

## 4. Natural Gas Discovery in Andaman Basin – Geography

In a major breakthrough for India's energy sector, Oil India Ltd (OIL) has reported the first confirmed discovery of natural gas off the coast of the Andaman Islands. This landmark find opens up a new frontier for hydrocarbon exploration in a region previously considered promising but unproven. Hydrocarbon Potential of the Andaman Basin. Geological studies have long indicated significant hydrocarbon potential in the Andaman Basin.

**Resource Assessment** – A Hydrocarbon Resource Assessment Study (HRAS) estimates that the Andaman Basin holds approximately **371 Million Metric Tons of Oil Equivalent (MMTOE)**.

**Geological Formation** – The basin is part of the larger **Bengal-Arakan sedimentary system**. Its location at the **tectonic boundary of the Indian and Burmese plates** has led to the formation of stratigraphic traps, which are geological structures conducive to the accumulation of oil and natural gas.

**Regional Parallels** – Successful natural gas discoveries in nearby basins with similar geological characteristics, such as North Sumatra in Indonesia and the Irrawaddy-Margui basin in Myanmar, have strongly suggested similar potential in the Andaman region.

### Strategic Importance of the Discovery for India

This discovery holds immense strategic value for India's energy security, economy, and geopolitical standing.

**Enhancing Energy Security** – India is heavily dependent on energy imports, currently importing 88% of its crude oil and 50% of its natural gas. A commercially viable domestic gas source in the Andamans could significantly reduce this import dependence and save valuable foreign exchange.

**Economic and Industrial Impact** – The discovery directly supports India's national target of increasing the share of natural gas in its primary energy mix from the current ~6% to 15% by 2030. It aligns with the government's long-term vision of transitioning towards a "Gas-Based Economy."

**Geostrategic Advantage** – The Andaman Basin is strategically located in the energy-rich maritime corridor stretching from Myanmar to Indonesia. Developing this basin will strengthen India's economic and strategic presence in the vital Indian Ocean Region (IOR).

### Government Initiatives for Gas Exploration

The Indian government has implemented several policies to encourage exploration and production of domestic hydrocarbon resources.

Initiative/Policy	Year	Key Features
<b>Hydrocarbon Exploration and Licensing Policy (HELP)</b>	2016	Introduced a uniform license for exploring and producing all forms of hydrocarbons. It also established the Open Acreage Licensing Policy (OALP), allowing companies to bid on blocks of their choice.
<b>National Deep Water Exploration Mission</b>	-	A focused mission to incentivize and fast-track the drilling of deepwater and ultra-deepwater wells to exploit offshore reserves.
<b>National Data Repository &amp; National Seismic Program</b>	-	These initiatives aim to generate and provide high-quality geological and seismic data to exploration companies, reducing their initial investment risk.
<b>FDI Policy</b>	-	Allows 100% Foreign Direct Investment (FDI) in the natural gas sector under the automatic route to attract global capital and technology.

### Challenges Ahead

Despite the promising discovery, several significant challenges must be addressed before the full potential can be realized.

**Confirming Commercial Viability** – The size of the reserves, the ease of extraction, and the overall production costs need to be thoroughly assessed to determine if the field is commercially viable.

**Environmental Sensitivity** – The Andaman and Nicobar Islands are a globally recognized biodiversity hotspot with a fragile ecosystem. Any exploration and production activity must adhere to the strictest

environmental safeguards.

**Technological and Financial Hurdles** - Ultra-deepwater drilling is technologically complex and extremely expensive, requiring massive capital investment and specialized infrastructure.

**The Policy Dilemma** - The central challenge for the government will be to strike a delicate balance between pursuing energy exploration and ensuring the conservation of the unique and sensitive ecology of the Andaman region.

Source - [https - //www.thehindu.com/news/national/andaman-and-nicobar-islands/oil-india-discovers-natural-gas-in-andaman-shallow-offshore-block/article70101169.ece](https://www.thehindu.com/news/national/andaman-and-nicobar-islands/oil-india-discovers-natural-gas-in-andaman-shallow-offshore-block/article70101169.ece)

