1. Natural Gas Discovered in Andaman Basin – Geography

The Union Petroleum Minister announced the discovery of natural gas in the Andaman Basin, confirming long-held geological expectations of hydrocarbon potential.

About Natural Gas

Definition & Uses - Natural gas is a fossil fuel and considered the cleanest-burning hydrocarbon. It is widely used for electricity generation, industrial processes, transportation, and domestic cooking and heating.

Formation Process - Over millions of years, organic matter such as plants and marine organisms gets buried under sediments. High pressure and temperature transform this matter into hydrocarbons, primarily methane (CH_4), trapped in porous sedimentary rocks.

Composition -

1. Methane (CH_4) – dominant component (~70–90%)
2. Other hydrocarbons - Ethane, propane, butane
3. Non-hydrocarbons - Carbon dioxide, nitrogen, hydrogen sulfide (trace amounts)

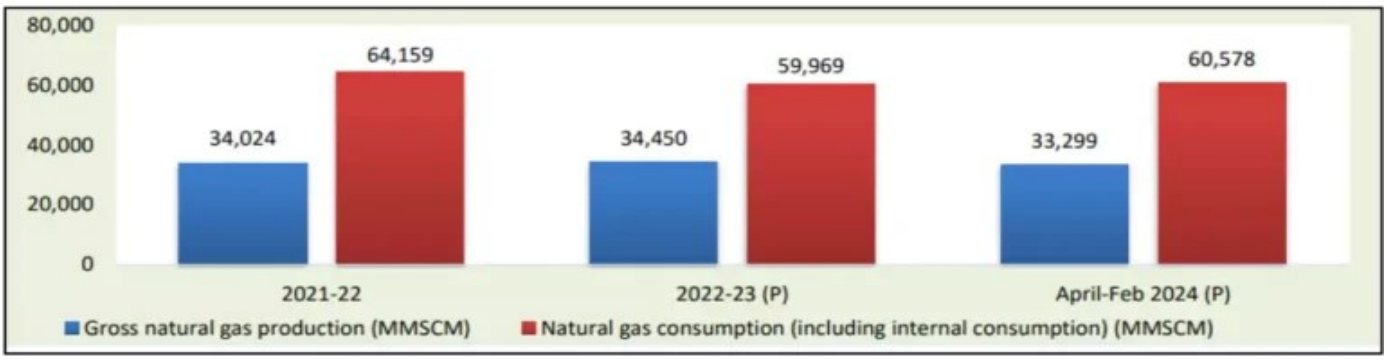
Key Sources of Natural Gas in India

Onshore Gas Fields - Reserves beneath the land surface accessed via drilling wells on land. Key regions include -

1. Assam (major gas-producing state)
2. Rajasthan
3. Gujarat
4. Tripura

Offshore Gas Fields - Reserves under the seabed, accessed via offshore platforms. Key basins -

1. Mumbai High (Maharashtra coast)
2. Krishna-Godavari (KG) Basin (Andhra Pradesh coast)
3. Andaman Basin (recent discovery)



Coal Bed Methane (CBM) - Methane trapped in coal seams, extracted as a clean energy source. Key reserves -

1. West Bengal
2. Madhya Pradesh

3. Jharkhand

Natural Gas Production in India (2021–22)

Total Production - 34,024 MMSCM (Million Metric Standard Cubic Metres)

Contribution by Location -

1. Offshore fields - 22,869 MMSCM (largest contributor)
2. Onshore fields - 11,155 MMSCM

Top Producing States -

1. Assam - 3,371 MMSCM
2. Rajasthan - 2,619 MMSCM
3. Tripura - 1,531 MMSCM
4. Tamil Nadu - 1,067 MMSCM

Significance of the Andaman Basin Discovery

Energy Security - India currently meets only a small portion of its energy needs from natural gas (around 6% of the total energy mix). This discovery supports the government's target of raising the gas share to 15% by 2030, reducing dependency on imported fuels.

Strategic & Geopolitical Importance - The Andaman Sea location strengthens India's maritime energy footprint in the Indo-Pacific region. Enhances energy cooperation and exploration potential in adjacent offshore areas between Myanmar and Indonesia.

Policy & Mission Alignment - Falls under the National Deep Water Exploration Mission, "Samudra Manthan," which aims to boost exploration in deep-water regions during Amrit Kaal. Encourages private sector participation in hydrocarbon exploration in mission-mode operations.

Broader Implications

Industrial Growth - Increased natural gas availability can lower energy costs for industries, encourage investments in gas-based sectors like fertilisers, petrochemicals, and power generation.

Environmental Benefits - Using natural gas instead of coal or oil reduces greenhouse gas emissions, aligning with India's climate commitments.

Regional Development - Offshore exploration promotes infrastructure development, jobs, and maritime technology advancement in the Andaman region.

Source - https - //www.newsonair.gov.in/union-minister-hardeep-singh-puri-announces-discovery-of-natural-gas-in-andaman-sea/