



RENEWABLE ENERGY SECTOR – 2024

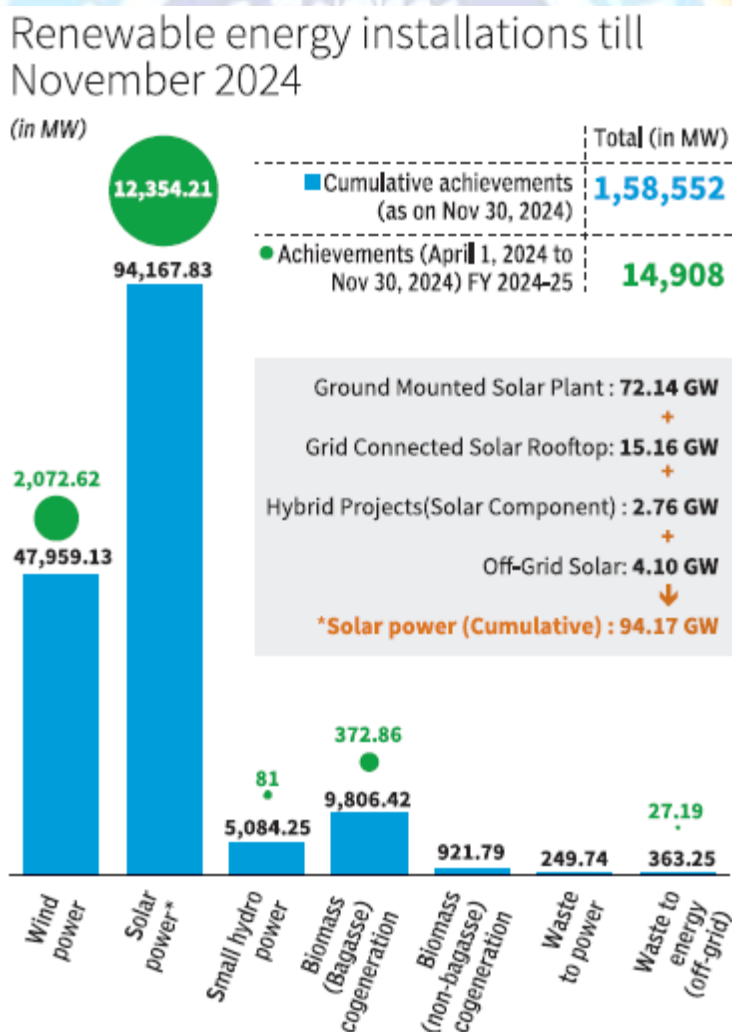
NEWS: Review of Renewable energy sector in the year 2024.

Renewable Energy in the Domestic Sector

- The **PM Surya Ghar Muft Bijli Yojana**, launched in 2024, marked a significant step in promoting renewable energy usage in the domestic sector.
- The program has gained substantial traction, with **6.38 lakh solar energy installations completed** and **30 lakh applications submitted** within its inaugural year.

National Green Hydrogen Mission

- The **National Green Hydrogen Mission** was introduced in 2024 to support the production and adoption of green hydrogen in industrial applications.
- Contracts were awarded to ten companies for the production of **4.12 lakh tonnes of green hydrogen**, and eight companies received contracts for the development of **1,500 MW electrolyser capacity**, strengthening India's green hydrogen ecosystem.





Capacity Addition in Renewable Energy

- Renewable energy capacity addition in 2024 reached unprecedented levels:
 - **Solar Energy:** A record-breaking **20,849 MW** was added, taking the total solar installation capacity to **94,167 MW**.
 - **Wind Energy:** An additional **3,223 MW** of wind capacity brought the total wind energy installations to **47,959 MW**.
- According to Mercom, a consultancy firm, **18.5 GW of solar capacity** was offered in **27 auctions** held throughout the year, showcasing strong growth momentum in solar energy.

Growth in the Open Access Market

- Open access, which allows electricity generators to sell power directly to consumers, witnessed significant growth in 2024.
- In the first nine months of the year, **4.8 GW of open access capacity** was added, compared to **2.8 GW** during the same period in 2023.
- **Top Five States:** Karnataka, Maharashtra, Rajasthan, Tamil Nadu, and Gujarat collectively accounted for **74% of open access installations**, indicating strong regional adoption.
- Open access offers dual benefits:
 - Developers achieve higher prices for their electricity.
 - Consumers enjoy reduced power costs.
- As of 2021-22, open access consumers accounted for **36.2% of total power demand**, amounting to **413 billion units**. This demand is expected to grow at a **CAGR of 8.2%**, reaching an estimated **775.3 billion units** by 2030.

Tariff Trends in Solar and Wind Energy

- **Solar Tariffs:**
 - Solar energy prices dropped to a historic low of **₹2.15/kWh** during a Madhya Pradesh auction (secured by Waaree for 170 MW).
 - While this was an outlier, solar tariffs generally stabilized around **₹2.50/kWh** throughout 2024.
- **Wind Tariffs:**
 - Wind energy tariffs experienced an upward trend, ranging between **₹3.60 and ₹3.70/kWh** in most regions.



- Notable bids include JSW Neo winning **350 MW at ₹3.61/kWh** and Datta Power Infra winning **60 MW at ₹3.98/kWh**.
- Gujarat remains an exception, with tariffs in the state hovering around **₹3.24 to ₹3.30/kWh** due to favorable wind conditions and speeds.

Momentum in Wind-Solar Hybrid Projects

- Hybrid renewable energy projects, which combine wind and solar power, saw significant progress in 2024.
- A total of **13 hybrid auctions** were conducted, awarding **11.2 GW of capacity** (compared to **7.7 GW in 2023** and **4 GW in 2022**).
- **Lower Tariffs for Hybrid Projects:**
 - Hybrid projects attracted tariffs between **₹3.15 and ₹3.65/kWh**, which were generally lower than standalone wind project tariffs.
- Industry leaders like Udit Garg, MD & CEO of Kundan Green Energy, have noted that hybrid auctions are gaining prominence and are expected to rise further in the coming years.

Success of Renewable Energy IPOs

- Several renewable energy companies launched successful IPOs in 2024, signaling increased investor confidence in the sector.
- Notable IPOs include **Premier Energies, Alpex Solar, NTPC Green, Waaree, and ACME Cleantech**.
- The success of these IPOs reflects growing investor interest in renewable energy as a lucrative and sustainable industry.

Electric Mobility: PM E-Drive Scheme

- In September 2024, the Indian government approved the **PM E-Drive Scheme**, allocating **₹10,600 crore** to promote electric mobility.
- The scheme provides subsidies for a wide range of electric vehicles, including **electric trucks**, marking a departure from earlier FAME schemes that focused primarily on smaller vehicles.
- The program aims to accelerate the adoption of electric vehicles across various sectors, enhancing India's transition to sustainable transportation.

Source: <https://www.thehindubusinessline.com/economy/a-good-year-for-re-better-one-to-follow/article69039743.ece>