

V.5.12



Overview of oil and gas reserves in India and the future exploration strategies!



Current Oil & Gas Reserves in India

As of January 2025, India's recoverable crude oil reserves were estimated at about 651.8 million tonnes (MMT).

Major oil reserves are found offshore in the Western Offshore basins (including Bombay High) and in onshore regions like Assam and Rajasthan.

Natural Gas -Recoverable natural gas reserves stood at approximately 1,138.6 billion cubic metres (BCM) by early 2025.

Significant gas reserves are located in the Eastern Offshore and Western Offshore regions, and in onshore basins such as Assam.

Imported vs. Domestic:

India remains highly import-dependent, especially for crude oil (over ~85% of consumption) and an increasing share of LNG (liquefied natural gas).

Major Recent Discoveries & Exploration Results:

New Finds -India has seen multiple hydrocarbon discoveries, including offshore oil and gas finds in the Mumbai Offshore, Krishna-Godavari (KG) Basin and Andaman offshore regions.

Oil India Ltd (OIL) and ONGC have reported natural gas discoveries near the Andaman Islands, indicating potential in less explored ultra-deepwater blocks.

Deepwater and Ultra-Deepwater:

Exploration is expanding into ultra-deepwater areas (e.g., Andaman Basin with drilling targets up to 5000 m), supported by enhanced seismic surveys covering large parts of India's Exclusive Economic Zone.

Government & Industry Exploration Strategies (Future): Licensing & Policy Reforms

India has adopted Open Acreage Licensing Policy (OALP) and other reforms to attract investment and private sector participation in exploration and production (E&P).

Seismic Surveys & Geological Mapping:

Large-scale 2D and 3D seismic surveys and hydrocarbon resource assessment studies are being used to de-risk exploration and identify promising frontier areas for drilling.

Public & Private Participation:

State-owned E&P companies like ONGC and Oil India are partnering with private and international firms to share expertise and technology for deeper and more complex plays.

Auctioning Blocks:

The government has auctioned coal bed methane (CBM) blocks and multiple small discovered fields to promote domestic gas production.

High-End Technology Deployment:

Enhanced use of modern technologies — such as advanced seismic imaging, deep drilling rigs, and data analytics — is improving success rates in exploration, especially in frontier basins.

Strategic Petroleum Reserves & Energy Security:

To reduce vulnerability to global supply disruptions and price volatility:

India plans to expand its Strategic Petroleum Reserves (SPR) with additional caverns and storage capacity under public-private partnerships.

This will buffer the economy in emergencies and provide leverage in global energy markets.

Future Outlook & Goals: Increasing Gas in the Energy Mix

Natural gas consumption in India is projected to grow substantially — nearly 60% by 2030 — with efforts to expand pipeline networks, CGD (City Gas Distribution), and LNG infrastructure.

Boosting Domestic Production:

Enhanced exploration efforts and technological improvements aim to raise domestic output, gradually reducing reliance on imports.

Energy Transition:

Beyond traditional oil and gas, policies are increasingly focusing on energy diversification — including renewables, biofuels, and emerging fuels — to complement fossil fuel supplies and achieve longer-term energy sustainability (recommended by energy agencies such as IEA).

Future Strategy: Expand SPR, boost domestic gas usage, modern tech, diversified energy.

Challenges: High import dependence, need for massive investments and exploration success.

