

## INDIA'S ENERGY STATISTICS: GEOGRAPHY

**NEWS:** Release of publication "Energy Statistics India 2025"

### WHAT'S IN THE NEWS?

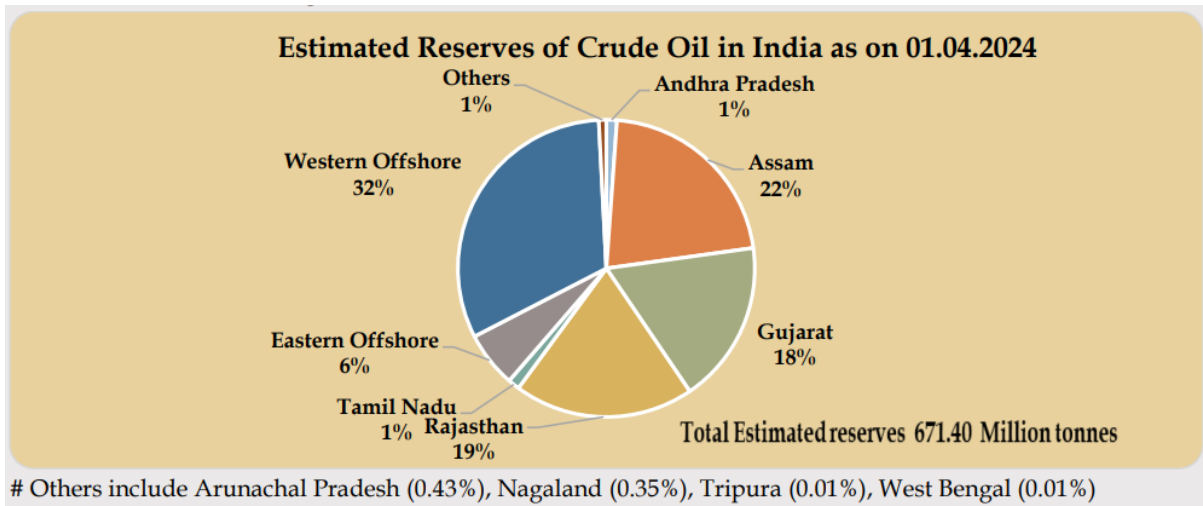
India's "Energy Statistics India 2025" report highlights a growing demand for energy, with a shift towards renewables, while challenges include dependence on fossil fuels and infrastructure bottlenecks. The country aims to increase its renewable energy share and improve energy efficiency amid economic growth.

### India's Energy Scenario in 2025

- **Total Energy Supply and Demand:**
  - **Supply:** India's energy supply for 2025 is estimated at 1,800 Million Tonnes of Oil Equivalent (MToE), showing a 4.5% increase compared to 2024.
  - **Demand:** The energy demand is primarily driven by industrial growth (40%), transportation (25%), and residential consumption (20%).
- **Energy Mix (Sources and Shares):**
  - Coal: 48%
  - Oil: 28%
  - Natural Gas: 8%
  - Renewables (Solar, Wind, Hydro, Biomass): 12%
  - Nuclear: 4%
- **Fossil Fuel Reserves and Production:**
  - **Coal Reserves and Production:** India has total coal reserves of 320 billion tonnes, concentrated in states like Odisha (25.47%), Jharkhand (23.58%), Chhattisgarh (21.23%), West Bengal (8.72%), and Madhya Pradesh (8.43%), which together account for 85% of the country's coal reserves.
  - **Annual Coal Production:** India produces approximately 950 million tonnes of coal annually, meeting 85% of domestic demand. India is the second-largest coal producer globally after China.
  - **Lignite Reserves:** As of 2024, the total reserves of lignite are estimated at 47.30 billion tonnes, with Tamil Nadu accounting for 79% of the total lignite reserves.

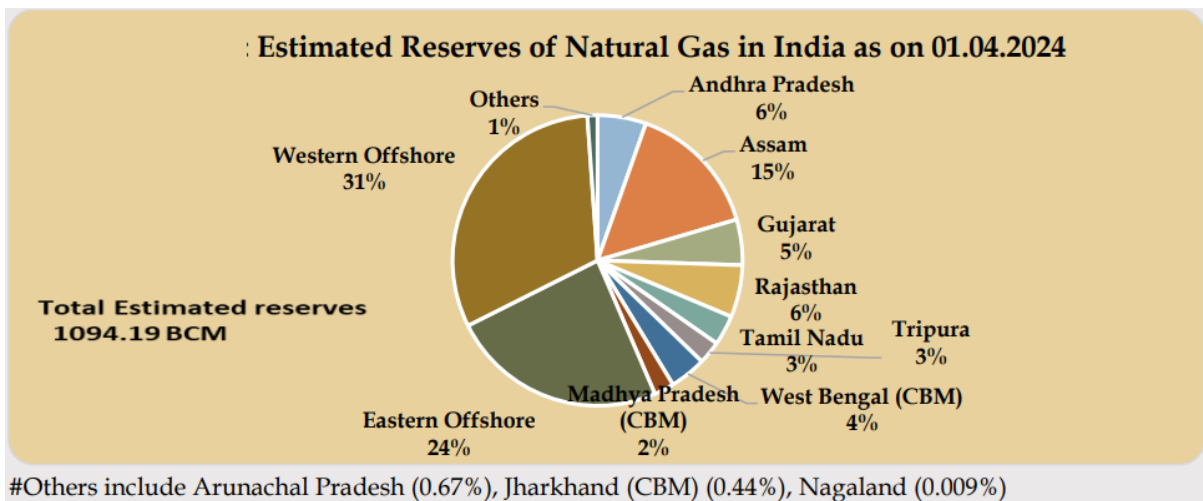
- **Crude Oil:**

- The maximum crude oil reserves in India are concentrated in the Western Offshore region (32% of total reserves), followed by the Assam region (22%).



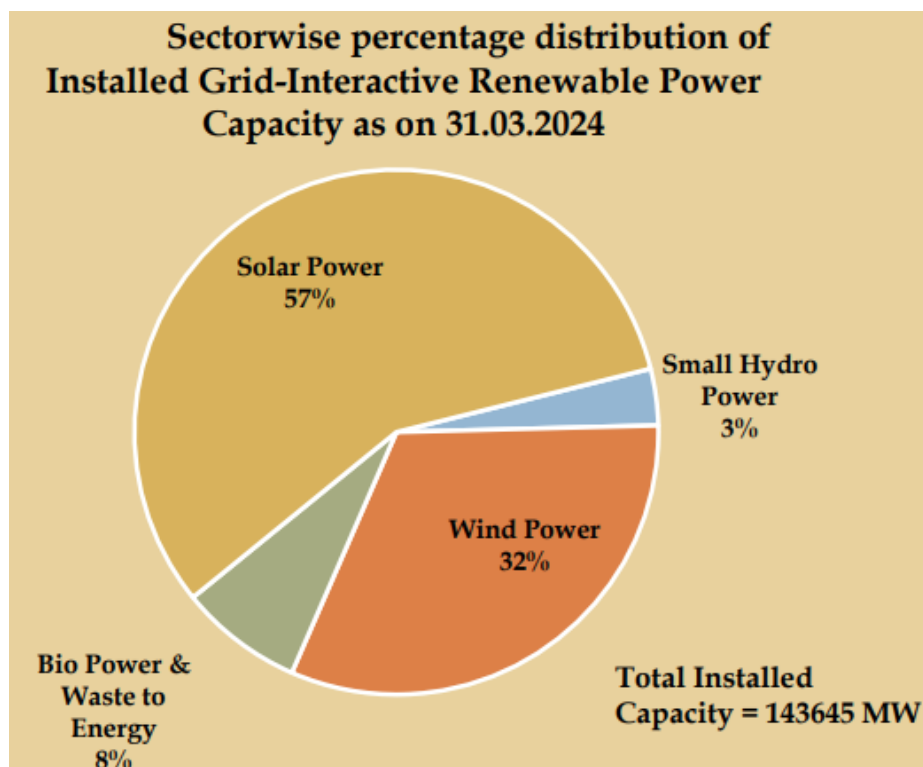
- **Natural Gas Reserves:**

- The largest natural gas reserves in India are found in the Western Offshore region (31%), followed by the Eastern Offshore region (24%).



## Renewable Energy Growth

- **Potential and Distribution:**
  - Wind Power holds the largest share of renewable energy potential (around 55%), followed by Solar Energy and Large Hydro.
  - The renewable energy potential is concentrated in four states: Rajasthan (20.3%), Maharashtra (11.8%), Gujarat (10.5%), and Karnataka (9.8%).
- **Solar and Wind Power Expansion:**
  - **Solar Power Capacity:** Increased to 175 GW (from 150 GW in 2024).
  - **Wind Power Capacity:** Increased to 50 GW (from 45 GW in 2024).
  - **Hydropower:** Contributing 12% of the total electricity generation, with a total capacity of 52 GW.
  - **Biomass and Waste-to-Energy:** 15 GW, focusing on sustainable energy solutions in rural areas.
- **Sectorwise Distribution of Installed Renewable Power:**
  - Renewable energy sources, including solar, wind, hydro, and biomass, contribute a significant portion of India's total installed grid capacity, supporting the growth of sustainable energy generation.



## Electricity Generation and Consumption Trends

- **Installed Capacity and Generation:**
  - India's total installed power generation capacity has reached 450 GW, up from 420 GW in 2024.
  - Total electricity generation stands at 1,700 TWh.
- **Per Capita Electricity Consumption:**
  - Per capita consumption is projected at 1,500 kWh per year, reflecting economic growth and increased urbanization.
- **Transmission and Distribution:**
  - Transmission losses have reduced significantly to 17% during FY 2023-24, compared to 23% in FY 2014-15, aided by the implementation of Smart Grid Initiatives.

## Energy Efficiency and Sustainability Measures

- **Government Policies and Initiatives:**
  - **National Hydrogen Mission:** Promoting green hydrogen production for industrial applications.
  - **Perform, Achieve, and Trade (PAT) Scheme:** Encouraging industries to adopt energy-efficient technologies.
  - **Faster Adoption of Electric Vehicles (FAME-III):** Aims to boost electric vehicle sales and develop charging infrastructure across the country.
- **Carbon Emissions and Climate Targets:**
  - India's carbon emissions in 2025 are projected at 2.9 billion tonnes CO<sub>2</sub>, marking a 4% decline due to an increase in renewable energy usage.
  - India's commitment to achieving net-zero emissions by 2070 remains a long-term goal.

## Future Outlook (2026-2030)

- **Renewable Energy Share:** By 2030, the share of renewable energy is expected to reach 25% of the total energy mix.
- **Energy Demand Growth:** Energy demand will continue to grow at an annual rate of 5%, primarily driven by the country's economic expansion.

## Challenges Ahead

- **Dependence on Fossil Fuels:** India's reliance on coal and imported crude oil remains a major challenge for achieving energy security and reducing emissions.
- **Energy Security Risks:** Geopolitical uncertainties and global supply chain disruptions continue to impact oil and gas imports.
- **Infrastructure Bottlenecks:** There is a need for further modernization of the energy grid and the development of storage solutions for renewable energy to ensure grid stability and efficient energy distribution.

Source: <https://pib.gov.in/PressReleasePage.aspx?PRID=2116510>