

RENEWABLE ENERGY IN INDIA 2023

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India's renewable energy capacity has crossed 119 GW as of November 2022 comprising of roughly 62 GW of solar power and 42 GW of wind power along with small capacities of biopower and small hydro. More than half of this capacity has been added in the last five years only because of an enabling policy environment, transparent competitive bidding mechanism, cost-competitiveness of solar and wind power and a highly enthusiastic private sector. However, as the country races ahead to achieve its target of 500 GW of non-fossil fuel based power by 2030, deployment of renewables needs to be scaled up on a massive scale. Thus, this is an exciting time for the country's renewable energy sector as on one hand large GW+ auctions are being conducted to allocate large projects and on the other there is adequate focus on increasing uptake of distributed renewable energy projects through rooftop solar or open access or other arrangements. Simultaneously, the impetus is on sustainable renewable energy integration in the grid such that large hybrid and round-the-clock renewable energy projects are being set up and grid-scale energy storage is being promoted. Finally, green hydrogen and offshore wind, which are at a nascent stage in India, have also started gaining due importance both at the policy as well as at the industry levels.

1. State of the Sector

- ❖ Market Size and Growth
- ❖ Segment-Wise Growth Trends
 - Solar power
 - Wind power
 - Renewable energy hybrids
 - Off grid renewables
 - Bioenergy
 - Small hydro
- ❖ Share in Capacity Mix
- ❖ Share in Generation Mix
- ❖ Energy Generation Trends
- ❖ State-Wise Deployments
- ❖ Renewable Energy Trading
- ❖ Growth Drivers

2. Policy and Regulatory Highlights

- ❖ Central Level
- ❖ State Level

(Segment-wise developments across solar, wind, hybrid, and bioenergy segments)

3. Tender Results and Project Announcements

- ❖ Solar Power
 - Ground-Mounted Solar
 - Rooftop Solar
 - Floating Solar
 - C&I Solar

- ❖ Wind Power
- ❖ Solar-Wind Hybrids and Round-the-Clock Power

4. Recent Developments in Emerging Areas

- ❖ Offshore Wind
- ❖ Energy Storage
- ❖ Green Hydrogen

5. Financial Highlights

- ❖ Mergers and Acquisitions
- ❖ Debt Financing and Green Bonds
- ❖ Equity Moves and IPOs

6. Cost and Tariff Analysis

- ❖ Equipment Price Trends
- ❖ Impact on Project Costs
- ❖ Recent Tariff Trends
- ❖ Tariff Outlook

7. Challenges and Outlook

- ❖ Key Challenges and Solutions
- ❖ Capacity Projections
 - Short-Term Outlook (till 2030)
 - Long-Term Outlook (2030 and beyond)
- ❖ Investment Outlook

Data set (excel) - Utility-scale projects under construction