

ANNUAL GAS FORUM

IN ASSOCIATION WITH

Energyworld



FUELING INDIA'S FUTURE

The Power of Gas in Energy Transition

KNOWLEDGE PARTNER

CO-D Clobo

Commodity Insights

Contents

Introduction	03
Theme 1 - Presentation Macro Trends and Outlook for Indian Gas sector to 2040	06
Fireside Chat What's missing in India's Gas story?	11
Theme 2 - Panel Discussion Accelerating Investments in India's Natural Gas Pipelines	12
Theme 3 - Panel Discussion Natural Gas in India's multi- dimensional fuel strategy	15
Theme 4 - Panel Discussion CGD: A Growth engine for India's Natural Gas market	19



Introduction

The PIL Annual Gas Forum 2025, conference's overarching theme, "Fueling India's Future: The Power of Gas in Energy Transition", focuses on the critical role that natural gas will play in India's journey towards a sustainable energy future.

As the country faces the dual challenge of meeting surging energy demand, and reducing carbon emissions, natural gas emerges as a cleaner alternative to coal and oil, facilitating the transition to renewable energy sources. The conference will focus on exploring the strategic importance of expanding gas infrastructure, including pipelines and City Gas Distribution networks, to enhance accessibility and reliability. It will also highlight the need for investments, policy reforms, and innovative financing models to support the growth of the gas sector, ensuring that natural gas contributes significantly to India's energy mix while aligning with its climate commitments and energy security goals. The Forum will focus on four themes.

THEME 1

Macro Trends and Outlook for Indian Gas sector to 2040

This theme will focus on how the global energy markets will influence India's natural gas future. This theme will explore the ongoing structural changes in global energy markets, driven by geopolitical, economic, and technological forces. The increasing demand for clean energy technologies reflects the global shift towards sustainability, yet fossil fuels like natural gas remain essential part of the energy mix. As oil demand plateaus in the next few years, natural gas is expected to grow and stay central to the energy mix especially in emerging markets, with renewables, nuclear, and Al-driven power demand also influencing the global energy landscape. For India, natural gas is seen as a critical element in the country's energy strategy, aiming to balance its growing energy needs with sustainability goals. This session will provide an in-depth look at various global energy scenarios and their implications for India's gas sector, highlighting the role of natural gas in achieving the country's economic growth and sustainability ambitions.



PIL ANNUAL GAS FORUM - 2025

THEME 2

Accelerating Investments in India's Natural Gas Pipelines

The second theme will cover the pivotal role of natural gas pipeline infrastructure in supporting India's energy transition. It will examine the need for enhanced investments in pipeline networks to expand India's natural gas grid and meet growing energy demand. The government's commitment to expanding the gas transmission infrastructure is central to this. The theme explores the progress of pipeline development, the expected expansion in network, and the challenges related to regional imbalances and infrastructure modernization. Key investments are needed in northeastern and rural regions to ensure reliable access to natural gas. The discussion also highlights the importance of streamlining approval processes and improving interstate coordination to accelerate pipeline projects.



THEME 3

Natural Gas in India's multi-dimensional fuel strategy

This theme will highlight the strategic importance of natural gas within India's integrated energy framework. It explores the role of natural gas in meeting India's growing energy demand while reducing reliance on coal and other polluting fuels. Natural gas, though still a small part of India's energy mix, is seen as essential for transitioning to cleaner energy. With the backdrop of rising global gas prices and supply uncertainties, especially following the Ukraine crisis, the theme discusses India's efforts to secure long-term LNG contracts and enhance domestic production. Achieving the 2030 target for gas consumption growth hinges on addressing infrastructure gaps, policy support, and market conditions.



THEME 4

CGD: A Growth Engine for India's Natural Gas Market

The concluding theme will focus on the City Gas Distribution (CGD) sector as a key driver of natural gas adoption in India. As India looks to boost its use of cleaner fuels and achieve its climate targets, CGD networks are essential to expanding access to natural gas in urban and rural areas alike. The theme will cover the plans for expanding the CGD infrastructure, including the expansion of CNG stations and PNG connections, to make natural gas more accessible to households, industries, and transport sectors. The theme will also address the challenges of infrastructure gaps in Tier-II and Tier-III cities, as well as rural areas, and the need for continued investment in pipelines, terminals, and storage.







Global energy market outlook

The global energy markets are currently experiencing significant structural changes driven by a combination of geopolitical, economic, technological factors. The demand for clean energy technologies is rapidly increasing, with the market for solar PV, wind turbines, electric cars, batteries, electrolyzers, and heat pumps expected to triple by 2035, reflecting a shift towards decarbonization and sustainability.

However, fossil fuels like oil, gas, and coal continue to play a crucial role, with oil demand expected to peak in the late 2020s and natural gas remaining a key energy source, especially in non-OECD countries. Meanwhile, coal demand is projected to decline significantly by 2040 as renewables increasingly dominate the energy mix. The integration of AI and data centers is also contributing to increase in power demand, necessitating a diverse energy supply that includes renewables, nuclear, and natural gas.

S&P Global's energy scenarios offer valuable insights to help understand this complex interplay between traditional and renewable energy sources by offering a structured framework to analyze potential future outcomes under different policy, technology, and market conditions. S&P Global annually releases three energy scenarios - Inflections, Green Rules, Discord and two net-zero cases Accelerated Carbon Capture and Storage (ACCS), and MultiTech mitigation (MTM) that are back casts to achieve net zero emissions by 2050. These scenarios illustrate diverse pathways to a sustainable energy future, each shaped by varying levels of policy support, technology adoption, and energy demand. Inflections (Base case) reflects a slow, steady progression of current trends, where fossil fuels like oil and gas remain central, but with growing electrification in transport and industry. In Green Rules, robust policies drive rapid decarbonization, leading to a peak in global oil demand within this decade and accelerating renewables and hydrogen technologies, with fossil fuels declining sharply. Discord envisions a fragmented world where geopolitical tensions slow the energy transition; energy security concerns keep fossil fuels, particularly natural gas, relevant while renewables grow more slowly. ACCS and MTM represent Net Zero pathways. In ACCS, carbon capture technology is widely adopted to curb emissions from ongoing fossil fuel use, with hydrogen importance blue gaining electrification alongside and energy efficiency improvements. While MTM charts a moderate, balanced transition, where renewables, fossil fuels, and nuclear coexist under steady policy support, prioritizing energy security and economic stability.



KEY DATA POINTS

6%_{to}15% 4

Tripling of clean energy technologies by 2035

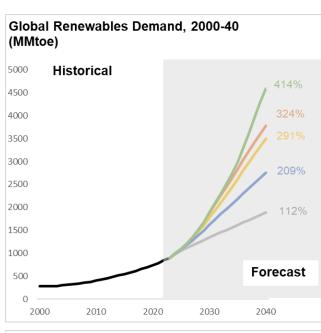
Share of fossil fuel in global energy demand as of 2023 Estimated share of Natural gas in India's energy mix by 2030

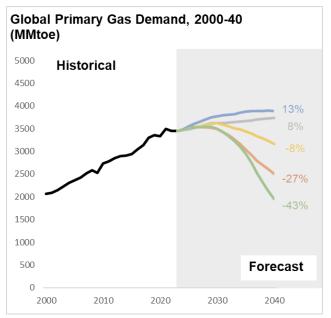
Estimated increase in energy demand in India between 2030 - 2040

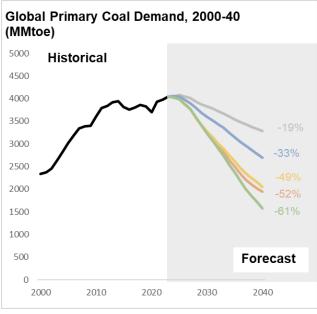
As of 2023, fossil fuels constitute 81.5% of the global primary energy demand. By 2040, the share of fossil fuels in global primary energy demand is expected to fall to 65% in the Inflections scenario (Base case) and up to 50% in the Green Rules scenario. Natural gas is expected to maintain a significant role in the primary energy mix by 2040 across Inflections (20%), Green Rules (18%), Discord (23%), and ACCS scenarios (20%). It will continue

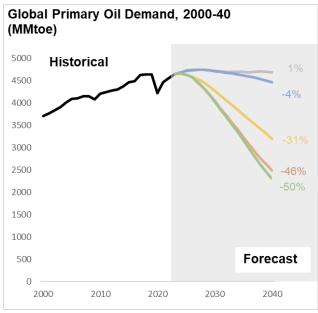
to play a central role in the power sector, serving as a source of baseload power in developed countries in the short to medium term and in developing countries over the medium to longer term. By 2040, while gas decline in demand may advanced economies, it could continue to grow in emerging markets, maintaining its role as a flexible and reliable energy source that supports intermittent renewables.











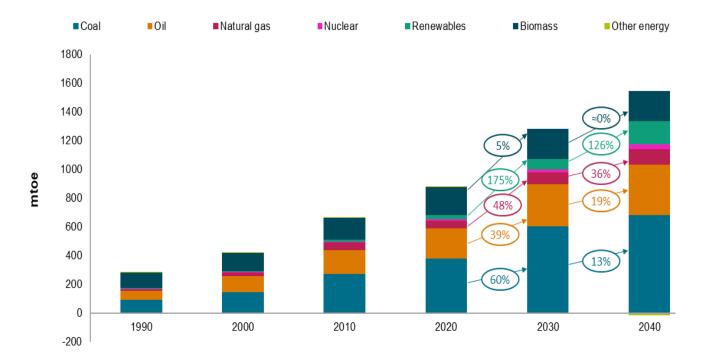
8

PIL ANNUAL GAS FORUM - 2025

Outlook for Natural gas in India

India, as one of the fastest-growing economies in the world, is undergoing a transformation in its rapid landscape. Its energy demand is expected to surge due to population growth, urbanization, and industrialization. As the country seeks to meet its energy needs, it faces the dual challenge of ensuring energy security while reducing its carbon footprint to meet global climate targets. To tackle this dual challenge, India is actively working to diversify its energy sources, prioritizing both availability and affordability. The country's energy demand growth will necessitate growth in both fossil fuels and clean energy sources. Natural gas is seen as a crucial component of India's energy mix, with target to increase its share in the primary energy mix from 6% to 15% by 2030. Natural gas is expected to play an essential role in providing cleaner energy, with its full potential to improve air quality, and reduce reliance on coal yet to be leveraged.

India's primary energy demand is expected to increase by 45% during 2023-40



Note: Data based on S&P Global Inflections Scenario

Source: S&P Global Energy Scenarios

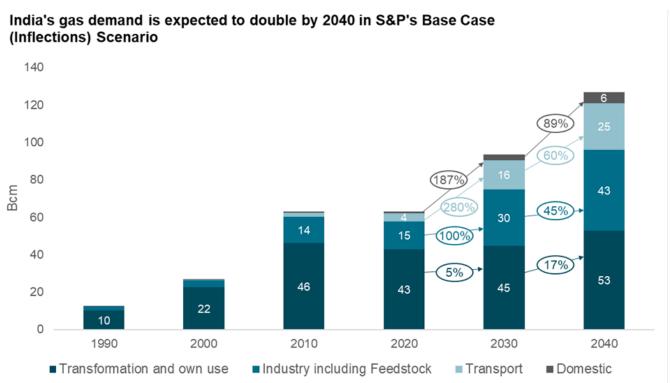
© 2024 S&P Global.

Today, natural gas remains a relatively small part (6%) of India's overall energy mix. The key sectors driving natural gas demand in India include industry, residential and commercial, and transportation. Gas is

used for peaking purposes in power generation, providing grid stability and flexibility, especially during peak demand periods. It is also seen as a plausible solution for reducing emissions in heavy

9 PIL ANNUAL GAS FORUM - 2025

transport vehicles and an ecosystem is beginning to emerge to support this development. As India continues to expand its gas infrastructure, such as pipelines and LNG import terminals, the role of natural gas is expected to grow, supporting the country's ambition to achieve net-zero emissions by 2070, while balancing its needs for affordable and reliable energy.



Note: Data based on S&P Global Inflections Scenario

Source: S&P Global Energy Scenarios

© 2024 S&P Global.

KEY QUESTIONS TO BE ADDRESSED DURING THIS SESSION

- How will natural gas fit into India's broader strategy to reduce its carbon footprint and achieve net-zero emissions by 2070?
- What steps are necessary to achieve 15% share for natural gas by 2030?
- How will India manage the cost of natural gas, especially LNG, to ensure it remains competitive with other energy sources like coal, renewables, and liquid fuels?
- How will India balance its heavy reliance on imported LNG with its energy security goals?
- What concrete developments provide a basis for optimism on the possibility for LNG to sustainably enter the heavy-duty vehicle segment?

10

FIRESIDE CHAT

What's missing in India's Gas story?

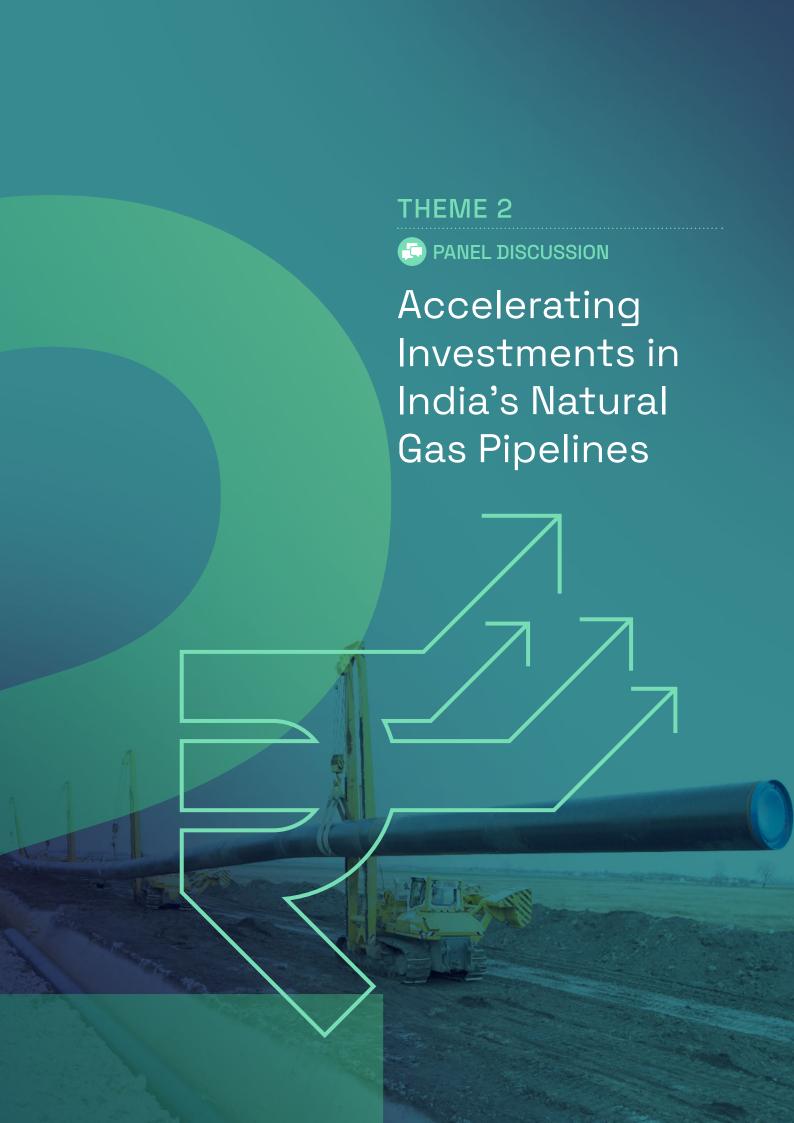
There is a need for renewed commitment for Gas at the highest levels of policy making in India. Natural gas needs to be viewed not only as a transitional fuel but also as a long-term asset that can complement India's clean energy goals. India needs a clear and consistent policy framework to reaffirm gas as a crucial component of its energy strategy. Gas's ability to act as a cleaner substitute for coal in power generation and industrial applications, its role in balancing intermittent renewables, and its potential to serve as a fuel in the transport sector needs to be highlighted.

A sector-specific roadmap is needed to drive the growth of gas in India. Customized strategies for each sector will help address infrastructure and supply chain challenges. This approach will involve targeted incentives, customized policy measures, and a timeline for implementation that aligns with national energy and climate objectives.

By re-establishing confidence and belief in gas, creating a truly integrated view of its potential, and outlining sector-specific growth strategies, India can bridge the gaps in its gas story. The goal is not just to increase the share of gas in the energy mix but to leverage it effectively as part of a clean, secure, and affordable energy future.

KEY QUESTIONS FOR DISCUSSION:

- What policy reforms are necessary to restore investor and stakeholder confidence in India's gas sector?
- How can gas's role in India's emission reduction goals be better understood and integrated across sectors?
- What specific measures are needed to address infrastructure and supply chain gaps in different sectors for gas adoption?





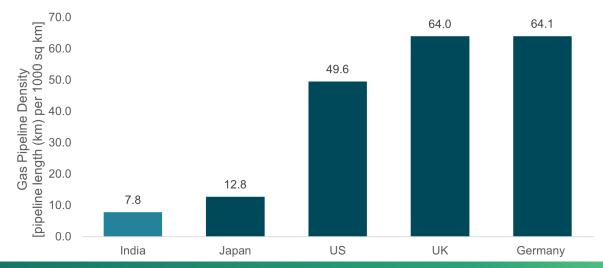
India is on a transformative journey to enhance its energy mix, with natural gas playing a crucial role in this transition. The government's target to increase the share of natural gas underscores the need for substantial investments in natural gas infrastructure, particularly in expanding the pipeline network. The panel discussion on "Enhancing Investments in India's Natural Gas Pipelines" will bring together industry leaders, policymakers, and investors to explore actionable strategies for overcoming challenges and capitalizing on opportunities in India's natural gas pipeline sector.

Current pipeline density for natural gas transmission lines in India is very low as compared to advanced economies where natural gas accounts for a much higher share in the energy mix. A lower gas pipeline density results in a mismatch between the gas supply and customer's demand. For instance, Kochi LNG terminal has faced significant underutilization issues due to incomplete pipeline infrastructure. Many gas pipelines in India operate below capacity due to limited or erratic domestic production and reliance on imported LNG. The underutilization of existing gas

pipelines in India is a significant factor inhibiting investments into new gas pipeline infrastructure.

The government recognizes the urgent need to enhance the natural gas transmission infrastructure across the country and has been actively driving the development of a comprehensive natural gas pipeline network, which is evolving into a Natural Gas Grid. This infrastructure is essential for the efficient and safe transportation of natural gas, facilitating the growth of a robust gas market. It will connect various gas sources to different

Comparison of India's gas pipeline density with Advanced Economies





500 MMcm/d

Government's target to increase gas consumption by 2030

25,000 km²

Current operational natural gas transmission network in India

13

markets, effectively addressing the existing and future natural gas demand from key sectors such as power, fertilizers, city gas distribution (CGD), and other industries. A critical challenge will be to navigate the gap between demand and supply centers in an efficient, safe, and environmentally friendly manner. To support these efforts, the government has set a target of achieving 500 MMcm/d in gas consumption by 2030¹.

Once such step taken last year by the Petroleum and Natural Gas Regulatory Board (PNGRB) was amendment of the determination of Natural Gas Pipeline Tariff regulations to incorporate provisions for Unified Tariff for natural gas pipelines with a mission of "One Nation. One Grid. and One Tariff."

India currently has about 25,000 km² of operational natural gas transmission network. Nearly 10,800 km of gas pipelines are in under construction phase, targeted to be completed by 2026, facilitating the connection of the eastern and southern regions to the national gas grid, where most of the new awards in the latest city gas distribution (CGD) round have been made.

To promote the expansion of gas pipeline network, the central government took several steps including launch of the Urja Ganga Gas Pipeline Project in 2016, aimed to supply piped natural gas (PNG) to households and compressed natural gas

(CNG) to the transportation sector in the eastern and northeastern regions of India. The project is estimated to span 2,540 km stretching from Uttar Pradesh to Odisha. Further, India expects investment of about 410 billion rupees (\$4.95 billion) from companies to build natural gas pipeline infrastructure in its northeastern states and northern federal territories of Kashmir and Ladakh³.

However, certain challenges remain today with pipeline network not being extensive enough to efficiently transport gas across the country or provide connections to new import terminals resulting in uneven regional imbalance. The Indian gas sector require modernization of import terminals and storage facilities to accommodate the increasing demand. The expansion of CGD network to increase gas pipeline density, especially in households will be necessary to provide clean fuel access to over 500 million people across the country. There also remains opportunities to improve interstate coordination and help streamline transportation and distribution through accelerated approval procedures.

KEY QUESTIONS TO BE ADDRESSED DURING THIS SESSION

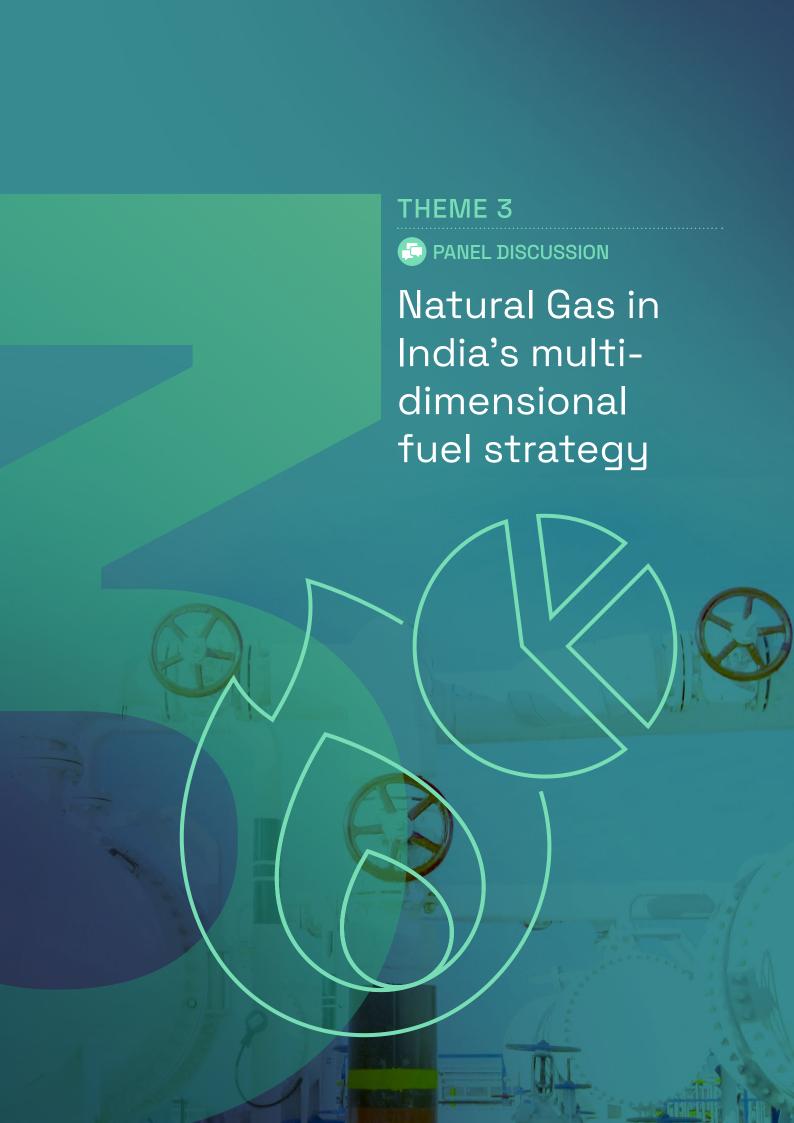
- How can public-private partnerships be structured to enhance investment in pipeline projects? What innovative financing models can be employed to reduce the financial burden on investors?
- How can stakeholders from different sectors collaborate effectively to accelerate investments in natural gas infrastructure?
- How can the industry ensure that the development of natural gas pipelines minimizes environmental impacts?
- What lessons can be learned from other countries that have successfully developed their natural gas pipeline systems?

14

¹Govt targets three-fold rise in natural gas consumption to 500 MMSCMD by 2030, ET Energy World, March 2024

² PNGRB report on Natural Gas Pipeline Network in India, September 2024

³ India sees \$4.95 bln investment for natural gas network in Kashmir, northeast, Reuters, March 2024



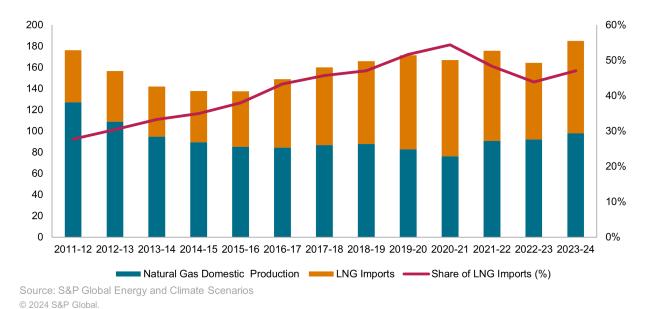


Natural gas, a cleaner-burning fossil fuel, is gaining prominence in India's energy landscape. It currently accounts for 6% of India's energy mix, with the country relying on both domestic production and imported liquefied natural gas (LNG) to meet its demand. Despite efforts to increase the share of natural gas, coal continues to be the primary fuel source for power generation.

The ongoing Ukraine crisis has had a significant impact on global energy markets, including natural gas. Disruptions in supply chains and sanctions on Russia, a major gas supplier, have caused a surge in global gas prices, which has directly affected India, as it imports 47% of its natural gas. This situation underscores the urgent need for India to diversify its energy sources and enhance domestic production capabilities.

India's domestic gas production is expected to reach its peak by 2028 to 124 MMcm/d, with increased output from both eastern and western offshore assets. However. production is projected to decline to 115 MMcm/d by 2030, necessitating LNG imports of 385 MMcm/d to meet the country's 2030 consumption target of 500 MMcm/d. To manage this anticipated rise in LNG demand, India must prioritize securing long-term contracts, which will help mitigate reliance on the volatile spot Globally growing trend market. long-term contracts is expected to reduce the impact of spot market price fluctuations.

India's total gas supply in MMscm/d



KEY DATA POINTS

124 MMcm/d

Current consumption level of gas in India

Ratio of natural gas imported in India

India's domestic gas production by 2028

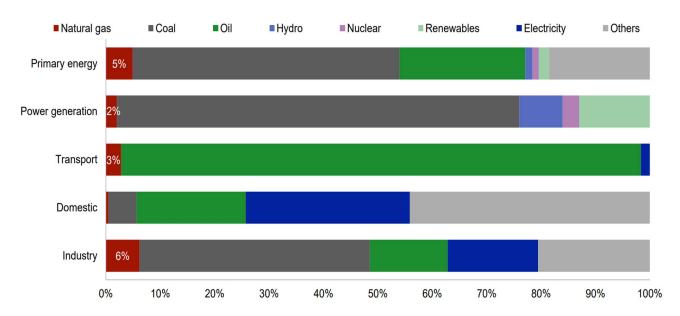
183 MMcm/d

Meeting the 500 MMcm/d gas consumption target by 2030 will require a increase from the current level of 183 consumption MMcm/d. Achieving this target will depend on several critical factors, including infrastructure development. market volatility. availability long-term of contracts, affordability, competitiveness, and supportive policy initiatives. While substantial efforts and investments are underway to increase gas consumption, the feasibility of India's 2030 target will ultimately hinge on how well these factors are balanced-particularly in relation to market conditions and the rate renewable energy adoption.

Fertilizer, City Gas Distribution (CGD), and

industrial sectors have been key drivers of India's recovery in natural gas consumption following the post-COVID-19 decline, supported by a surge in industrial activity and increased fuel switching to natural gas in refineries. Additionally, the consumption of LNG in the power sector saw significant growth, largely due to extended heatwaves and a rise in India's electricity peak demand. While gas demand in the power sector has increased, it has not yet returned to pre-pandemic levels. Natural gas can also play an important role in complementing the growth of renewable energy sources in India. Considering the intermittent nature of solar and wind power generation, natural gas can act as a source of flexible baseload to maintain grid stability.

Share of natural gas in India's primary energy, power generation and final energy mix in 2023



Source: S&P Global Commodity Insights © 2024 S&P Global.

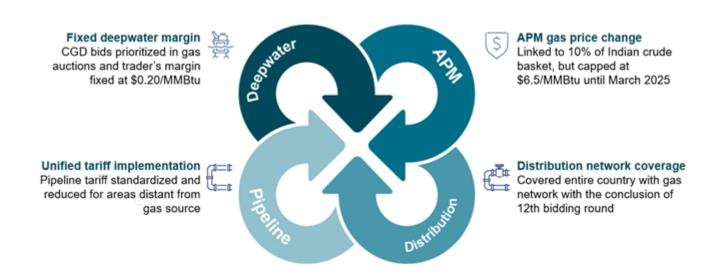
The government has taken several strategic initiatives aimed at making gas more affordable and accessible. Key actions include putting a cap on trading margins on the resale of gas produced from deepwater blocks; revision of the pricing guidelines for Administered Price Mechanism (APM) gas supply to stabilize domestic gas prices and

encourage increased production while protecting consumers from international market fluctuations; implementation of Unified Tariff system to standardize and lower pipeline tariffs for remote regions; expanding CGD network to cover almost 98% of the country's population with conclusion of 12th CGD bidding round⁴.

Several challenges must be addressed to ensure India meets its 2030 consumption target. Infrastructure limitations, particularly in remote and rural hinder the distribution accessibility of natural gas. The existing pipeline network is inadequate to meet the rising demand and expanding it will require substantial investment and Additionally, competition from other energy sources, such as coal and renewable energy, which are often more affordable

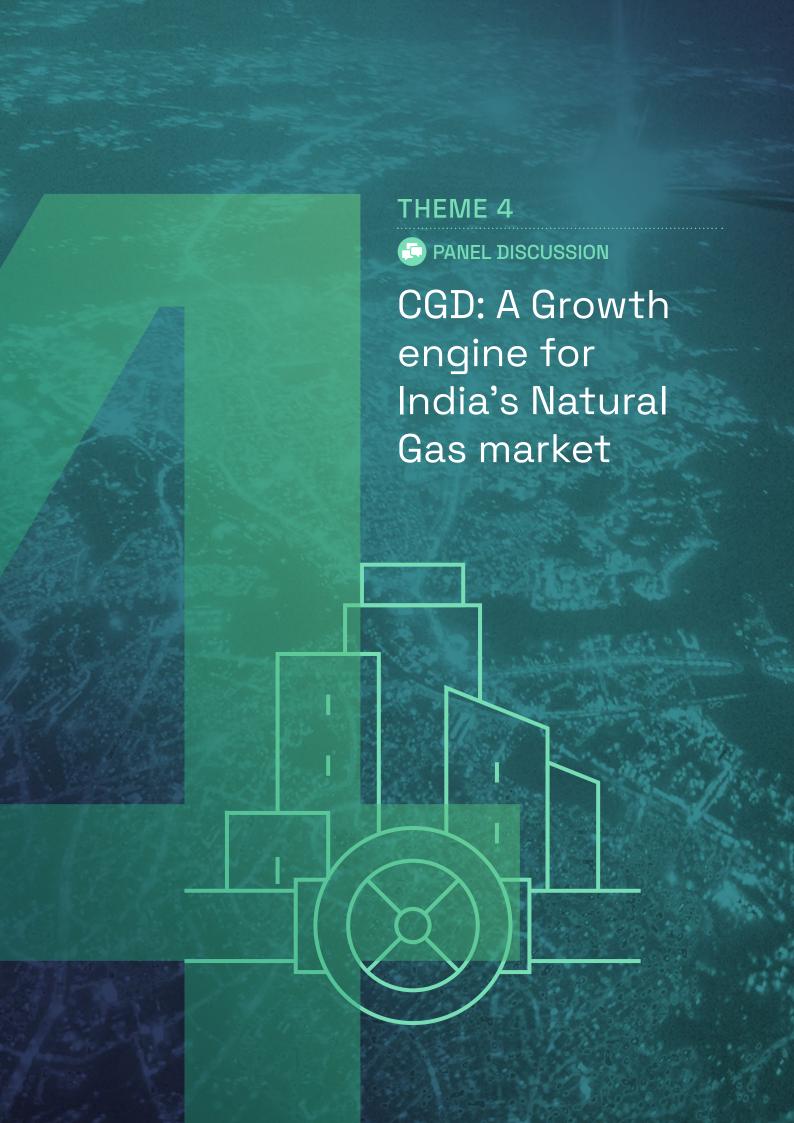
and readily available, presents a significant challenge. Environmental concerns and the global shift towards cleaner energy sources, with an emphasis on reducing carbon emissions, may also impact the growth of natural gas consumption. Overcoming these challenges will require a coordinated effort from the government, private sector, and other stakeholders to foster a supportive environment for the growth of the gas sector.

⁴PIB Press Release, March 2024



KEY QUESTIONS TO BE ADDRESSED DURING THIS SESSION

- How does natural gas fit into India's broader energy transition strategy, especially in comparison to other fossil fuels and renewable energy sources?
- Given India's reliance on imported natural gas, what measures can be taken to ensure long-term energy security, particularly with fluctuating global gas prices and geopolitical risks?
- How can natural gas be integrated with renewable energy sources like solar and wind to create a more reliable and flexible energy system?
- What are the key factors that will influence the future growth trajectory of natural gas in India's integrated energy strategy?





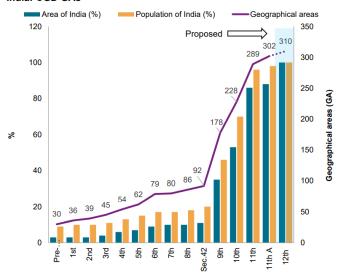
India, one of the world's largest and fastest-growing major economies, and home to about 16-17% of the global population, is set to experience sustained energy demand growth over the coming decades. In line with its Paris Agreement commitments and the goal of achieving net zero emissions by 2070, cleaner fuels will play a critical role in India's evolving energy landscape. Natural gas could serve as the transition fuel to complement renewables in India and displace liquid fuels in the transport sector, helping the country achieve its climate targets.

To ensure reliable access to natural gas, infrastructure development is essential. Investments in terminals, gas pipelines, and storage facilities are crucial to expanding the current network and enhancing accessibility across India's diverse regions. The City Gas Distribution (CGD) network will be instrumental in driving the adoption of natural gas. The CGD sector is expected to account for over 60% of the consumption growth needed to raise natural gas's share in India's primary energy mix to 15% by 2030.

The City Gas Distribution (CGD) network is a key component of the National Gas Grid, facilitating the use of natural gas as a transportation fuel through Compressed Natural Gas (CNG) and as an industrial and domestic fuel via Piped Natural Gas (PNG). As of March 2024, India has authorized over 33,753 kms of natural gas trunk pipelines, with around 24,623

currently operational. In 2023, the national regulator, PNGRB, launched the 12th/12A bidding round for CGD networks, aiming to achieve 100% coverage of the country's geographical area. Currently, the CGD sector spans 300 Geographical Areas (GA), reaching 98% of the population and 88% of regions. However, significant infrastructure gaps remain, particularly in







🤔 KEY DATA POINTS

33,753 kms 4,629 17,500

Natural gas trunk pipelines in India

Number of CNG stations in India as of 2022

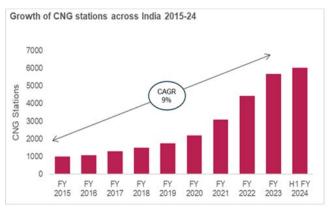
Estimated number of CNG stations in India as of 2022

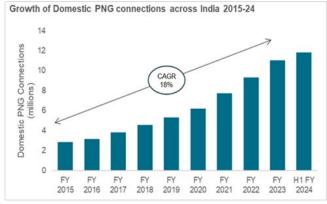
providing reliable natural gas access to Tier-II and Tier-III cities, as well as India's vast rural areas.

There has been a notable expansion in CNG and PNG infrastructure in the country. The number of CNG stations has surged from 938 in 2014 to 4,629 in 2022, with plans to reach 17,500 stations by 2030. Similarly, PNG connections have reached over 10 million customers, with a target of 120 million connections by 2030. This expansion is part of India's broader strategy to transition to a gas-based economy, enhancing energy security and sustainability.

As the CGD sector continues to emerge as a significant growth engine for India's natural gas market, it faces several challenges that need to be addressed to fully unlock its

potential. Key hurdles include the need for better infrastructure, the high upfront costs associated with network expansion, regulatory bottlenecks, and the challenge of consumer awareness and adoption. Additionally, ensuring a steady supply of natural gas at competitive prices remains crucial to sustaining growth. To overcome these challenges, a multi-pronged approach enhancing required: collaboration stakeholders. between streamlining regulatory incentivizing processes, investments in infrastructure, launching nationwide campaigns to raise awareness about the environmental and economic benefits of natural gas. By addressing these issues, the CGD sector can continue to drive the transition to a cleaner, more sustainable energy future for India.





KEY QUESTIONS TO BE ADDRESSED DURING THIS SESSION

- How will CGD distributors navigate the challenge/impact of government cutting APM gas allocation?
- What are the most significant infrastructure bottlenecks hindering the expansion of the CGD network in India?
- What additional regulatory or policy reforms are essential to overcome existing challenges and further accelerate CGD expansion?
- Are there opportunities for integrating green hydrogen into the existing CGD ecosystem, and what challenges need to be addressed?

CONCLUSION

The themes presented in this booklet offer a comprehensive view into the critical role of Natural Gas in shaping India's energy transition. By delving into the power of gas, its integration with renewable sources, infrastructure development, and the evolution of energy systems, we embark on a unified journey to fuel India's future. This conference promises to be a dynamic platform for exchanging transformative ideas, fostering innovation, and driving India towards a sustainable, low-emission energy landscape.





About PIL

Pipeline Infrastructure Limited (PIL) owns and operates a 48 - inch diameter pipeline with an overall network length of 1480 km, including spur and dedicated pipelines. India's first bi-directional pipeline traverses 5 states across the peninsular region from Kakinada in the East to Bharuch in the West. PIL acts as the vital link in supplying clean and green energy across the country in a safe, sustainable, and reliable manner. With a design capacity of 85mmscmd, it commenced operations in 2009 to transport record gas off the East Coast. The above-ground facility of the PIL pipeline includes 10 compressor stations with a total installed power of 900+ MW.



About ET Energyworld

Energy constitutes 6-7% of India's GDP, making it a significant sector in the country's economy. The Indian energy market is among the world's top five and is rapidly growing. ETEnergyworld keeps industry leaders informed with the latest developments, curated news, and tailored analyses.

With a commitment to staying at the forefront of the ever-evolving energy sector, ETEnergyworld not only reports extensively on the industry but also organizes major events both domestically and internationally, with a primary focus on the energy domain. Additionally, we provide customized digital and on-ground solutions, empowering brands to select options that align precisely with their requirements.

S&P GlobalCommodity Insights

S&P Global Commodity Insights

S&P Global Commodity Insights is a division of S&P Global. For more than 100 years, we've been a trusted connector that brings together thought leaders, market participants, governments, and regulators to co-create solutions that lead to progress. Vital to navigating Energy Transition, S&P Global Commodity Insights' coverage includes oil and gas, power, chemicals, metals, agriculture, and shipping.

Disclaimer

(where "Client" is the legal entity for which this Proposal was prepared and addressed)

The contents of this Proposal are private and confidential. S&P Global Commodity Insights, a division of S&P Global Inc. ("SPGCI") is the owner of the copyright of this document and its contents, including strategies, structures and processes disclosed in it. No part of this document may be published, distributed, extracted, utilised or re-utilised, or reproduced by Client in any form, except with the written approval of SPGCI.

This document is not legally binding and does not constitute an offer by SPGCI to engage or enter into a contract with Client or any other person, firm or entity or to provide any consulting services. The submission of this Proposal by SPGCI to Client does not constitute an offer capable of acceptance. No contract or other legally enforceable rights shall exist with respect to the subject of this Proposal unless and until a written consulting services agreement is executed by SPGCI and Client.

SPGCI is not agreeing to any Client legal or contractual terms, conditions, or obligations in connection with the services that are the subject of this Proposal. SPGCI expressly reserves the right not to provide the services that are the subject of this Proposal if the parties are unable to come to agreement on all relevant contractual and legal terms and conditions. It is SPGCI's policy to license its deliverables and services pursuant to SPGCI's own consulting services agreement which has been specifically designed for this purpose.

SPGCI makes no warranty, expressed or implied, as to the accuracy, completeness, or timeliness of any information in this Proposal, and shall not in any way be liable to Client for any inaccuracies or omissions. SPGCI shall have no liability whatsoever to Client, whether in contract, in tort (including negligence), under warranty, under statute or otherwise, in respect of any loss or damage suffered by Client because of or in connection with any information provided, or any course of action determined, by it or any third party, whether or not based on any information provided in this Proposal.

SPGCI is a business division of S&P Global Inc. ("S&P Global"). S&P Global also has the following divisions: S&P Dow Jones Indices, S&P Global Market Intelligence, S&P Global Mobility, and S&P Global Ratings, each of which provides different products and services. S&P Global keeps the activities of its business divisions separate from each other in order to preserve the independence and objectivity of their activities. Client's receipt of SPGCI reports, data and information pursuant to a consulting services agreement may also affect Client's ability to receive services and products from other S&P Global divisions in the future.

The names "S&P Global®" "S&P Global Commodity Insights" "S&P Global Platts™" and "Platts®" and the logo are trademarks of S&P Global Inc.