early, building market share before competitors can enter with pipeline-based supply.

Enables Quick ROI: Faster CNG/PNG supply to high-demand industrial consumers allows Torrent Gas to start monetizing its investments early in the GA development phase.

Enhances Customer Satisfaction and Reliability: Torrent's cascade model often ensures more reliable and quicker delivery, especially in Tier-2 and Tier-3 cities, giving them a service advantage.

10.6 Per SCM Effectiveness of Virtual Pipe & Steel Pipe

The per Standard Cubic Meter (SCM) effectiveness of natural gas transportation methods in India reveals nuanced economic considerations that extend beyond simple cost comparisons. Traditional steel pipelines typically achieve lower per-SCM costs—ranging from INR 2-5 per SCM when operating at optimal capacity—representing economics for high-volume, consistent demand scenarios such as those connecting major industrial hubs or population centres. This efficiency, however, is predicated on achieving utilization rates of 70-80%, which has proven challenging in many Indian markets where gas demand remains in developmental stages. The substantial fixed costs of pipeline infrastructure, which can exceed INR 100 million per kilometre, must be amortized over decades, making the per-SCM economics highly sensitive to throughput volumes and creating financial vulnerability during demand fluctuations.

Virtual pipeline solutions, while generally commanding higher per-SCM costs of INR 8-15 depending on distance and scale, demonstrate effectiveness in specific Indian contexts despite this apparent cost disadvantage. The per-SCM premium effectively purchases flexibility, scalability, and demand-responsiveness that fixed infrastructure cannot provide. This becomes particularly valuable in India's evolving gas market, where demand patterns are still developing, and geographic distribution is uneven. The effectiveness calculation shifts favourably toward virtual pipelines when considering the time value of early market development—virtual solutions can begin generating revenue and establishing market presence years before a pipeline project might receive final approvals. Additionally, the per-SCM economics of virtual pipelines improve with technological advancements in compression, transportation, and logistics optimization, a trend that has already reduced costs by approximately 15-20% over the past five years.

The SCM effectiveness equation is further influenced by India's unique geographic and industrial landscape, where many high-potential gas consumers are dispersed rather than concentrated along linear corridors. For these scattered demand centres, the aggregated per-SCM cost of numerous small-diameter pipeline spurs often exceeds virtual pipeline costs, even over extended periods. This reality has prompted major Indian gas distributors to adopt hybrid approaches, using virtual pipelines to establish market presence and build demand volumes that may eventually justify pipeline construction. The per-SCM analysis ultimately suggests that rather than viewing these solutions as competing alternatives, India's natural gas infrastructure development benefits most from treating them as complementary systems—with pipelines serving as the backbone for high-volume corridors and virtual solutions providing the capillary network that extends reach and accelerates market development across the country's diverse geography.

Leveraging CNG Infrastructure for LNG Distribution

1. Station Conversion Opportunities

- Existing CNG stations can be retrofitted with LNG storage and regasification units
- Dual CNG/LNG dispensing capabilities can be added at strategic locations

2. Implementation Pathway

- Establish "mother stations" at LNG terminals or city gas distribution points
- Deploy "daughter stations" leveraging existing CNG retail infrastructure
- Implement L-CNG stations that can produce CNG from LNG for flexibility

3. Transport Sector Focus

- Target long-haul trucking corridors first (Delhi-Mumbai, Chennai-Bangalore)
- Develop "blue corridors" with LNG refueling every 250-300km

4. Policy Requirements

- Harmonize CNG and LNG regulatory frameworks
- Implement tax incentives for LNG vehicles similar to CNG vehicles
- Standardize safety protocols across both fuels

11 Competitive Benchmarking

11.1 Summary Table – Benchmarking CGD Companies on Physical Infrastructure

Table 143: Summary Table of CGD Companies on physical infrastructure, May 2026

Entity	Pipeline (inch-km)	CNG Stations	PNG Domestic Connections
Torrent Gas Limited	19,353	557	258,916
Adani Total Gas Limited	20,415	699	1,065,867
Indraprastha Gas Limited	34,901	899	3,493,058

Note: Pipeline (inch-km), CNG Stations, PNG Domestic data as of 30th May 2026

Source: Monthly CGD Progress Report May 2026 PNGRB

11.2 Benchmarking CGD Companies on Physical Infrastructure

Table 144: Benchmarking CGD Companies on Physical Infrastructure, May 2026

Entity	Operating GA	State	CNG Stations	D-PNG Connections	Pipeline (inch-km)
Torrent Gas Limited	Auraiya, Kanpur Dehat & Etawah Districts	Uttar Pradesh	41	17,910	1,224
Torrent Gas Limited	Azamgarh, Mau and Ballia Districts	Uttar Pradesh	30	14,982	636
Torrent Gas Limited	Basti and Ambedkarnagar Districts	Uttar Pradesh	18	9,660	245
Torrent Gas Limited	Gonda and Barabanki Districts	Uttar Pradesh	31	10,526	1,250
Torrent Gas Limited	Gorakhpur, Sant Kabir Nagar & Kushinagar Districts	Uttar Pradesh	34	18,764	1,264
Torrent Gas Limited	Junagadh District	Gujarat	19	17,709	1,657
Torrent Gas Limited	Karaikal & Nagapattinam Districts	Puducherry (UT) & Tamil Nadu	9	798	262
Torrent Gas Limited	Kota District (EAAA), Baran & Chittorgarh (Only Rawatbhata Taluka) Districts	Rajasthan	19	6,781	645
Torrent Gas Limited	Mathura	Uttar Pradesh	13	26,937	397
Torrent Gas Limited	Medak, Siddipet & Sangareddy Districts	Telangana	21	2,864	1,467
Torrent Gas Limited	Moradabad	Uttar Pradesh	8	43,181	410
Torrent Gas Limited	Moradabad (EAAA) District	Uttar Pradesh	21	13,433	472
Torrent Gas Limited	Pune District (EAAA)	Maharashtra	79	32,018	2,901

Torrent Gas Limited	SAS Nagar District (EAAA), Patiala & Sangrur Districts	Punjab	45	16,030	1,053
Torrent Gas Limited	Alwar (Other than Bhiwadi) & Jaipur Districts	Rajasthan	73	19,329	3,068
Torrent Gas Limited	Chennai & Tiruvallur Districts	Tamil Nadu	87	5,253	2,269
Torrent Gas Limited	Dholpur District	Rajasthan	9	2,741	133
	Torrent Gas Limited Total	-	557	258,916	19,353
Indraprastha Gas Limited	Ajmer, Pali and Rajsamand Districts	Rajasthan	80	274,035	2,942
Indraprastha Gas Limited	Banda, Chitrakoot and Mahoba	Uttar Pradesh	19	38,943	1,353
Indraprastha Gas Limited	Faridabad-1	Haryana	0	0	0
Indraprastha Gas Limited	Ghaziabad & Hapur Districts	Uttar Pradesh	79	443,582	3,601
Indraprastha Gas Limited	Gurugram-1	Haryana	26	41,645	1,826
Indraprastha Gas Limited	Kaithal District	Haryana	16	47,654	1,026
Indraprastha Gas Limited	Kanpur (EAAA) District, Fatehpur and Hamirpur Districts	Uttar Pradesh	31	60,635	1,740
Indraprastha Gas Limited	Karnal District	Haryana	30	40,945	2,042
Indraprastha Gas Limited	Meerut District (EAAA), Muzaffarnagar & Shamli Districts	Uttar Pradesh	44	78,234	2,630
Indraprastha Gas Limited	National Capital Territory of Delhi	Delhi	458	1,960,727	4,771
Indraprastha Gas Limited	Noida (including Greater Noida)	Uttar Pradesh	72	468,279	10,187
Indraprastha Gas Limited	Rewari District	Haryana	44	38,379	2,783
	Indraprastha Gas Limited Total	-	899	3,493,058	34,901
Adani Total Gas Limited	Ahmedabad City and Daskroi Area	Gujarat	87	771,651	2,282
Adani Total Gas Limited	Akola, Hingoli and Washim districts	Maharashtra	18	0	488
Adani Total Gas Limited	Alirajpur, Nandurbar and Barwani Districts	Maharashtra and Madhya Pradesh	18	283	0
Adani Total Gas Limited	Amravati and Yavatmal districts	Maharashtra	23	0	604

Adani Total Gas Limited	Anuppur, Bilaspur and Korba Districts	Madhya Pradesh and Chattisgarh	9	0	513
Adani Total Gas Limited	Baksa, Barpeta, Bongaigaon, Chirang, Nalbari and Bajali districts	Assam	9	0	31
Adani Total Gas Limited	Balasore, Bhadrak & Mayurbhanj Districts	Odisha	13	1,095	638
Adani Total Gas Limited	Barwala & Ranpur Talukas	Gujarat	5	301	128
Adani Total Gas Limited	Bhandara, Gondiya and Garchiroli Districts	Maharashtra	15	0	149
Adani Total Gas Limited	Bhilwara & Bundi Districts	Rajasthan	20	5,154	536
Adani Total Gas Limited	Bhiwani, Charkhi Dadri & Mahendragarh Districts	Haryana	56	6,699	917
Adani Total Gas Limited	Burhanpur, Khandwa, Khargone and Harda districts	Madhya Pradesh	32	0	111
Adani Total Gas Limited	Chittorgarh (Other than Rawatbhata Taluka) & Udaipur Districts	Rajasthan	43	29,233	1,779
Adani Total Gas Limited	Cuddalore, Nagapattinam & Tiruvarur Districts	Tamil Nadu	23	282	160
Adani Total Gas Limited	Faridabad-2	Haryana	36	172,778	5,622
Adani Total Gas Limited	Gumla, Latehar, Lohardaga, Simdega, Garhwa and Khunti districts	Jharkhand	16	0	65
Adani Total Gas Limited	Jalandhar	Punjab	11	761	451
Adani Total Gas Limited	Jashpur, Raigarh, Janjgir-Champa and Mahasamund districts	Chhattisgarh	7	0	51
Adani Total Gas Limited	Jhansi (EAAA) District, Bhind, Jalaun, Lalitpur and Datia Districts	Madhya Pradesh and Uttar Pradesh	22	105	304
Adani Total Gas Limited	Kabirdham, Raj Nandgaon and Kanker districts	Chhattisgarh	10	0	64
Adani Total Gas Limited	Kheda District (EAAA) & Mahisagar District	Gujarat	29	7,431	731
Adani Total Gas Limited	Khurja	Uttar Pradesh	10	14,713	646
Adani Total Gas Limited	Kokrajhar, Dhubri, South Salmara-Mankachar and Goalpara districts	Assam	6	0	138

Adani Total Gas Limited	Koraput, Malkangiri, and Nabarangpur districts	Odisha	4	0	0
Adani Total Gas Limited	Mungeli, Bemetara, Durg, Balod and Dhamtari districts	Chhattisgarh	20	0	146
Adani Total Gas Limited	Nagaon, Morigaon, Hojai, Karbi Anglong, West Karbi Anglong and Dima Hasao districts	Assam	9	0	0
Adani Total Gas Limited	Navsari District (EAAA), Surat District (EAAA), Tapi District (EAAA) & the Dangs District	Gujarat	14	7,645	564
Adani Total Gas Limited	Nuh & Palwal Districts	Haryana	46	34,673	945
Adani Total Gas Limited	Porbandar District	Gujarat	10	3,348	173
Adani Total Gas Limited	Surendranagar District (EAAA)	Gujarat	16	4,116	1,143
Adani Total Gas Limited	Tikamgarh, Niwari, Chattarpur and Panna districts	Madhya Pradesh	14	0	50
Adani Total Gas Limited	Tiruppur District	Tamil Nadu	36	5,383	414
Adani Total Gas Limited	Udupi District	Karnataka	12	216	572
	Adani Total Gas Limited Total	-	699	1,065,867	20,415

Note: Pipeline (inch-km), CNG Stations, PNG Domestic data as of 30th May 2026

Source: PNGRB, PPAC, Crisil Intelligence

11.3 Benchmarking CGD Companies on Financial Parameters

Table 145: Benchmarking CGD Companies on Financial Parameters, UoM, H1-FY26 and H1-FY25

Particulars	Units	Torrent Gas Limited		Indraprastha Gas Limited		Adani Total Gas Limited	
		H1-FY26	H1-FY25	H1-FY26	H1-FY25	H1-FY26	H1-FY25
Total Sales	MMSCMD	2.54	1.78	9.22	8.83	2.99	2.58
CNG Sales	MMSCMD	1.75	1.34	6.88	6.62	2.05	1.72
PNG Sales	MMSCMD	0.79	0.44	2.34	2.21	0.93	0.86
Revenue from Operations	INR Millions	28,877.06	20,329.59	87,727.10	79,717.50	30,747.00	25,574.30
Revenue Growth	%	42.04%	-	10.05%	-	20.23%	-
Total Income	INR Millions	28,982.66	20,435.99	89,570.00	81,352.50	30,915.00	25,730.80
PAT	INR Millions	1,096.63	308.76	8,127.50	9,343.90	3,287.30	3,574.40
Gross Margin*	INR Millions	7,136.61	5,786.35	18,680.00	20,214.30	9,015.50	8,804.90
Gross Margin/ SCM	INR/SCM	15.33	17.73	11.07	12.51	16.48	18.65
EBITDA	INR Millions	3,735.11	2,918.31	12,934.30	14,418.60	6,124.30	6,256.60
EBITDA Growth	%	27.99%	-	-10.29%	-	-2.11%	-
EBITDA Margin	%	12.89%	14.28%	14.44%	17.72%	19.81%	24.32%
EBITDA/ SCM	INR/SCM	8.02	8.94	7.66	8.92	11.20	13.26
PAT Margin	%	3.80%	1.52%	9.26%	11.72%	10.69%	13.98%
RoCE	%	4.51%	3.38%	7.33%	9.55%	7.84%	10.13%
Incremental RoCE	%	18.05%	-	-25.99%	-	-3.34%	-
Debt/Equity	Ratio	1.62	1.32	-	-	0.30	0.25
Net Borrowings	INR Millions	30,699.06	26,399.58	-	-	13,468.70	9,584.50
Net Worth	INR Millions	18,978.38	20,002.05	112,210.60	105,678.60	45,089.50	39,107.30
Working Capital Days	Days	-0.08	-0.23	-4.55	-3.52	18.18	14.36
Asset Turnover Ratio	Ratio	0.64	0.50	1.17	1.17	0.78	0.75
Incremental Asset Turnover Ratio	Ratio	1.78	-	1.14	-	0.91	-

Note: For Torrent Gas Limited, Total sales include CBG sales and IGX others. For IGL, PNG Sales also includes other CGD sales.

*For Torrent Gas Limited Gross Margin is calculated excluding Trading Margin

Gross Margin = Revenue from Operations – Cost of material - Purchases of stock-in-trade of natural gas - Changes in Inventories – Excise Duty

Gross Margin/ SCM = Gross Margin / Total Gas Sales Volume

EBITDA = Profit Before Tax + Finance Cost + Depreciation & Amortization

EBITDA Margin = EBITDA / Total Income

EBITDA Growth = (EBITDA in Current Year/EBITDA in Previous Year - 1)*100

Total Income = Revenue from Operations + Other Income

Revenue Growth = (Revenue from Operations in Current Year/Revenue from Operations in Previous Year-1)*100

EBITDA/ SCM = EBITDA / Total Gas Sales Volume

PAT Margin = Profit After Tax / Revenue from Operations

RoCE = EBIT / Capital Employed

EBIT = Profit Before Tax + Finance Cost – Other Income

Capital Employed = Tangible Net Worth + Net Debt

Tangible Net Worth = Total Equity - Goodwill - Intangible Assets - Deferred Tax Assets + Deferred Tax Liabilities

Total Equity = Equity Share Capital + Other Equity

Other Equity = Retained Earnings + General Reserve

Net Debt = Total Debt – Cash and Cash Equivalents – Bank Balances – Liquid Current Investments (Net Debt is taken as nil if the same is less than zero)

Total Debt = Non-Current Borrowings + Current Borrowings - Interest accrual on term loan + Unamortized Processing Fee

Incremental RoCE = Incremental EBIT / Incremental Capital Employed

Incremental EBIT = EBIT for current year – EBIT for previous year

Incremental Capital Employed = Capital Employed for current year – Capital Employed for previous year

Debt/Equity = Net Debt / Total Equity

Consulting

Net Borrowings = Net Debt

Working Capital Days = Inventory Days + Receivable Days – Payable Days

*Inventory Days = Inventory / Revenue from Operations * 365*

*Receivable Days = Receivables / Revenue from Operations * 365*

*Payable Days = Payables / Revenue from Operations * 365*

Cost of Goods = Cost of material + Purchases of stock-in-trade of natural gas + Changes in Inventories + Excise Duty

Asset Turnover Ratio = Revenue from Operations / Total Fixed Assets

Total Fixed Assets = Property, Plant and Equipments + Right of Use + Other Intangible Assets

Incremental Asset Turnover Ratio = Incremental Revenue from Operations / Incremental Total Fixed Assets

Incremental Revenue from Operations = Revenue from Operations for current year – Revenue for Operations for previous year

Incremental Total Fixed Assets = Total fixed assets for current year – Total fixed assets for previous year

Source: Company Filings

Table 146: Benchmarking CGD Companies on Financial Parameters, UoM, FY24 – Q1 FY27

Particulars	Unit	Torrent Gas Limited					Indraprastha Gas Limited					Adani Total Gas Limited				
		Q1-FY27	Q1-FY26	FY26	FY25	FY24	Q1-FY27	Q1-FY26	FY26	FY25	FY24	Q1-FY27	Q1-FY26	FY26	FY25	FY24
Total Sales	MMSCMD	3.06	2.42	2.60	1.93	1.38	9.66	9.13	9.39	8.99	8.43	3.33	2.93	3.10	2.72	2.36
CNG Sales	MMSCMD	2.32	1.76	1.87	1.45	1.08	7.22	6.79	6.94	6.66	6.28	2.40	2.03	2.14	1.82	1.52
PNG Sales	MMSCMD	0.74	0.65	0.73	0.48	0.30	2.44	2.34	2.45	2.32	2.15	0.93	0.90	0.96	0.90	0.84
Revenue from Operations	INR Millions	17,880.11	13,967.81	59,333.92	44,017.39	31,536.28	50,434.40	43,267.50	178,463.10	164,667.30	154,565.30	19,067.90	14,983.20	64,085.30	54,116.80	48,164.90
Revenue Growth	%	28.01%	-	34.80%	39.58%	-	16.56%	-	8.38%	6.54%	-0.85%	27.26%	-	18.42%	12.36%	2.84%
Total Income	INR Millions	17,949.21	14,013.36	59,559.49	44,283.96	31,757.25	51,453.60	44,161.50	182,199.70	168,008.50	157,174.80	19,197.70	15,064.30	64,464.00	54,424.80	48,605.10
PAT	INR Millions	1,298.54	556.78	2,808.54	1,350.48	-173.49	2,379.20	4,278.10	15,435.10	17,130.10	19,834.00	1,417.20	1,652.40	6,557.20	6,544.10	6,675.00
Gross Margin*	INR Millions	5,034.11	3,630.65	15,099.12	12,265.63	9,356.88	7,760.70	9,856.50	37,816.70	38,546.20	41,868.80	4,499.20	4,466.80	18,677.90	17,265.80	16,269.60
Gross Margin/SCM	INR/SCM	18.05	16.52	15.93	17.43	18.53	8.83	11.86	11.03	11.75	13.57	14.85	16.73	16.49	17.39	18.81
EBITDA	INR Millions	3,067.44	1,851.91	8,507.94	6,687.08	4,006.52	4,526.50	6,747.80	25,183.10	26,686.90	29,656.30	2,926.60	3,055.00	12,544.60	11,790.60	11,656.40
EBITDA Growth	%	65.64%	-	27.23%	66.90%	-	-32.92%	-	-5.63%	-10.01%	18.80%	-4.20%	-	6.39%	1.15%	26.14%

EBITDA Margin	%	17.09 %	13.22 %	14.28 %	15.10 %	12.62 %	8.80%	15.28 %	13.82%	15.88%	18.87%	15.24 %	20.28 %	19.46 %	21.66 %	23.98 %
EBITDA / SCM	INR/S CM	11.00	8.43	8.98	9.50	7.93	5.15	8.12	7.35	8.13	9.61	9.66	11.44	11.07	11.87	13.48
PAT Margin	%	7.26%	3.99%	4.73%	3.07%	- 0.55%	4.72%	9.89%	8.65%	10.40%	12.83%	7.43%	11.03 %	10.23 %	12.09 %	13.86 %
RoCE	%	4.16%	2.29%	10.24 %	7.97%	3.22%	NA	NA	13.57%	16.83%	22.93%	NA	NA	14.93 %	16.64 %	20.20 %
Incremental RoCE	%	23.50 %	-	34.72 %	61.20 %	-	NA	NA	- 24.54%	- 40.87%	21.37%	NA	NA	3.43%	- 2.10%	27.52 %
Debt/Equity	Ratio	1.38	1.46	1.52	1.31	1.29	NA	NA	0.00	0.00	0.00	NA	NA	0.28	0.30	0.28
Net Borrowings	INR Millions	30,308 .78	29,021 .03	31,470 .60	27,545 .06	25,402 .67	NA	NA	0.00	0.00	0.00	NA	NA	13,713 .60	12,494 .10	10,153 .80
Net Worth	INR Millions	22,003 .58	19,820 .30	20,722 .92	21,074 .88	19,683 .14	NA	NA	115,04 4.40	106,15 7.70	96,333. 70	NA	NA	48,648 .10	42,070 .50	35,803 .20
Working Capital Days	Days	5.47	0.50	1.89	1.32	0.70	NA	NA	-1.80	-3.97	2.04	NA	NA	8.86	15.23	13.55
Asset Turnover Ratio	Ratio	0.35	0.32	1.21	1.02	0.81	NA	NA	2.22	2.28	2.34	NA	NA	1.49	1.49	1.53
Incremental Asset Turnover Ratio	Ratio	0.56	-	2.67	2.83	-	NA	NA	1.60	1.67	-0.15	NA	NA	1.50	1.24	0.16
Volume (excluding trading)	MMSC M	278.89	219.77	947.73	703.60	504.95	878.98	830.87	3427.2 1	3281.3 5	3084.4 7	303.00	267.00	1133.0 0	992.80	865.00
Growth in Volume (excluding)	%	26.90 %	-	34.70 %	39.34 %	-	5.79%	-	4.46%	6.64%	4.49%	13.48 %	-	14.12 %	15.25 %	14.87 %

Consulting

ng trading) (%)																
Number of PNG Connect ions	Nos.	271,983	198,791	242,181	183,584	121,797	NA	3,108,295	3,393,974	3,030,344	2,670,832	1,151,530	998,993	1,109,634	972,299	828,331
Number of CNG Stations	Nos.	557	490	557	483	439	NA	942	866	954	882	707	650	705	647	547

Note: For Torrent Gas Limited, Total sales include CBG sales and IGX others. For IGL, PNG Sales also includes other CGD sales.

*For Torrent Gas Limited Gross Margin is calculated excluding Trading Margin

NA indicates that the relevant information or data required to compute the KPI is not publicly available for the respective benchmarked entity

Gross Margin = Revenue from Operations – Cost of material - Purchases of stock-in-trade of natural gas - Changes in Inventories – Excise Duty

Gross Margin/ SCM = Gross Margin / Total Gas Sales Volume

EBITDA = Profit Before Tax + Finance Cost + Depreciation & Amortization

EBITDA Margin = EBITDA / Total Income

EBITDA Growth = (EBITDA in Current Year/EBITDA in Previous Year - 1)*100

Total Income = Revenue from Operations + Other Income

Revenue Growth = (Revenue from Operations in Current Year/Revenue from Operations in Previous Year-1)*100

EBITDA/ SCM = EBITDA / Total Gas Sales Volume

PAT Margin = Profit After Tax / Revenue from Operations

RoCE = EBIT / Capital Employed

EBIT = Profit Before Tax + Finance Cost – Other Income

Capital Employed = Tangible Net Worth + Net Debt

Tangible Net Worth = Total Equity - Goodwill - Intangible Assets - Deferred Tax Assets + Deferred Tax Liabilities

Total Equity = Equity Share Capital + Other Equity

Other Equity = Retained Earnings + General Reserve

Net Debt = Total Debt – Cash and Cash Equivalents – Bank Balances – Liquid Current Investments (Net Debt is taken as nil if the same is less than zero)

Total Debt = Non-Current Borrowings + Current Borrowings - Interest accrual on term loan + Unamortized Processing Fee

Incremental RoCE = Incremental EBIT / Incremental Capital Employed

Incremental EBIT = EBIT for current year – EBIT for previous year

Incremental Capital Employed = Capital Employed for current year – Capital Employed for previous year

Debt/Equity = Net Debt / Total Equity

Net Borrowings = Net Debt

Working Capital Days = Inventory Days +Receivable Days – Payable Days

Inventory Days = Inventory / Revenue from Operations * 365

Receivable Days = Receivables / Revenue from Operations * 365

Payable Days = Payables / Revenue from Operations * 365

Cost of Goods = Cost of material + Purchases of stock-in-trade of natural gas + Changes in Inventories + Excise Duty

Asset Turnover Ratio = Revenue from Operations / Total Fixed Assets

Total Fixed Assets = Property, Plant and Equipments + Right of Use + Other Intangible Assets

Consulting

Incremental Asset Turnover Ratio = Incremental Revenue from Operations / Incremental Total Fixed Assets

Incremental Revenue from Operations = Revenue from Operations for current year – Revenue for Operations for previous year

Incremental Total Fixed Assets = Total fixed assets for current year – Total fixed assets for previous year

Volume (excluding trading) includes compressed natural gas sales, piped natural gas sales and compressed bio gas sales volume but excludes trading natural gas sales volume and compression service volume.

*Growth in Volume (excluding trading) (%) = (Volume (excluding trading) of the current period or year/ Volume (excluding trading) of the previous period or year – 1)*100*

Number of PNG Connections includes number of industrial, commercial and domestic connections for piped natural gas.

Number of CNG Stations is the total CNG stations which includes summation of COCO (company owned company operated), DODO (dealer owned dealer operated) and OMC (oil marketing companies) stations.

Source: Company Filings, PNGRB

11.4 Company's position in comparison with listed CGD Companies, Q1-FY27

Table 147: Company's Position in comparison with listed CGD Entities, Q1-FY27

Parameter	Company Position
Authorised Geographical Area	- Third largest authorised geographical area by square kilometres - Only private sector CGD entity having operations in two state capitals one of which being a metropolitan region
CGD Infrastructure Network	- Largest ready-to-use asset base among private sector companies. This rapid infrastructure development undertaken by TGL has allowed them to convert their asset readiness into sustained volume growth, reinforcing its competitive edge in a market where speed of execution defines success. - Highest CNG Station Growth demonstrated exceptional scalability, increasing CNG station network from 60 in FY20 to 557 station in FY26 growing at a CAGR of ~44.97% - As of March 2026, while the national average coverage area per CNG station stood at 368.69 sq. km per station, while the Company's Geographical Areas have an average coverage area per CNG station of 217.62 sq. km per CNG station which translates into Company's CNG station density around 69.42% higher than the national average, reflecting deeper infrastructure penetration within its operating geographies.
Gas Volumetric Growth	- Highest gas volumetric growth, delivering the highest absolute increase of 0.65 mmscmd and leading the benchmarked entities in percentage growth of 26.90% in Q1-FY27 and a two-year CAGR growth of 37.17% in FY26 - Consistently outperformed other companies, registering growth of approximately 26.90%, 34.53% and 39.86% for the three months periods ended June 30, 2026, for FY26 and FY25, respectively, while the country as a whole grew at approximately 26.32%, 9.73% and 11.56% for the three months periods ended June 30, 2026, for FY26 and FY25, respectively - One of the fastest growing CGD companies in the industry, demonstrated by a trajectory rising from 1.38 mmscmd in FY24 to 2.60 mmscmd in FY26 underscores the quality of the company's GAs and its ability to leverage infrastructure effectively. - One of the fastest CGD company in India to scale up to first 1 MMSCMD of gas sales, achieving this milestone within ~4 years of commencement of operations.
Revenue Growth	Highest revenue growth as compared with the benchmarked entities, with revenues increasing at a 37.17% CAGR over the Financial Year 2024 to the Financial Year 2026 and 28.01% in Q1-FY27, outperforming other comparable companies. The strong growth reflects rapid scale-up of operations across TGLs authorised geographical areas compared with relatively modest growth trends observed for benchmarked entities
Gas Sourcing Mix	- Robust sourcing mix has resulted in comparatively lower volatility in gas costs for the Q1-FY27, resulting in the highest gross margin/scm as compared with the benchmarked entities - Torrent Gas is one of the leading CGD operators in India to utilize CBG in its operations. The company recorded CBG offtake of ~65,369.86 SCMD in FY26, accounting for about 21.40% of India's total CBG offtake in FY26, thereby positioning it as one of the largest procurers.
Gross Margin	- Consistently ranked among the top company in terms of maintaining a healthy gross margin per SCM as compared with benchmarked CGD entities - As compared with the benchmarked entities, the highest gross margin/scm of ₹18.05 per scm as compared to the average of benchmarked CGD entities of ₹11.84 per scm for Q1-FY27
EBITDA Growth	Only company that has recorded a sharp and sustained improvement in EBITDA, increasing significantly by increasing by approximately 65.64% for the three months period ended June 30, 2026 as compared to the three months period ended June 30, 2025 and recorded a 2-year EBITDA CAGR of ~45.72% in FY26, reflecting operating leverage from rapid volume

	scale-up. In contrast, EBITDA for other benchmarked entities has remained largely stable or declined over the same period, indicating relatively mature operations and limited margin expansion
Competitive Intensity	Competitive intensity in the sector is also shaped by the ability of CGD entities to deploy infrastructure ahead of demand, secure cost-effective and reliable gas supplies, and maintain high service standards across CNG and PNG segments. Further, entities with larger contiguous Geographical Areas, stronger balance sheets, diversified sourcing portfolios and established operating track records are better positioned to scale volumes and manage input cost volatility. In this context, differentiation is driven by network density, station availability, proximity to highways and industrial clusters, consumer engagement and operational reliability

Source: Company Filings, Crisil Analysis

12 Addendum

1. Structural Resilience of CGD Demand Amid Global Energy Shocks

The Indian CGD sector has demonstrated resilient demand growth despite significant volatility in global crude oil markets over the past several years. Brent crude prices fluctuated sharply from an annual average of approximately US\$42/bbl in 2020 to around US\$101/bbl in 2022 before moderating to approximately US\$70/bbl in 2025, reflecting the impact of successive global disruptions, including the COVID-19 pandemic, Russia – Ukraine war and supply-side uncertainties. Notwithstanding these fluctuations, CGD demand in India increased consistently from approximately 30 MMSCMD in FY20 to over 45 MMSCMD in FY26, representing growth of nearly 50%. The sustained expansion in demand, despite pronounced movements in global energy prices, highlights the structural nature of CGD consumption, supported by continued network expansion, increasing CNG and PNG penetration, urbanisation, favourable policy initiatives and rising consumer preference for cleaner fuels, rather than short-term fluctuations in crude oil prices

Covid-19 Period (2020–2021): Strong Recovery from an Unprecedented Shock

The Covid-19 pandemic resulted in one of the sharpest declines in global energy demand, with Brent crude experiencing extreme volatility and falling by over 34% in 2020 at the peak of the crisis. During this period, CGD demand briefly moderated to around ~25 MMSCMD in FY20-21, reflecting mobility restrictions and lower industrial activity. However, demand recovered rapidly as economic activity resumed, crossing ~33 MMSCMD by FY22, a significant increase from pandemic induced lows. The speed of recovery demonstrated that natural gas remained an essential fuel for urban mobility and household consumption, reaffirming the sector's resilience even during severe economic disruptions.

Russia–Ukraine Conflict (2022–2024): Demand Expansion Despite Elevated Energy Prices

The Russia–Ukraine conflict triggered a prolonged surge in global energy prices, with Brent crude reaching approximately US\$122/bbl in June 2022 and remaining elevated for an extended period amid supply disruptions and geopolitical uncertainty. While such sustained increases in fuel prices would typically weigh on energy consumption, aggregate CGD demand in India continued to expand from approximately 9 MMSCMD in early 2022 (Jan–Mar) to around 14 MMSCMD by late 2024 (Sep–Dec), reflecting a CAGR of ~15% during the period. The continued growth in demand despite elevated crude prices underscores the structural resilience of the CGD sector, supported by expanding gas infrastructure, increasing CNG and PNG adoption, and the essential role of natural gas in India's urban mobility and retail energy ecosystem

Middle East Tensions (2024–2026): Continued Growth Amid Renewed Price Volatility

Recent geopolitical tensions in the Middle East reintroduced volatility into global energy markets, resulting in significant fluctuations in Brent crude prices, with annual growth ranging between approximately 42% and 72% YoY during the period. While spot RLNG prices remained elevated at approximately US\$18–22/MMBtu, the domestic APM gas price increased to US\$7/MMBtu. Despite these pricing pressures and geopolitical uncertainties, CGD demand continued its growth trajectory, increasing from approximately 10.7 MMSCMD during Mar–May 2025 to 11.8 MMSCMD during Mar–May 2026. The sustained growth in demand amidst renewed global energy market volatility underscores the structural resilience of the CGD sector, supported by an expanding customer base, continued infrastructure development, and increasing adoption of cleaner fuels. Further, the amended Liquefied Petroleum Gas (Regulation of Supply and Distribution) Order, 2000 issued by the Ministry of Petroleum and Natural Gas, which restricts households with PNG connections from retaining or obtaining subsidised domestic LPG connections, is expected to further facilitate the transition from LPG to PNG within CGD-authorized areas, providing an additional structural driver for long-term demand growth

Conclusion: Evidence of a Defensive Growth Sector

The performance of India's CGD sector over the past several years demonstrates its emergence as a defensive growth sector, with demand increasingly decoupled from short-term fluctuations in global crude oil prices. Between FY20 and FY26, while Brent crude prices fluctuated from an annual average of approximately US\$42/bbl in 2020 to US\$101/bbl in 2022 before moderating to around US\$70/bbl in 2025, CGD demand increased consistently from approximately 30 MMSCMD to over 45 MMSCMD, representing growth of nearly 50%. Similar resilience was observed during successive global disruptions, including the COVID-19 pandemic, the Russia–Ukraine conflict and renewed Middle East geopolitical tensions, wherein CGD demand continued to expand despite elevated energy prices and heightened market uncertainty. This sustained growth through multiple crises highlights the sector's structural demand drivers, limited sensitivity to crude price volatility, and strong defensive characteristics, making CGD an attractive long-term investment opportunity with high earnings visibility and durable volume growth prospects.

Table 148: External Validation of Sector Resilience

Metric	Quantification
India's natural gas consumption outlook to 2030	India's natural gas consumption is expected to increase by approximately 60% by 2030 from 2023 levels, providing a favourable long-term demand outlook.
Key driver of gas demand growth	The CGD sector is expected to be the largest contributor to incremental natural gas demand, supported by continued expansion in CNG and PNG penetration.
Growth in gas infrastructure since 2019	CNG station network expanded from 1,730 stations in FY19 to 8,846 stations in FY26 (over 5x growth), while domestic PNG connections increased from approximately 5 million to over 17 million, demonstrating rapid infrastructure creation.
Current CGD infrastructure	India has established a nationwide CGD network comprising ~9,000 CNG stations and more than 17 million domestic PNG connections, providing a strong foundation for sustained volume growth.

Source: IEA, PPAC, Crisil Analysis

Table 149: Quantification of Energy Shocks

Event	Global Energy Impact
Covid-19 (2020)	Triggered an unprecedented contraction in global oil demand, resulting in extreme crude oil price volatility and significant disruptions across global energy markets.
Russia-Ukraine Conflict (2022 onwards)	Tightened global energy supplies, driving Brent crude prices above US\$120/bbl, the highest levels since 2008, and sustaining elevated energy prices over an extended period.
Middle East Tensions (2025-26)	Renewed geopolitical uncertainty and supply disruptions around the Strait of Hormuz contributed to another sharp increase in global oil prices, with Brent FOB prices rising to approximately US\$117/bbl, reinforcing volatility across international energy markets.

Source: IEA, PPAC, Crisil Analysis

Table 150: Key Regulatory Development Synopsis

Sr. No.	Date / Period	Regulator	Subject of Update	Key Regulatory Development and Relevance
1	9-Mar-26	Ministry of Petroleum and Natural Gas (MoPNG)	Natural Gas (Supply Regulation) Order, 2026	MoPNG notified the Natural Gas (Supply Regulation) Order, 2026 under the Essential Commodities Act, 1955 to regulate the production, supply, distribution and allocation of natural gas, LNG and re-gasified LNG during supply disruptions arising from force majeure conditions affecting LNG imports. The Order established a priority-based gas allocation framework, providing 100% of the average natural gas consumption during the preceding six months (subject to operational availability) to domestic PNG, CNG (Transport), LPG production (including shrinkage requirements) and essential pipeline operations; at least 70% of the preceding six-month average consumption to fertilizer plants; and up to 80% allocation to notified grid-connected industrial consumers and industrial/commercial consumers supplied through CGD networks. The Order also designated GAIL and PPAC for allocation, monitoring and supply management functions. The notification is significant for the CGD sector as it provides regulatory certainty for priority gas allocation during supply disruptions while ensuring continuity of domestic PNG and transport CNG supplies.
2	10-Mar-26	Bureau of Indian Standards (BIS)	IS 19584:2026 – Natural Gas Fuelling Stations: LNG Stations for Fuelling Vehicles	BIS notified IS 19584:2026, adopting a modified version of ISO 16924:2016 for LNG fuelling stations. The standard prescribes technical requirements for the design, construction, commissioning, operation, maintenance and inspection of LNG fuelling infrastructure, including LNG storage tanks, cryogenic pumps, vaporizers, dispensers, transfer piping, electrical systems, instrumentation, emergency shutdown systems, fire protection, risk management, testing and inspection procedures. The standard establishes uniform engineering and safety requirements for LNG fuelling stations and supports the development of LNG mobility infrastructure, including heavy-duty transport applications.
3	14-Mar-26	Ministry of Petroleum and Natural Gas (MoPNG)	Liquefied Petroleum Gas (Regulation of Supply and Distribution) Amendment Order, 2026	MoPNG amended the Liquefied Petroleum Gas (Regulation of Supply and Distribution) Order, 2000 to facilitate the transition of consumers from LPG to piped natural gas (PNG). The amendment restricts consumers already having PNG connectivity from retaining domestic LPG connections or receiving LPG refills, and prohibits Government oil marketing companies from issuing new domestic LPG connections where functional PNG connectivity is available, subject to the provisions of the Order. The amendment supports increased PNG penetration, improves LPG availability in non-PNG areas and promotes efficient utilisation of CGD infrastructure.
4	18-Mar-26	Ministry of Petroleum and Natural Gas (MoPNG)	Extension of Synchronization Scheme for Co-mingling of Domestic Gas for Supply to CNG	MoPNG extended the Synchronization Scheme permitting co-mingling of domestic natural gas for supply to domestic PNG and transport CNG segments of CGD networks. The revised framework also incorporated compressed biogas (CBG) injection into the gas pipeline network under the revised Direct Pipeline Injection Guidelines and extended the validity of the scheme until 31 December 2047. The notification strengthens

			(Transport) and PNG (Domestic) Segments	long-term domestic gas utilisation, facilitates CBG integration into the natural gas grid, enhances supply flexibility for CGD entities and supports India's energy transition objectives.
5	24-Mar-26	Ministry of Petroleum and Natural Gas (MoPNG)	Natural Gas and Petroleum Products Distribution (Through Laying, Building, Operation and Expansion of Pipelines and Other Facilities) Order, 2026	MoPNG notified a framework for laying, building, operating and expanding pipelines and related facilities for natural gas, LNG, LPG and petroleum products. The order introduced time-bound approvals, deemed clearance, standardised procedures and charges, and provisions for right of way/right of use. It is significant for CGD because it seeks to accelerate PNG networks, last-mile connectivity and gas infrastructure expansion.
6	30-Mar-26	Directorate General of Hydrocarbons (DGH) / MoPNG	Open Acreage Licensing Policy (OALP) Bid Round XI	DGH launched OALP Bid Round XI, offering 21 exploration blocks covering approximately 80,234 sq. km under the Hydrocarbon Exploration and Licensing Policy (HELP). While the notification primarily relates to upstream hydrocarbon exploration, successful exploration and production from awarded blocks could augment future domestic natural gas availability and strengthen long-term supply security for downstream consumers, including LNG importers, pipeline operators and CGD entities.
7	30 March 2026 (effective from 1 April 2026)	Petroleum and Natural Gas Regulatory Board (PNGRB)	Revision of Unified Natural Gas Pipeline Tariff for National Gas Grid System	PNGRB, through Tariff Order No. TO/NGPL/25-26/16, revised the Unified Natural Gas Pipeline Tariff (UGT) applicable to the National Gas Grid System with effect from 1 April 2026. The Order revised the unified tariff, zonal apportionment methodology, tariff paths, entity-wise tariff allocation and invoicing mechanism for interconnected natural gas pipelines. The applicable unified tariff for Zone 1 was revised to ₹54/MMBtu, while the tariff for Zone 2 was revised to ₹110.2/MMBtu for FY2027.
8	31 March 2026 (effective 1 April–30 September 2026)	Petroleum Planning and Analysis Cell (PPAC)	Domestic Natural Gas Price and Ceiling Price Notification	PPAC notified the domestic natural gas price for April 2026 at US\$ 10.76/MMBTU on GCV basis, subject to an APM ceiling of US\$ 7.00/MMBTU for ONGC/OIL nomination fields. PPAC also notified the gas price ceiling for deepwater, ultra-deepwater and high-pressure high-temperature areas at US\$ 8.90/MMBTU for 1 April 2026 to 30 September 2026.
9	April–July 2026 (Monthly Notifications)	Petroleum Planning and Analysis Cell (PPAC)	Monthly Domestic Natural Gas Price Notifications	PPAC issued monthly notifications revising the domestic natural gas price in accordance with the prevailing pricing guidelines. For May 2026, the domestic natural gas price was notified at US\$11.59/MMBtu (Gross GCV basis), subject to the applicable ceiling price for ONGC and OIL nomination fields. Similar monthly notifications were issued for March, April, June and July 2026. These periodic revisions are relevant for CGD entities as changes in domestic gas prices directly affect gas procurement costs, transportation economics and downstream retail pricing for PNG and CNG consumers.

10	4-May-26	Ministry of Petroleum and Natural Gas (MoPNG)	First Amendment to the Natural Gas and Petroleum Products Distribution Order, 2026	MoPNG amended the March 2026 pipeline distribution order. The amendment introduced the concept of a government-specified online portal for applications and approvals for right of way/right of use, expanded the list of public/local authorities to include gram sabhas, panchayats, union territory administrations, scheduled areas, tribal areas and nagar panchayats, and added provisions such as dig-and-restore requirements for CGD works in certain public areas.
11	April–May 2026	Petroleum and Natural Gas Regulatory Board (PNGRB)	Introduction of Longer-Duration Gas Exchange Contracts on IGX	PNGRB continued consultation on introduction of one-year and two-year term-ahead gas contracts on the Indian Gas Exchange platform, along with fixed-price contracts for three months, six months, one year and two years, and Brent-linked variants. PNGRB issued a public notice for an open house with stakeholders, and its public notice page recorded minutes of the open house on 25 May 2026. This update is relevant for natural gas market liquidity, price discovery and risk management for CGD and industrial consumers.
12	25-May-26	Ministry of Petroleum and Natural Gas (MoPNG)	Amendment to LPG Control Order for Consumers Opting for PNG	MoPNG amended the LPG regulatory framework to provide additional flexibility to consumers shifting from LPG to PNG. Under the revised provisions, consumers who surrender their LPG connection after obtaining PNG connectivity may restore the LPG connection within the prescribed period or obtain a transfer voucher for restoration at another location where PNG infrastructure is unavailable.
13	27 May 2026 to 23 June 2026	Petroleum and Natural Gas Regulatory Board (PNGRB)	Tariff Review of Assam Natural Gas Pipeline Network of Assam Gas Company Limited (AGCL)	PNGRB initiated a review of the transportation tariff for the Assam Natural Gas Pipeline Network operated by Assam Gas Company Limited (AGCL) by issuing a public consultation paper and inviting stakeholder comments. The review covers the determination of transportation tariff, tariff methodology and related commercial parameters for the regional natural gas pipeline network in accordance with the PNGRB tariff regulations. The outcome of the tariff review is expected to influence pipeline transportation charges and downstream delivered gas costs for CGD entities, industrial consumers and other gas offtakers connected to the AGCL pipeline network in Assam.
14	29-May-26	Petroleum and Natural Gas Regulatory Board (PNGRB)	Draft PNGRB (Third Party Conformity Assessment) (Amendment) Regulations, 2026	PNGRB invited views/comments on the draft Third Party Conformity Assessment amendment regulations. The update is relevant for compliance, inspection and certification under PNGRB technical and safety regulations for natural gas, LNG and CGD infrastructure.
15	3-Jun-26	Petroleum and Natural Gas Regulatory Board (PNGRB)	Connectivity of CGD Networks with Natural Gas Pipelines	PNGRB issued a public consultation paper regarding the timely connectivity of authorised City Gas Distribution (CGD) networks with the National Gas Grid and other natural gas pipeline systems. The consultation seeks stakeholder views on measures to facilitate timely pipeline connectivity, reduce delays in commissioning CGD networks and improve coordination among authorised entities and pipeline operators. The proposal is expected to improve gas availability, accelerate commissioning of CGD geographical areas and enhance infrastructure utilisation across the natural gas value chain.

16	8-Jun-26	Petroleum and Natural Gas Regulatory Board (PNGRB)	Draft Guidelines for Facilitating Faster and Wider Piped Natural Gas Connectivity	PNGRB released draft guidelines to facilitate faster and wider Piped Natural Gas (PNG) connectivity across authorised CGD networks. The draft guidelines propose the use of Multilayer Composite (MLC) piping systems, rationalisation of technical requirements for internal piping installations and utilisation of existing reticulated LPG manifold pipeline systems, subject to prescribed inspection, testing, certification and safety requirements. The proposed framework is intended to accelerate domestic PNG penetration, reduce installation timelines and facilitate cost-effective expansion of CGD infrastructure while maintaining prescribed safety standards.
17	10-Jun-26	Ministry of Petroleum and Natural Gas (MoPNG)	Second Amendment to the Natural Gas and Petroleum Products Distribution Order, 2026	MoPNG notified the second amendment to the Natural Gas and Petroleum Products Distribution Order, 2026. It modified consumer notice requirements before discontinuation of LPG supply in PNG-connected areas and recognised notices through RWAs, apartment owner associations, cooperative housing societies, facility managers, hand delivery, posters, flyers, pamphlets, SMS, telephone calls and recorded voice messages.
18	12-Jun-26	Petroleum and Natural Gas Regulatory Board (PNGRB)	Draft PNGRB (Technical Standards and Specifications including Safety Standards for City or Local Natural Gas Distribution Networks) Amendment Regulations, 2026	PNGRB issued draft amendments to the PNGRB technical standards and safety regulations for city/local natural gas distribution networks. The amendment was linked to safe and faster expansion of CGD networks and proposed changes aligned with field practices, safety requirements, MLC piping systems and usage of existing reticulated LPG pipeline systems for PNG supply. Comments were invited up to 19 June 2026.
19	16-Jun-26	Directorate General of Hydrocarbons (DGH) / MoPNG	Corrigendum to Open Acreage Licensing Policy (OALP) Bid Round XI	DGH issued a corrigendum to the Notice Inviting Offers (NIO) under OALP Bid Round XI, revising certain bidding conditions, timelines, technical information and procedural requirements applicable to the offered exploration blocks. The corrigendum was intended to provide additional clarity to prospective bidders and facilitate a transparent bidding process. While administrative in nature, continued progress under OALP is expected to support long-term augmentation of domestic oil and natural gas production, thereby strengthening domestic gas availability and reducing reliance on imported LNG over the medium to long term.
20	23-Jun-26	Petroleum and Natural Gas Regulatory Board (PNGRB)	Draft PNGRB (Data Bank and Information System) Regulations, 2026	PNGRB continued the consultation process for Draft PNGRB (Data Bank and Information System) Regulations, 2026. Stakeholder comments had been web-hosted on 10 March 2026, an open house was scheduled through public notice dated 24 April 2026, postponed on 4 May 2026, and PNGRB's public notice page listed an open house discussion on 1 July 2026. The framework is relevant for natural gas, LNG and CGD entities because it supports regulatory data collection, infrastructure monitoring and market oversight.

21	27 March–8 April 2026	Ministry of Chemicals & Fertilizers / Ministry of Petroleum and Natural Gas	Enhancement of Natural Gas Allocation to Fertilizer Sector	Following the notification of the Natural Gas (Supply Regulation) Order, 2026, the Government progressively enhanced natural gas allocation to fertilizer plants to mitigate the impact of global LNG supply disruptions. Gas allocation, initially maintained at approximately 70% of the average consumption during the preceding six months, was subsequently increased to approximately 80% through additional procurement under the Empowered Pool Management Committee (EPMC) mechanism and thereafter enhanced to approximately 95% of the preceding six-month average consumption with effect from 9 April 2026, subject to operational availability. These measures ensured continuity of domestic fertilizer production while maintaining priority allocation for domestic PNG and transport CNG supplies.
22	1-Jul-26	Government of Odisha	Odisha City Gas Distribution (CGD) Policy, 2026	The Government of Odisha notified the Odisha City Gas Distribution (CGD) Policy, 2026 to promote the development of city gas distribution infrastructure across the State. The policy provides an enabling framework for authorised CGD entities through facilitation of statutory approvals, coordination with State departments, Right of Way (RoW) support, streamlined permissions for pipeline laying and CNG station development, and institutional mechanisms for expeditious implementation of CGD projects. The policy is expected to accelerate expansion of PNG and CNG infrastructure, improve access to cleaner fuels and encourage private sector investment in Odisha's natural gas ecosystem.
23	1-Jul-26	Ministry of Petroleum and Natural Gas (MoPNG)	Withdrawal of Emergency Natural Gas Supply Restrictions	Following stabilisation of international LNG supply chains and easing of force majeure conditions, the Government withdrew the emergency supply management measures introduced under the Natural Gas (Supply Regulation) Order, 2026. The withdrawal restored the normal market-based natural gas allocation framework applicable prior to the emergency measures while ensuring adequate gas availability across consumer categories. The decision marked the transition from temporary supply prioritisation to normal commercial allocation and reduced regulatory intervention in the domestic natural gas market as LNG imports and global supply conditions normalised.

Source: PNGRB, DGH, MoPNG, Crisil Analysis

2. CBG Outlook

India's Compressed Biogas (CBG) sector is emerging as a commercially viable domestic source of renewable gas, offering City Gas Distribution (CGD) companies an opportunity to diversify their gas sourcing portfolio. The Government of India has mandated phased CBG blending in CGD networks, increasing from 1% in FY2025-26 to 3% in FY2026-27, 4% in FY2027-28 and 5% from FY2028-29 onwards, thereby creating long-term demand visibility for CBG. India has an estimated CBG production potential of approximately 87 bcm per annum; however, the current installed capacity represents less than 1% of this potential, indicating significant scope for future capacity expansion. As of FY2026, around 210 CBG plants are operational, while nearly 300 additional plants are under various stages of development, reflecting a rapidly expanding supply ecosystem.

Government initiatives are expected to further accelerate sector growth. The Union Budget FY2023 announced the establishment of 500 "Waste-to-Wealth" plants with an investment of approximately ₹10,000 crore, while the India–Japan Cooperative Biogas Initiative (July 2026) aims to facilitate the development of around 1,000 biogas and organic fertilizer plants through financing, technology transfer, research & development and carbon-credit support. As

Consulting

domestic CBG production scales up, CGD companies are expected to benefit from improved supply diversification, reduced dependence on imported LNG and declining APM gas allocations, thereby strengthening long-term fuel security and enhancing resilience of their gas sourcing portfolio, particularly in high-growth geographical areas

3. C-PNG Outlook

Commercial PNG represents a scalable growth opportunity for CGD companies across hotels, restaurants, canteens, hostels, institutional kitchens, hospitals and other commercial establishments. Compared with commercial LPG cylinders, PNG offers a continuous, metered and uninterrupted fuel supply, eliminating cylinder handling, storage and replacement requirements while reducing inventory carrying costs, working capital requirements, leakage risks and dependence on periodic cylinder deliveries. Based on standard gross calorific value ("GCV") conversion factors, 1 kg of LPG contains approximately 12,500 kcal, while natural gas has a GCV of approximately 10,000 kcal per SCM. Accordingly, a 19 kg commercial LPG cylinder contains approximately 237,500 kcal of energy, equivalent to around 23.75 SCM of natural gas. At the Delhi commercial LPG price of ₹2,930 per 19 kg cylinder (as on July 1, 2026), the implied energy-equivalent cost is approximately ₹123 per SCM of natural gas. Consequently, Commercial PNG offers a favourable economic proposition wherever the applicable PNG tariff is below this energy-parity benchmark, while also providing operational benefits associated with piped fuel supply.

Government initiatives are expected to further support Commercial PNG adoption. The National PNG Drive 2.0 was extended until June 30, 2026 to accelerate PNG penetration, and more than 3.1 lakh PNG connections, including domestic and commercial consumers, were gasified during March 2026. Simultaneously, the Government has strengthened LPG distribution through measures such as Delivery Authentication Code (DAC)-based authentication, with authenticated deliveries increasing to over 90%, alongside deactivation of inactive LPG connections to curb diversion. Supported by favourable economics, operational convenience, expanding CGD infrastructure and continued policy support, Commercial PNG is expected to witness sustained adoption, driving customer additions, higher gas throughput, improved network utilisation and recurring revenues for CGD companies.

4. I-PNG

Industrial PNG offers CGD companies a scalable, high-volume and recurring demand opportunity across industrial clusters, where fuel consumption is concentrated in boilers, furnaces, kilns, ovens, dryers and steam generation systems. Compared with conventional fuels, Industrial PNG provides continuous pipeline supply, eliminates on-site fuel storage and handling, reduces operational downtime and inventory requirements, and supports compliance with increasingly stringent environmental regulations. While the competitiveness of Industrial PNG may vary depending on the prevailing fuel mix and gas sourcing costs, its overall value proposition extends beyond fuel price to include supply reliability, operational efficiency, lower emissions, reduced logistics dependence and improved regulatory compliance. Consequently, Industrial PNG continues to be an attractive fuel alternative across industrial applications requiring uninterrupted and efficient energy supply.

5. CNG Vehicle Penetration

Table 151: Analysis of Market Share of CNG Vehicles in TGL geographies vs National Level, FY24 – FY26

Particulars	National			TGL		
	FY24	FY25	FY26	FY24	FY25	FY26
Market Share of CNG Vehicles	16%	18%	19%	18%	20%	21%
Commercial four-wheeler	46%	53%	59%	50%	61%	69%
Passenger four-wheeler	10%	13%	14%	10%	13%	16%
Auto Rickshaw	31%	28%	25%	36%	34%	29%
Light Goods Vehicles (LGV)	12%	14%	14%	14%	15%	16%

Total Vehicle	6,606,841	6,860,810	8,116,196	477,230	490,537	536,179
Commercial four-wheeler	324,511	369,109	430,117	19,725	26,971	28,262
Passenger four-wheeler	4,515,534	4,685,095	5,583,935	314,375	326,892	368,511
Auto Rickshaw	1,168,010	1,220,897	1,418,627	107,969	104,512	103,471
Light Goods Vehicles (LGV)	598,786	585,709	683,517	35,162	32,162	35,935
CNG Vehicle	1,037,714	1,230,392	1,511,444	86,376	99,996	113,793
Commercial four-wheeler	148,931	196,172	255,330	9,807	16,427	19,484
Passenger four-wheeler	458,742	609,160	808,338	32,313	43,013	58,193
Auto Rickshaw	356,295	340,593	349,103	39,346	35,802	30,416
Light Goods Vehicles (LGV)	73,746	84,467	98,673	4,911	4,755	5,701

Source: Vahan Dashboard

Note: 1. Commercial four-wheeler category includes Light Passenger Vehicle (LPV)

2. Passenger four-wheeler category includes Light Motor Vehicle (LMV) and Four-Wheeler (Invalid Carriage) (4WIC)

3. Auto Rickshaw category includes Three-Wheeler Transport (3WT), Three-Wheeler Non-Transport (3WN) and Three-Wheeler Invalid Carriage (3WIC)

4. TGL geography represents the geographical areas where Torrent Gas Limited operates. Vehicle data has been aggregated from the relevant RTOs within the districts covered under these GAs

TGL's operating geographies have consistently exhibited a higher penetration of CNG vehicles than the national average, indicating stronger acceptance of CNG as a transportation fuel. The share of CNG vehicles in the total vehicle population across TGL's geographies increased from 18% in FY24 to 21% in FY26, compared with an increase from 16% to 19% at the national level over the same period. The lead is particularly pronounced in the commercial four-wheeler segment, where CNG penetration in TGL's markets reached 69% in FY26, against 59% nationally, highlighting the preference for CNG among high-utilisation commercial vehicles.

Passenger four-wheelers and light goods vehicles also recorded higher CNG adoption across TGL's operating areas, with market shares of 16% and 16%, respectively, in FY26, compared with the national averages of 14% for both categories. While auto-rickshaws continue to account for a significant share of the CNG vehicle base, their penetration has moderated over the years as adoption has broadened across other vehicle segments. The higher CNG penetration across TGL's geographies indicates a more mature gas mobility ecosystem, supported by an established CNG dispensing network, favourable fuel economics and sustained consumer adoption across both commercial and personal mobility segments.

Table 152: Economic Viability and Fuel Comparison

Alternative fuel	Industrial PNG advantage	Relevance
Furnace oil	Furnace oil has a gross calorific value of approximately 10,050 kcal/kg, broadly comparable with natural gas at approximately 10,000 kcal/SCM (GCV basis). However, furnace oil typically contains 2–4% sulphur, resulting in higher SO _x emissions, ash generation and pollution-control requirements. Industrial PNG is virtually sulphur-free, while also eliminating liquid fuel storage, unloading and handling requirements.	Supports fuel conversion in industries seeking lower emissions, reduced maintenance, simplified fuel handling and improved environmental compliance.
Coal	As per the Ministry of Coal, non-coking coal grades range from G1 (approximately 7,000 kcal/kg) to G17 (approximately 2,200–2,500 kcal/kg). Coal requires significant storage, handling and ash disposal, and generates higher particulate and other emissions than natural gas. Further, the Commission for Air Quality	Increasing environmental regulations, fuel-use restrictions and operational requirements support the transition towards cleaner gaseous fuels such as Industrial PNG, particularly in urban and pollution-sensitive industrial clusters.

	Management (CAQM) has restricted the use of coal and other unapproved fuels across the NCR from 1 st January 2023, except for specified applications, reflecting a tightening environmental regulatory framework.	
Pet-coke	Petroleum coke is a high-calorific-value fuel but is associated with high sulphur content and particulate emissions. In addition, the Directorate General of Foreign Trade (DGFT) permits imports of pet coke only for specified industries and actual-user applications, while imports for general fuel use remain restricted under the prevailing policy framework.	Regulatory restrictions on fuel-grade pet coke, coupled with environmental considerations, support the long-term adoption of cleaner fuels such as Industrial PNG in eligible industrial applications.
Propane	Propane remains dependent on imports, freight and bulk logistics. In the Morbi ceramic cluster, approximately 415 industrial customers relied on propane prior to the 2026 supply disruption, accounting for nearly 70% of the cluster's fuel requirement. During the disruption, rising propane costs and supply constraints affected industrial operations, while pipeline gas supported phased restoration of industrial activity, with operational ceramic units increasing from 83 units (0.36 MMSCMD) at the end of March 2026 to approximately 290 units (2.70 MMSCMD) by 22 April 2026 as gas availability improved.	Demonstrates the operational resilience of pipeline infrastructure by reducing dependence on imported fuels and logistics, thereby supporting business continuity during supply disruptions.
RLNG-linked PNG sensitivity	Industrial PNG supplied through RLNG may be influenced by global LNG prices. PPAC reported GIXI at US\$10.8/MMBtu (March 2026) and the Government-notified domestic natural gas price at US\$8.73/MMBtu (July 2026), while LNG procurement costs reportedly increased to around US\$18–20/MMBtu during the Morbi disruption. Nevertheless, CGD entities continued to source LNG from alternate origins to maintain industrial gas supply and support resumption of operations.	While Industrial PNG is not immune to international LNG price volatility, its value proposition extends beyond commodity prices to include pipeline reliability, operational continuity, lower storage and handling costs, improved safety and environmental compliance. Industrial PNG should therefore be evaluated on total delivered cost rather than fuel price alone.

Source: IEA, PPAC, Crisil Analysis

Replicating NCR's Industrial PNG Success

The National Capital Region ("NCR") demonstrates the scalability of Industrial PNG adoption, with 4,082 out of approximately 7,760 fuel-based industries (approximately 52.6%) having adopted PNG as of 2023. This transition has been supported by the convergence of pipeline infrastructure, high industrial density and an increasingly stringent clean-fuel regulatory framework. While industrial composition differs across geographies, markets such as Alwar, Jaipur, Chennai–Thiruvallur and Pune exhibit similar characteristics, including concentrated industrial demand, expanding CGD infrastructure and supportive state policies, thereby creating favourable conditions for Industrial PNG penetration.

Table 153: TGL Potential to replicate the NCR model

Market	Potential to replicate the NCR model
Alwar	Alwar forms part of the Delhi–NCR industrial influence zone and benefits from proximity to one of India's most mature Industrial PNG markets. The district hosts diversified manufacturing across auto components, engineering, chemicals, pharmaceuticals, textiles, food processing and metals, creating concentrated and continuous industrial fuel demand. In addition, Rajasthan's CGD policy framework and RIICO's gas pipeline policy facilitate Industrial PNG infrastructure within industrial estates, supporting conversion from conventional fuels.
Jaipur	Jaipur benefits from one of India's largest organised industrial ecosystems. RIICO has developed 446 industrial areas, covering approximately 102,723 acres, with over 42,344 industrial units in operation across

	Rajasthan. This provides a sizeable addressable customer base for phased Industrial PNG penetration. Rajasthan's CGD policy and RIICO's policy for permitting gas distribution pipelines within industrial areas are expected to facilitate faster pipeline rollout and industrial connectivity.
Chennai–Thiruvallur	Chennai–Thiruvallur is an authorised CGD geographical area with a diversified industrial base comprising automobiles, auto components, electronics, engineering, chemicals, rubber, packaging, textiles and food processing. Tamil Nadu's CGD policy promotes natural gas as a cleaner industrial fuel and supports expansion of CGD infrastructure, creating favourable conditions for Industrial PNG adoption across large manufacturing clusters.
Pune	The Pune–Pimpri Chinchwad–Chakan–Talegaon manufacturing corridor represents one of India's largest automotive and engineering hubs, with significant presence across automobiles, auto ancillaries, engineering, pharmaceuticals, plastics, food processing and precision manufacturing. High industrial density, continuous thermal energy requirements and established pipeline connectivity provide favourable conditions for scalable Industrial PNG adoption similar to mature CGD markets.

Source: RIICO, Crisil Analysis

6. D-PNG & Recent Policy Initiatives

Domestic PNG represents a significant utilisation-led growth opportunity for CGD companies as a substantial portion of the distribution network has already been commissioned across authorised geographical areas. As of March 2026, approximately 1.69 crore domestic PNG connections had been installed across India, while only around 1.07 crore were active billed connections, implying that nearly 63% of installed connections were actively consuming gas. In addition, authorised geographical areas had achieved only 41% of the current notified D-PNG connection targets, indicating considerable headroom for future customer additions and higher utilisation of existing infrastructure. Accordingly, future growth is expected to be increasingly driven by customer conversion, connection activation and higher consumption per connection, rather than network expansion alone

Table 154: Key policy initiatives pertaining to D-PNG

Investor-attractiveness driver	Key policy/data point	Benefit to CGD companies
Latent network utilisation	Approximately 1.69 crore D-PNG connections have been installed against a current notified target of 4.09 crore, while only around 1.07 crore connections are currently billed, indicating that approximately 63% of installed connections are active consumers.	Provides significant headroom to improve utilisation of existing steel and MDPE pipeline infrastructure through customer activation, higher connection conversion and increased recurring gas volumes.
Accelerated pipeline approvals	The Natural Gas and Petroleum Products (Through Laying, Building, Operation and Expansion of Pipelines and Other Facilities) Order, 2026, notified on 24 March 2026 under the Essential Commodities Act, establishes a streamlined and time-bound framework for approvals, land access and pipeline development.	Expected to facilitate faster network expansion, improve last-mile connectivity and reduce project execution timelines for CGD entities.
Reduced implementation bottlenecks	The Government has introduced facilitative measures including single-window coordination, designated nodal officers, extended working hours and rationalisation or waiver of right-of-way restoration charges to expedite CGD infrastructure rollout.	Can reduce procedural delays, improve execution efficiency and accelerate commissioning of domestic PNG connections.
Policy-led LPG-to-PNG migration	A GIS-enabled national portal has been proposed to identify potential D-PNG consumers within authorised CGD areas. Rollout is expected to be coordinated by MoPNG, PNGRB, State Governments, district administrations, CGD entities and Oil Marketing Companies ("OMCs"), including customer identification, LPG-PNG mapping and awareness programmes.	Creates a structured customer conversion framework, improving household migration from LPG to PNG, increasing connection activation and supporting recurring gas demand.

Higher utilisation per connection	Customer deduplication, targeted awareness campaigns and coordinated migration initiatives are expected to reduce dual-fuel usage and improve active utilisation of existing PNG connections.	Supports higher average gas consumption per connection, improves throughput on existing infrastructure and enhances recurring revenues.
Network monetisation	Policy initiatives increasingly focus on improving utilisation of commissioned networks by accelerating household conversion alongside commercial establishment connectivity within authorised GAs.	Enhances network utilisation, operating leverage and return on invested capital without proportionate incremental pipeline capex.
Long-term policy alignment	Government initiatives promoting cleaner fuels, enhanced energy security, lower dependence on imported liquid fuels and expansion of gas-based infrastructure continue to support wider PNG adoption across authorised geographical areas.	Supports sustained medium- to long-term penetration of domestic PNG and improves demand visibility for CGD companies.

Source: IEA, PPAC, Crisil Analysis

7. India's E20 Transition: Strengthening the Long-Term Value Proposition of CNG

India's ethanol blending programme has successfully achieved the E20 target ahead of schedule, supporting national priorities of energy security, crude oil import substitution, emissions reduction, and higher farm incomes. While E20 remains strategically beneficial from a macroeconomic and environmental perspective, it also indirectly strengthens the positioning of CNG as a transportation fuel by increasing consumer focus on operating economics and fuel efficiency.

Government assessments indicate that E20 petrol can result in a 3–5% reduction in fuel economy relative to petrol due to ethanol's lower energy content. Mileage remains inferior to pure petrol. CNG, by comparison, offers significantly higher fuel efficiency and a substantially lower running cost. Petrol is sold in litres, whereas CNG is sold in kilograms. Due to its higher energy content per unit mass and the efficient combustion characteristics of methane, CNG-powered vehicles typically offer a lower running cost than petrol vehicles. The introduction of E20 fuel, which has a slightly lower calorific value than conventional petrol due to its ethanol content, may marginally reduce fuel economy, further improving the relative operating-cost advantage of CNG in many applications. Therefore, although fuel prices may remain relatively range-bound over time, it is the relatively mileage and operating-cost economics of CNG that make it the more attractive option for consumers, especially high-mileage users and fleet operators. Additionally, CNG does not face the mileage dilution associated with increasing ethanol blending.

The impact of the E20 transition on vehicle operating economics can be illustrated using the Maruti Suzuki WagonR, one of India's highest-selling factory-fitted CNG passenger vehicles. Based on prevailing Delhi retail fuel prices and ARAI-certified fuel efficiency, the CNG variant delivers a running cost of approximately Rs. 2.4 per kilometre, compared with Rs. 4.2 per kilometre for the conventional petrol variant. Assuming the Government-indicated 3-5% reduction in fuel economy under E20, the corresponding running cost increases to approximately Rs. 4.4 per kilometre. Accordingly, the CNG variant continues to offer a fuel-cost advantage of ~42% over conventional petrol, which further widens to ~45% compared with E20 petrol. While the transition to E20 supports India's broader energy transition objectives, it does not materially alter the relative operating-cost advantage of CNG, particularly for consumers with higher annual vehicle utilisation and fleet operators.

Table 155: Running Cost Advantage of CNG vs Petrol vs E-20 Petrol

Particulars	CNG	E20 Petrol	Conventional Petrol
Illustrative vehicle	Maruti Suzuki WagonR S-CNG	Maruti Suzuki WagonR Petrol	Maruti Suzuki WagonR Petrol
Delhi retail fuel price (Rs/kg or Rs/L)	83.09	102.1	102.1
ARAI fuel efficiency (km/kg or km/L)	34.05	23.13	24.35

Mileage impact vs conventional petrol	-	3-5% lower	Base
Fuel cost (Rs./km)	2.4	4.4	4.2
Cost Advantage w.r.t. E-20 Petrol	~45% lower for CNG	-	-
Cost Advantage w.r.t. Conventional Petrol	~42% lower for CNG	-	-

Note: 1. The comparison is based only on fuel expenditure (fuel cost per kilometre) and excludes vehicle acquisition cost, maintenance, financing cost, insurance, taxes, depreciation, resale value and other ownership-related expenses

2. Petrol price represents the prevailing Delhi retail price. CNG price represents the prevailing Delhi retail CNG price as of July 2026

Beyond the direct fuel-cost advantage, factory-fitted CNG vehicles offer a consumer value proposition through a mature and well-proven OEM technology platform, strong resale acceptance, and dual-fuel flexibility. Unlike single-fuel alternatives, CNG vehicles allow users to seamlessly switch to petrol whenever required, eliminating concerns around fuel availability or range. For India's value-conscious consumers, the combination of lower running costs, higher fuel efficiency, established engine reliability, and fuel-choice flexibility makes CNG an attractive mobility solution, supporting sustained demand growth for CNG vehicles and associated gas infrastructure.

8. Policy Push for Natural Gas in India: Rationale for PNG and CNG

India's policy framework promotes natural gas as a transition fuel to enhance energy security, diversify the primary energy mix, improve urban air quality and support decarbonisation across residential, commercial, industrial and transportation sectors. The expansion of the City Gas Distribution network enables last-mile delivery of natural gas to households, commercial establishments, industries and transport consumers, while also facilitating the gradual integration of renewable gases such as Compressed Biogas

1. Domestic PNG (Piped Natural Gas)

Domestic PNG is promoted as a safe, reliable and convenient cooking fuel, providing households with continuous access to piped natural gas without dependence on LPG cylinder logistics. Key policy and consumer benefits include:

- **Continuous, metered fuel supply**, eliminating the need for cylinder booking, storage and replacement while enabling consumption-based billing.
- **Reliable fuel availability during supply-chain disruptions or emergency situations**, reducing dependence on physical cylinder distribution and ensuring continuity of household cooking requirements.
- **Improved household safety and convenience** by eliminating cylinder handling, transportation and storage within residential premises.
- **Diversification of household energy sources**, with PNG networks capable of supplying domestic natural gas, imported LNG and, over time, increasing volumes of renewable gases such as CBG.
- **Operational consistency through stable fuel quality and uninterrupted pipeline supply**, supporting predictable cooking performance and enhanced consumer convenience.

2. Commercial PNG

Commercial PNG is promoted as a cleaner substitute for LPG and other liquid fuels across hotels, restaurants, hospitals, educational institutions, bakeries, laundries, malls and other commercial establishments. Its key advantages include:

- **Uninterrupted fuel availability**, supporting continuous business operations without dependence on cylinder replenishment.
- **Elimination of LPG cylinder storage, handling and inventory management**, improving operational efficiency and workplace safety.
- **Optimized utilization of commercial space** by removing dedicated cylinder storage requirements.
- **Reduced logistics requirements and associated operational disruptions**, particularly for establishments with high and continuous fuel consumption.

- **Consistent fuel quality and combustion characteristics**, enabling precise temperature control, improved process efficiency and enhanced product quality in food processing and other heat-intensive commercial applications.

3. Industrial PNG

Industrial PNG supports fuel switching from coal, petcoke, furnace oil, LSHS and diesel to a cleaner gaseous fuel across multiple industrial sectors. Key benefits include:

- **Lower emissions of particulate matter, sulphur oxides, nitrogen oxides and carbon dioxide**, supporting compliance with increasingly stringent environmental regulations.
- **Consistent calorific value and cleaner combustion**, improving process stability, combustion efficiency and product quality.
- **Reduction in fuel storage, material handling and associated maintenance requirements**, resulting in simplified plant operations.
- **Support for industrial decarbonisation initiatives**, particularly across sectors such as ceramics, glass, chemicals, pharmaceuticals, food processing and textiles.
- **Enhanced operational reliability** through uninterrupted pipeline-based fuel supply, reducing dependence on bulk liquid fuel procurement and storage logistics.

4. CNG (Compressed Natural Gas)

CNG is promoted as an alternative transport fuel for passenger vehicles, commercial vehicles and public transport fleets to reduce emissions and dependence on conventional petroleum fuels. Key policy objectives include:

- **Reduction in vehicular emissions**, contributing to improved urban air quality and lower greenhouse gas emissions.
- **Lower operating costs** for high-mileage passenger vehicles, taxis, buses and commercial fleets.
- **Reduced dependence on imported crude oil and petroleum products**, strengthening India's energy security.
- **Expansion of CGD infrastructure**, enabling wider availability of CNG across urban and semi-urban markets.
- **Facilitating the integration of renewable CBG into the transport fuel mix**, supporting the transition towards lower-carbon mobility.

Delhi EV Policy (2026–2030) and Implications for CNG Demand

The Government of NCT of Delhi notified the Delhi Electric Vehicle Policy, 2026–2030, effective from July 1, 2026, with the objective of accelerating the transition towards zero-emission mobility through a combination of purchase incentives, scrappage benefits, exemption from road tax and registration fees for eligible EVs, expansion of public charging infrastructure, battery recycling initiatives and phased electrification mandates across key vehicle segments. The policy provides for the gradual transition of commercial fleets, mandates registration of only electric three-wheelers from 2027 and electric two-wheelers from 2028, promotes electrification of government and school bus fleets, and seeks to strengthen the supporting EV ecosystem through charging and servicing infrastructure.

The policy is expected to accelerate EV adoption in Delhi over the medium to long term, particularly across urban mobility segments. However, its impact on CNG demand is likely to be gradual rather than immediate, given the sizeable existing CNG vehicle base, the phased implementation timeline, replacement cycles of commercial vehicles and the time required for large-scale charging infrastructure deployment. CNG is therefore expected to remain an important transition fuel for taxis, buses and commercial fleets during the transition period, while demand from domestic PNG, commercial PNG and industrial PNG segments remains unaffected by transport electrification. As a result, the policy is expected to reshape the transport fuel mix progressively, with CNG continuing to play a meaningful role in Delhi's clean mobility ecosystem alongside increasing EV penetration.

5. Growing CBG Ecosystem Supporting Long-Term Gas Supply

The Government has also accelerated the development of the domestic CBG ecosystem through initiatives such as the SATAT programme, enabling agricultural residues, municipal solid waste, animal waste and other organic feedstocks to be converted into renewable gaseous fuel. As of FY2026, approximately 1,825 CBG plants have been registered, of which 210 plants have been commissioned, while 1,615 plants are at various stages of development, indicating a significant project pipeline.

The continued commissioning of these projects is expected to augment domestic renewable gas availability, support the gradual integration of CBG into CGD networks, reduce dependence on imported LNG over the long term and strengthen supply diversification for both PNG and CNG consumers

9. LNG Terminal and Significance for CGD Entities

India's CGD sector is expected to remain the primary driver of incremental natural gas demand over the medium to long term, supported by continued expansion of CGD infrastructure, increasing penetration of PNG and CNG, policy support and fuel switching across residential, commercial and industrial segments. According to the International Energy Agency ("IEA"), India's natural gas consumption is projected to increase from over 44.3 MMT in 2023 to ~77.23 MMT by 2030, representing growth of nearly 60%, with the CGD sector expected to contribute the largest share of incremental demand. Similarly, PNGRB projects total natural gas demand to increase from approximately 189 MMSCMD in FY2023-24 to 297-365 MMSCMD by 2030, while CGD demand is expected to rise from 36.9 MMSCMD to 87.1-126.1 MMSCMD over the same period, highlighting the sector's pivotal role in India's evolving gas market.

Table 156: CGD Growth Opportunity

Indicators	Demand outlook
India's gas consumption	IEA projects India's natural gas consumption to increase from 44.3 MMT in 2023 to approximately 77.25 MMT by 2030, representing growth of nearly 60%, supported by infrastructure expansion and increasing gas penetration across end-use sectors.
Total gas demand	PNGRB projects total natural gas demand to increase from approximately 189 MMSCMD in FY2023-24 to 297-365 MMSCMD by 2030, and further to 495-630 MMSCMD by 2040 under the Good-to-Go and Good-to-Best scenarios.
CGD demand	CGD demand is projected to increase from 36.9 MMSCMD in FY2023-24 to 87.1-126.1 MMSCMD by 2030, and further to 216.4-270.8 MMSCMD by 2040, making CGD the largest contributor to incremental natural gas demand.
CGD growth	CGD demand is expected to grow at a CAGR of approximately 16%-25% through 2030. Further the demand is expected to grow 5.9 to 7.3 times w.r.t FY24 demand
CGD share of total gas demand	CGD is expected to account for ~29.3%-34.5% of India's total natural gas demand by 2030, increasing further to ~43% by 2040, reinforcing its position as the principal growth engine for the domestic gas market.

Source: IEA, PPAC, Crisil Analysis

While domestic gas demand continues to expand, indigenous production has not kept pace, resulting in a progressively higher reliance on imported LNG. India's natural gas consumption increased from 176 MMSCMD in FY2011-12 to 195 MMSCMD in FY2024-25, whereas domestic net production declined from 127 MMSCMD to 98 MMSCMD during the same period. Consequently, LNG imports have become an increasingly important source of supply, with import volumes rising from 49 MMSCMD to 98 MMSCMD, increasing LNG's share in India's total gas consumption from approximately 28% in FY2011-12 to nearly 50% in FY2024-25. This structural trend is expected to continue as future demand growth is increasingly met through imported LNG, underscoring the strategic importance of LNG import and regasification infrastructure in supporting India's expanding gas ecosystem.

Against this backdrop, integrated companies with established LNG sourcing capabilities, contracted regasification access and gas procurement expertise are expected to be better positioned to support long-term CGD growth. Torrent Group's existing gas-based power generation business, contracted LNG supply arrangements, regasification access and gas marketing experience provide an established platform for LNG procurement and supply management. Combined with Torrent Gas' expanding CGD footprint, these capabilities may enable greater supply diversification, improved procurement flexibility and support long-term volume growth across its PNG and CNG business

Table 157: Torrent Gas and Group-Level LNG Advantage

Strategic strength	Relevance
Diversified CGD platform	Torrent Gas is authorised to develop CGD networks across 34 districts spanning seven states and one Union Territory, providing a geographically diversified downstream gas distribution platform with a growing PNG and CNG customer base.
Growth and anchor demand	Torrent Group has identifiable gas demand across power generation and CGD businesses. Torrent Power operates approximately 2,730 MW of gas-based generation capacity, comprising the 1,147.5 MW SUGEN, 382.5 MW UNOSUGEN and 1,200 MW DGEN plants. The amended environmental compliance disclosure indicates an aggregate gas requirement of approximately 3,320 tonnes per day for the SUGEN units, equivalent to approximately 1.21 MMTPA of LNG on an annualised basis, providing a potential anchor demand base for LNG procurement and terminal utilisation. Torrent Gas Limited has shown ~33% CAGR growth in gas volume sales from FY23 to FY25, strengthening Torrent groups anchor demand
Long-term contracted LNG supply	Torrent Power has executed long-term LNG supply agreements with BP Singapore and JERA, providing potential contracted LNG supply of up to 0.68 MMTPA commencing from 2027, subject to the respective contractual terms, commencement schedules and supply profiles.
Established regasification access	Torrent Power has secured up to 1.0 MMTPA of regasification and storage capacity at Petronet LNG's Dahej terminal under a long-term arrangement commencing in April 2017 for a period of 20 years, providing established access to LNG import infrastructure.
Relevant operating experience	Torrent Power's procurement and receipt of approximately nine LNG cargoes during FY2026 demonstrates the Group's operational experience in LNG sourcing and procurement, complementing its long-term regasification capacity arrangements and expanding downstream gas business
Integrated LNG value chain	The combination of contracted LNG supply, long-term regasification capacity, established LNG procurement experience, gas-based power demand and Torrent Gas' expanding CGD network provides an integrated platform that may support supply diversification, procurement flexibility and long-term gas availability across the Group's downstream businesses.

Source: Company Filings, Torrent Power, Crisil Analysis

Table 158: Potential Strategic Benefits of Torrent Group's LNG Procurement and Regasification Arrangements

Strategic merit	Potential benefit
Supply security	Long-term LNG supply arrangements together with contracted regasification capacity may enhance supply security by reducing reliance on short-term LNG procurement and uncontracted third-party regasification availability, supporting reliable gas supply across downstream businesses.
Capacity and scheduling control	Long-term LNG procurement arrangements and contracted regasification capacity may provide greater visibility over cargo planning, regasification scheduling and gas delivery, improving the ability to manage demand fluctuations and supply disruptions.
Anchor throughput from rising demand	Torrent Group's combined gas demand from its expanding CGD business and gas-based power generation portfolio may provide a stable demand base for optimising utilisation of contracted LNG supply and regasification capacity.
Infrastructure Access	Long-term booking of regasification capacity provides assured access to LNG import infrastructure, which may reduce dependence on incremental capacity availability at third-party terminals during periods of high utilisation.
LNG procurement flexibility	Long-term LNG contracts, complemented by the ability to procure additional spot or medium-term cargoes, may support portfolio optimisation and procurement flexibility under varying market conditions.

Group-demand aggregation	Aggregation of gas demand across Torrent Group's CGD and gas-based power businesses may improve procurement efficiency, strengthen contracting capability and optimise utilisation of contracted LNG volumes and regasification capacity.
Reduced terminal-congestion exposure	Dahej operated at 96.6% utilisation in FY2024-25. Dedicated capacity could reduce dependence on limited incremental availability at a highly utilised terminal.
Third-party revenue potential	Subject to contractual rights, regulatory approvals and availability of spare contracted capacity, the Group may explore opportunities to optimise utilisation of contracted LNG volumes or regasification capacity through commercial arrangements with third parties.
Expansion beyond pipeline-connected markets	LNG sourced under long-term procurement arrangements may support LNG truck-loading or virtual pipeline solutions for customers and CGD areas not immediately connected to the natural gas pipeline network, subject to commercial viability.
Integrated gas value chain	The combination of long-term LNG procurement, contracted regasification access, gas-based power demand and Torrent Gas' expanding CGD network may improve supply-chain coordination, enhance procurement visibility and strengthen operational integration across the Group's gas businesses.

Source: Crisil Analysis

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