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Oil, Gas and the Transition to Renewables 2025

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Global Practice Guides

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2025

Trends and Developments

Contributed by:
Dibyanshu Sinha, Prateek Bhandari and Sathyajith Nair
Khaitan & Co

Khaitan & Co was founded in 1911 and is one of India's oldest and best-recognised full-service law firms. Built on foundations of integrity, simplicity, dedication and professionalism, the firm has expanded its presence in India from Kolkata (1911) to New Delhi (1970), Bangalore (1994), Mumbai (2001), Chennai (2021), Singapore (2021), Pune (2024) and Ahmedabad (2024). The firm takes pride in its steady growth and celebrated its centenary in 2011. Khaitan & Co has advised several domestic and international clients on the entire value chain of the oil and gas sector, and the team regularly deals with diverse transactions, including upstream, midstream and downstream issues; pipelines; liquefied natural gas (LNG); distribution networks; trading; refineries and petrochemicals. The firm assists clients on the entire gamut of project development contracts; mergers and acquisitions; joint ventures; privatisations; finance; tax; and environmental, litigation and regulatory issues.

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As a fast-growing economy dependent on traditional energy resources, India is balancing its need for a consistent energy supply with environmental goals. India, in its Nationally Determined Contributions (NDC), stands committed to having 50% of its total electricity capacity from non-fossil fuel-based energy resources by 2030. Domestically, it targets adding 50 gigawatts of renewable energy each year up to 2027-28. Despite these efforts, hydrocarbon energy resources remain central to India's energy consumption. Most of the country's crude oil and natural gas needs are still met through imports, which the government is actively working to reduce.

To strengthen domestic energy security, the government has introduced several reforms in the oil and gas sector. A key policy change is the revision of domestic natural gas pricing. Since April 2023, gas prices from ONGC/OIL fields and earlier contracts have been linked to the previous month's average crude oil basket, with a clearly defined price range. This approach helps provide stable pricing for sectors such as fertilisers, power, and residential gas use, which previously faced unpredictable costs.

On the upstream side, the government has streamlined exploration and production. Under the Hydrocarbon Exploration and Licensing Policy (HELP) and the Discovered Small Field (DSF) policy, onshore oil and gas projects pay a royalty of 12.5% for oil and 10% for gas and coal bed methane. These rates are lower for deep-water and offshore projects, especially in the initial years. Additional concessions, such as royalty waivers for early production and partial revenue-sharing exceptions in select basins, offer further financial incentives for operators.

The revenue-sharing model under HELP and DSF simplifies the contract process, reduces compliance requirements, and aims to unlock smaller reserves.

Together, these actions support Indian energy security, assist in reducing import bills, and ensure the sector continues to contribute during the shift to cleaner energy.

The Rise of Alternative Fuels: Biogas and Ethanol

India's clean energy transition is driven by the Ministry of Petroleum and Natural Gas's (MoPNG's) decisive shift toward cleaner, greener fuels. Central to this transformation is Compressed Biogas (CBG), derived from organic waste, and a string of supportive policies that aim to redefine how fuel is produced, distributed, and consumed across India. At the heart of this transition is SATAT (Sustainable Alternative Towards Affordable Transportation), launched in 2018. Under SATAT, entrepreneurs are encouraged to establish CBG plants that convert agricultural residues, livestock dung, and municipal organic waste into pipeline-quality gas. The vision is ambitious: 5,000 CBG facilities by 2030, producing up to 15 million tonnes annually. By early 2025, more than 2,200 Letters of Intent had been issued and over 115 plants were operational, collectively delivering over 30,000 tonnes of CBG gas – supplied through 236 retail stations and 61 city gas networks.

A critical milestone came in November 2023, when MoPNG introduced a mandatory blending require-

ment for CBG in urban gas supplies. Initially voluntary until FY 2025, the obligation now phases in: 1% CBG in 2025–26, rising incrementally to 5% by FY 2028–29. This policy aligns CBG production with guaranteed market access, addressing a critical barrier to scale.

To support this integration, MoPNG also introduced pipeline infrastructure guidelines in mid-2024. The plan provides financial assistance of up to 50% of pipeline costs, subject to a ceiling – for distances up to 75 kilometres, ensuring CBG made at remote plants can be transported to urban gas networks.

The National Policy on Biofuels 2018 was amended in 2022 to advance the target of achieving 20% ethanol blending in petrol from 2030 to 2025–26.

To facilitate this expansion, the government has expanded the list of permitted feedstocks to include sugarcane juice, molasses, maize, surplus food grains, and damaged grains like broken rice and rotten potatoes. Administered pricing mechanisms ensure stable returns to ethanol producers, while interest subvention schemes and long-term offtake agreements with public sector oil marketing companies have incentivised new investments in production capacity.

Additional policy reforms, such as reducing GST on ethanol, simplifying ethanol movement across states, and easing procurement norms, have created an enabling environment for ethanol production.

Together, these measures reflect a well-coordinated approach to scaling up adoption of CBG and ethanol as part of India's energy security and decarbonisation goals.

Oilfields (Regulation and Development) Amendment Act, 2025

The Oilfields (Regulation and Development) Amendment Act, 2025 is a major step in reforming the legal framework that governs India's upstream oil and gas sector. It came into force recently in April 2025. It aims to attract greater private and foreign investment by improving regulatory clarity, ease of doing business, and investor confidence.

The Amendment Act introduces the concept of a "petroleum lease", a formal grant with clear terms of tenure, extension, and operational rights. This replaces older licence formats with a more stable and predictable structure. The government is also empowered to frame detailed rules for lease allocation, renewal, infrastructure sharing, operational safety, and other functional matters.

It broadens the legal meaning of "mineral oils", allowing coverage of a wider range of hydrocarbon resources and energy technologies, including non-conventional sources.

Further, the Amendment Act enhances investor protection with the introduction of a statutory stability clause, safeguarding lease terms against unilateral amendments detrimental to lessees. It also enables government to make rules allowing for dispute resolution outside India.

For regulatory enforcement, the Amendment Act replaces criminal penalties with civil adjudication, bringing in monetary penalties.

A forward-looking feature of the Amendment Act is its support for energy transition goals. It allows the development of renewable energy projects, such as wind and solar, within oilfield blocks. This opens the way for integrated energy sites that can support both fossil fuel production and clean energy development.

The Amendment Act reflects India's commitment to energy security, increased domestic production, and a smoother transition to cleaner fuels, while creating a more reliable and investor-friendly legal framework.

One Nation, One Grid, One Tariff

As part of its mission of "One Nation, One Grid, One Tariff", the PNGRB has introduced key amendments to the existing pipeline tariff regulations. These changes aim to remove regional disparities in gas transportation costs and make natural gas more accessible and affordable across the country.

Effective from 1 July 2024, the PNGRB has introduced a standardised, levelised tariff of INR80.97 per MMBTU for gas transportation across the interconnected

national pipeline network. This national grid includes infrastructure owned and operated by major players such as GAIL (India) Limited, Indian Oil Corporation Limited, Oil and Natural Gas Corporation Limited, Reliance Gas Pipelines Limited, and multiple entities under the Gujarat State Petroleum Corporation umbrella, among others. Under the unified model, the country is divided into three tariff zones: the first covering up to 300 kilometres from the gas injection point, the second from 300 to 1200 kilometres, and the third for distances beyond 1200 kilometres.

This structural reform marks a departure from the earlier additive model, where consumers – particularly those located far from supply sources – were subject to multiple pipeline charges, making gas more expensive in distant regions. By flattening the pricing structure, the reform is expected to significantly benefit users in remote and underserved areas, where high transportation tariffs had previously acted as a barrier to gas adoption.

The unified tariff system is also expected to stimulate investment in downstream infrastructure, foster the development of city gas distribution (CGD) networks, and support broader policy goals of increasing the share of natural gas in India's energy mix. It enhances the commercial viability of gas use across sectors and geographies, while reinforcing the government's long-term energy security and clean energy ambitions.

LNG Terminal Registration

The PNGRB recently has taken a significant step toward formalising the regulatory environment for Liquefied Natural Gas (LNG) infrastructure in India. The PNGRB, in May 2025, notified the PNGRB (Registration for Establishing and Operating Liquefied Natural Gas Terminals) Regulations, 2025 ("LNG Terminal Regulations"), which impose several regulatory preconditions and ongoing compliance obligations on entities establishing and operating LNG terminals in India.

These regulations address a longstanding gap in the legal regime involving LNG infrastructure. While the PNGRB Act, 2006, has always required entities to register their LNG terminals with the regulator, no specific regulations had so far been notified to implement this mandate. As a result, project developers and operators have lacked clarity on the process, often having to rely on case-by-case discretion or informal engagement with the authorities. The LNG Terminal Regulations aim to change this by laying down a structured, transparent process, thereby improving regulatory certainty for investors, developers and operators in the LNG space.

As per the LNG Terminal Regulations, the definition of "LNG Terminals" covers onshore LNG terminals, floating storage and regasification units (FSRUs) and small-scale LNG facilities. This broad framing reflects the growing diversity of LNG infrastructure being developed in India and ensures that emerging technologies and modular facilities are also brought within the regulatory net.

As the country seeks to expand the share of natural gas in its energy mix to 15% by 2030, LNG will play a crucial role in bridging supply gaps, particularly for regions not yet connected to the domestic gas grid. Encouraging private investment in LNG infrastructure is a necessary enabler for this transition.

National Green Hydrogen Mission

India's National Green Hydrogen Mission, launched in January 2023, represents a defining move in the country's pursuit of clean energy leadership and industrial transformation. The mission targets the creation of five million tonnes per year of green hydrogen production capacity by 2030. With an estimated investment of INR8 lakh crore, the initiative is expected to generate six lakh jobs and cut fossil fuel imports by about INR1 lakh crore annually, delivering a reduction of nearly 50 million tonnes of CO_2 emissions every year.

The launch of India's Green Hydrogen Policy in February 2022 laid the groundwork by defining green hydrogen and green ammonia as products of renewable-powered water electrolysis, explicitly including energy sourced from banked renewables and biomass. This definition was further formalised, setting a maximum carbon intensity of 2 kg CO_2 equivalent per kg of hydrogen, covering the full production chain.

The government has recently launched the green hydrogen certification scheme. The scheme estab-

lishes a detailed certification process to ensure that hydrogen is generated from renewable energy sources and that associated greenhouse gas emissions remain within a limit of 2.0 kg CO_2 equivalent per kilogram of hydrogen.

Central to the mission's strategy is the Strategic Interventions for Green Hydrogen Transition (SIGHT) programme. Initially structured around two incentive layers, SIGHT allocates INR17,490 crore for domestic electrolyser manufacturing and green hydrogen production. In June 2023, Mode 1 of the scheme successfully allocated production incentives to ten companies. By January 2024, Mode 1 had expanded to support 1,500 MW of electrolyser manufacturing capacity, awarded to eight firms. A subsequent tender under SIGHT Mode 1 Tranche II (March 2025) allocated incentives for 450,000 tonnes of green hydrogen capacity, affirming the government's commitment to industrial-scale deployment.

To encourage demand, the mission has adopted an auction-based procurement model for green hydrogen and green ammonia in refineries and fertiliser plants (Mode 2A and Mode 2B). In August 2023, Mode 2A introduced a framework for competitive bidding to supply green ammonia at the lowest cost. The electricity needed to support these facilities, along with exemptions from interstate transmission charges and priority grid access, ensures cost competitiveness.

Pilot projects across sectors such as steel, mobility, shipping, biomass-based hydrogen, hydrogen storage, and decentralised applications have also been funded (INR455 crore for steel, INR496 crore for mobility and shipping). Additionally, green hydrogen hubs are proposed to be developed for demand aggregation.

State governments are playing a crucial supporting role. States like Haryana, Maharashtra, Uttar Pradesh, Rajasthan, Andhra Pradesh, and Gujarat have introduced policies offering incentives, primarily through capital subsidies, tax breaks, and renewable power concessions. This decentralised support complements central policies, drawing fresh investment into emerging hydrogen zones.

The government also exempted green hydrogen and ammonia projects from standard environmental clearances to expedite operations. The government has also granted complete waiver of ISTS charges for a period of 25 years from the date of commissioning of the project, for green hydrogen/green ammonia production units commissioned on or before 31 December 2030, using renewable energy, pumped storage system or battery storage systems or any hybrid combination of these technologies. The projects commissioned after 31 December 2030 will attract graded transmission charges.

The first pricing tender issued by IOCL in June 2025 set a discovery price of INR397/kilogram, which can be considered a starting point for a price trajectory that may fall as deployment scales.

India's strategy is ambitious in both scale and structure. Through a blend of production support, demand signalling, infrastructure pipelines, and regulatory certainty, the National Green Hydrogen Mission offers an integrated model to elevate India's energy self-reliance while meeting carbon reduction goals. As policies mature and costs decline, the mission holds the promise of India emerging as a major producer, user, and exporter of clean hydrogen anchoring its climate goals.

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