

**India Unconventional Gas Market By Type (Shale Gas, Tight Gas, Coalbed Methane, Others), By Application (Industrial, Residential, Commercial, Power Generation, Transportation, Others), By Region, Competition, Forecast & Opportunities, 2020-2030F**

Market Report | 2024-12-13 | 84 pages | TechSci Research

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**Report description:**

India Unconventional Gas Market was anticipated to be USD 1.51 billion by 2024 and is expected to reach USD 1.93 billion by 2030 with a CAGR of 4.21% during the forecast period. through 2030.

The Indian unconventional gas market, though in its nascent stages, presents a promising landscape driven by the abundance of untapped resources. Unlike conventional gas reservoirs, unconventional gas sources pose unique challenges due to their geological complexities. However, India boasts substantial reserves of these resources, particularly shale gas, estimated at approximately 96 trillion cubic feet by the U.S. Energy Information Administration.

Recognizing the strategic importance of this sector, the Indian government has implemented proactive measures to foster its development. Key policies such as the Hydrocarbon Exploration Licensing Policy (HELP) and the Coal Bed Methane (CBM) policy have been introduced to incentivize exploration and production activities. Moreover, the Foreign Direct Investment (FDI) policy, allowing up to 100% FDI in natural gas exploration and production, has been instrumental in attracting foreign investments. Despite the immense potential, the unconventional gas market in India faces several challenges. Technical complexities in extraction, environmental concerns, inadequate infrastructure, and regulatory hurdles pose significant obstacles. However, concerted efforts are underway to address these challenges and unlock the full potential of the sector. while the Indian unconventional gas market is still evolving, it holds promise as a vital component of the country's energy portfolio. With continued policy support, technological advancements, and investment inflows, India's unconventional gas sector is poised to play a pivotal role in meeting the nation's energy needs and driving sustainable development.

**Key Market Drivers**

Growing Demand of Unconventional Gas in Power Generation

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The escalating energy demand in India, spurred by rapid economic growth and urbanization, is a primary driver of the country's burgeoning unconventional gas market. This surge in energy consumption is fueled by industrialization, urban development, and rising living standards, necessitating a strategic shift towards tapping unconventional gas resources like shale gas, coal bed methane (CBM), and tight gas.

Despite the geological challenges associated with their extraction, unconventional gas resources offer immense potential to bolster India's energy supply. Advanced drilling techniques, including hydraulic fracturing, are essential for unlocking these reserves, demonstrating the critical role of technological advancements in harnessing their untapped potential.

India's power generation sector is poised for significant growth within the unconventional gas market. The adoption of natural gas-fired power plants is gaining momentum due to their lower emissions relative to coal-powered plants. Additionally, gas power plants offer greater flexibility, making them well-suited for addressing peak load demand and ensuring a reliable power supply. The recent bidding process initiated by India in September 2023 to procure an additional 4,000 megawatts (MW) of electricity from gas-fired power plants underscores the country's growing reliance on gas for power generation. This initiative not only drives demand for unconventional gas resources but also highlights the increasing significance of gas in India's energy landscape. The growing demand for unconventional gas in power generation emerges as a key driver of India's unconventional gas market. Supported by favorable government policies and robust investments, the market is poised for significant expansion in the foreseeable future. The development and utilization of unconventional gas resources not only enhance India's energy security but also yield substantial economic and environmental benefits, positioning gas as a vital component of India's energy transition strategy.

#### Growing Demand of Unconventional Gas in Automotive Industry

The Indian government's proactive stance towards promoting cleaner energy sources has emerged as a cornerstone driving the remarkable growth of India's unconventional gas market. Acknowledging the imperative to address the surging energy demand while mitigating environmental concerns, the government has embarked on a multifaceted approach to explore unconventional gas sources as viable alternatives. These strategic policy directions not only incentivize the utilization of compressed natural gas (CNG) but also advocate for the adoption of other unconventional gases within the automotive sector, thereby catalyzing market expansion. All 1.4 billion people in India are exposed to hazardous levels of PM2.5, the most detrimental air pollutant, originating from a variety of sources. The health consequences of this pollution also impose a significant economic burden. In 2019, premature deaths and illness caused by air pollution led to economic losses of approximately USD28.8 billion (ranging from USD21.4 to USD37.4 billion) and USD8 billion (ranging from USD5.9 to USD10.3 billion), respectively. The total economic loss of USD36.8 billion (ranging from USD27.4 to USD47.7 billion) represents 1.36% of India's GDP.

India's robust economic trajectory, coupled with a notable uptick in consumer purchasing power, has precipitated a substantial increase in vehicle sales nationwide. As the Indian light-vehicle market continues its upward trajectory, characterized by SUVs commanding over 40% of total sales, the concurrent surge in demand for unconventional gas within the automotive industry becomes increasingly apparent.

In essence, the burgeoning demand for unconventional gas in India's automotive sector emerges as a pivotal driver propelling the country's unconventional gas market forward. With escalating vehicle sales, bolstered by supportive government policies and the escalating adoption of natural gas-powered vehicles, the market stands poised for significant expansion in the foreseeable future. This growth trajectory not only augurs well for fostering a cleaner and more sustainable environment but also underscores India's burgeoning prominence as a frontrunner in the global unconventional gas arena.

#### Key Market Challenges

##### Surge in Regulatory and Policy Challenges

Regulations and policy frameworks present formidable challenges to the development of India's unconventional gas market. While designed to ensure safe and responsible resource extraction, stringent regulations can inadvertently impede progress by creating barriers to entry and imposing significant compliance burdens on industry players. In India, the regulatory landscape for unconventional gas is intricate and continuously evolving, requiring a delicate balance between fostering development, and safeguarding environmental and public health interests.

Policy challenges further compound the complexity of India's unconventional gas market. Despite ambitious goals to increase the share of natural gas in the energy mix, achieving this target by 2030 necessitates a comprehensive policy framework. Such a

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framework must address fiscal incentives, market reforms, and infrastructure development while navigating political and economic considerations and ensuring energy security and affordability for consumers.

Moreover, challenges related to insufficient supplies, inadequate infrastructure, and pricing issues persist, hindering the sector's growth. Addressing these challenges demands concerted efforts from the government, industry stakeholders, and regulatory bodies. By surmounting regulatory and policy hurdles and resolving infrastructural and pricing challenges, India can harness its vast unconventional gas reserves to bolster energy security, diminish import dependence, and foster a cleaner, sustainable energy future.

#### Key Market Trends

##### Surge in Technological Advancements

The production of unconventional gas in India has witnessed a notable upsurge in recent years, driven by advancements in extraction technologies tailored to the complexities of shale gas and coal-bed methane reservoirs. Hydraulic fracturing and horizontal drilling techniques have emerged as game-changers, vastly enhancing efficiency and feasibility in unconventional gas extraction.

This surge in technological innovation owes much to the intersection of high energy prices and the infusion of new technologies into the sector. As a result, India has experienced a rapid expansion in oil and gas production from unconventional sources, marking a pivotal shift in the nation's energy landscape.

Technological advancements are pivotal not only in boosting efficiency and cost-effectiveness but also in mitigating environmental impacts associated with unconventional gas production. Innovations in liquefaction technology, for instance, hold promise in bolstering the viability of liquefied natural gas (LNG) as a cleaner substitute for coal and oil, aligning with India's aspirations for sustainable energy transitions.

By strategically leveraging these advancements, India stands poised to accelerate its decarbonization efforts while fostering economic growth. The burgeoning progress in unconventional gas technologies presents a ripe opportunity for India to advance its developmental agenda, fortify energy security, and expand energy access across the nation.

Looking ahead, sustained advancements in unconventional gas technologies are anticipated to play a pivotal role in India's pursuit of sustainable energy solutions. As the nation continues its trajectory towards energy diversification and environmental stewardship, innovation in the unconventional gas sector will remain instrumental in driving India towards a cleaner and more resilient energy future.

#### Segmental Insights

##### Application Insights

Based on the application, the power generation sector is poised for rapid expansion in India, driven by a growing emphasis on reducing carbon emissions and embracing sustainable energy solutions. In this pursuit, unconventional gases, particularly shale gas, are emerging as key contributors to the country's energy transition. Shale gas offers the promise of cleaner power generation, emitting fewer greenhouse gases than traditional fossil fuels.

Beyond its environmental benefits, shale gas presents a compelling economic case for power generation. Technological advancements, such as horizontal drilling and hydraulic fracturing, have significantly enhanced the efficiency and cost-effectiveness of shale gas extraction. These innovations have made shale gas a financially viable option for meeting India's growing energy needs, offering a reliable and affordable source of power.

As India continues to prioritize clean energy initiatives, the power generation segment is expected to experience sustained growth, with shale gas playing a pivotal role in driving this expansion. By harnessing the potential of unconventional gases like shale gas, India can accelerate its transition to a greener and more sustainable energy landscape while ensuring energy security and affordability for its growing population..

#### Regional Insights

Based on region, the west India, particularly Gujarat, has emerged as a dominant force in India's Unconventional Gas Market, driven by its strategic advantages and natural resource abundance. With significant players like ONGC and GAIL operating in the region, West India holds a substantial market share, bolstering its position in the gas sector. Gujarat, in particular, boasts substantial reserves of shale gas and coal-bed methane, further solidifying its influence in the unconventional gas market. Beyond its natural resources, West India benefits from favorable socio-political conditions that facilitate smoother operations in

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the gas sector. Unlike regions like West Bengal, which often face protests and hurdles in land acquisition for gas projects, West India experiences relatively fewer challenges, enabling uninterrupted progress in gas extraction endeavors. The strategic significance of West India in the unconventional gas market is undeniable. Its favorable conditions and resource-rich landscape position the region as a key player in shaping India's energy landscape. As the demand for cleaner and sustainable energy sources grows, West India's role in meeting these needs is poised to expand further, driving continued growth and innovation in the unconventional gas market.

#### Key Market Players

- Oil & Natural Gas Corporation
- Chevron Petroleum India Private Limited
- Exxon Mobil India Private Limited
- Reliance Industries Limited
- Oil India Limited

#### Report Scope:

In this report, the India Unconventional Gas Market has been segmented into the following categories, in addition to the industry trends which have also been detailed below:

#### □□ India Unconventional Gas Market, By Type:

- o Shale Gas
- o Tight Gas
- o Coalbed Methane
- o Others

#### □□ India Unconventional Gas Market, By Application:

- o Industrial
- o Residential
- o Commercial
- o Power Generation
- o Transportation
- o Others

#### □□ India Unconventional Gas Market, By Region:

- o North India
- o East India
- o West India
- o South India

#### Competitive Landscape

Company Profiles: Detailed analysis of the major companies present in the India Unconventional Gas Market.

#### Available Customizations:

India Unconventional Gas Market report with the given market data, TechSci Research offers customizations according to a company's specific needs. The following customization options are available for the report:

#### Company Information

- Detailed analysis and profiling of additional market players (up to five).

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