



TRU Primer

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India's Solar Surge: Powering a Brighter Future

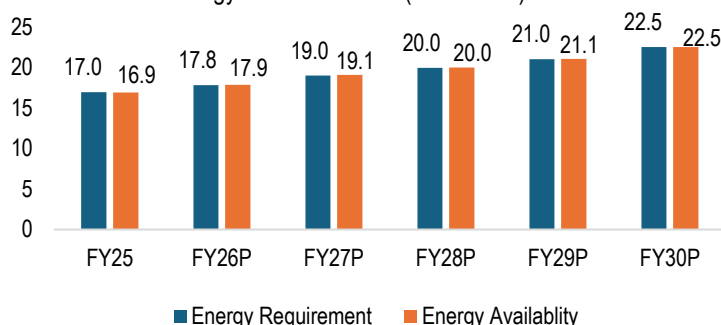
As of June 2025, India's total installed power generation capacity was 485 GW. The overall capacity grew at a CAGR of ~5.6% from fiscal 2014 to 2026 and ~4.5% from fiscal 2019 to 2026. While coal and lignite-based power still accounts for the largest share (~45.7%), Renewable energy, has reached ~234 GW, making up ~48.3% of the total capacity. The Indian renewable energy sector is poised for significant growth, driven by a combination of environmental concerns and strong government support. Key catalysts include technological advancements, affordable financing, and favorable policies. This strong outlook positions India's market as a prime investment destination and a key player in the global renewable energy transition.

India's Solar Surge: Powering a Brighter Future

India's renewable energy market poised for strong growth...

- The Indian power sector is a diverse and regulated industry, utilizing both conventional (coal, hydro, nuclear, etc.) and non-conventional (wind, solar, etc.) energy sources.
- The country's power infrastructure, including transmission and distribution systems, has grown to meet the needs of different load centres.
- Power demand in India saw a strong growth of ~10% in fiscal 2023 and 4.2% in fiscal 2025. This momentum is expected to continue, with a projected CAGR of 5-7% from 2025 to 2030, which is above the historical long-term growth rate of 5%.
- This growth is supported by infrastructure investments, strong economic fundamentals, and government reforms aimed at strengthening transmission and distribution infrastructure and improving the health of state distribution utilities.

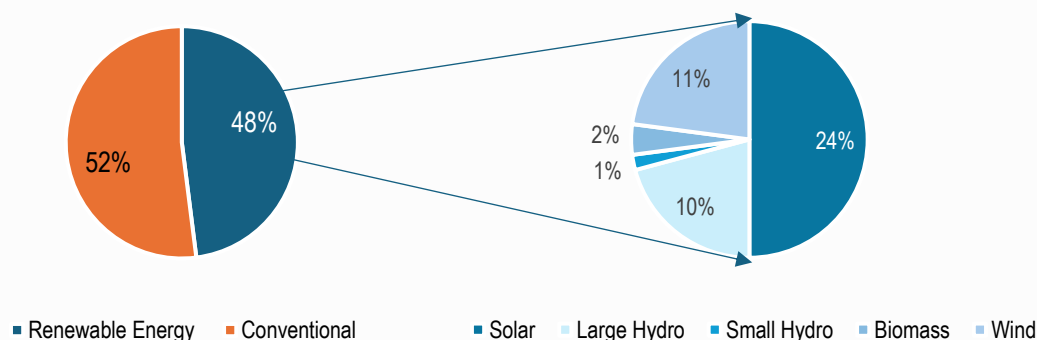
Energy demand outlook (in GWh '00)



Source: Vikram Solar RHP.

Renewable energy capacity in India, including large hydro, has grown from approximately 63 GW in March 2012 to around 234 GW by June 2025, now making up about 48% of the country's total installed generation capacity. **Solar power has been a major driver, expanding from 0.9 GW to 116 GW in the same period. In the first half of 2025 alone, India added a record 22 GW of renewable capacity, with solar accounting for 18.4 GW.** This growth positions India to achieve its 2030 RE capacity targets. However, despite the high installed capacity, renewable energy's share in total energy generation was only about 23% as of June 2025, due to lower capacity utilization.

Details of installed capacity (in %)

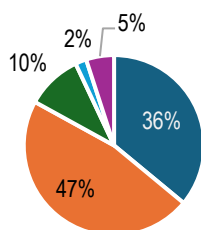


Source: Vikram Solar RHP.

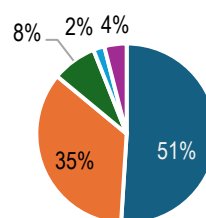
India's installed power generation capacity has grown from 356 GW in fiscal 2019 to approximately 475 GW in fiscal 2025. This expansion is largely due to the addition of renewable energy (RE) sources like solar and wind, while new capacity from coal and other conventional fuels has slowed down.

Looking ahead to fiscal 2030, the installed capacity is expected to reach 700-710 GW, representing a growth of about 8.1%-8.3% from the March 2025 figure. RE capacity alone (excluding large hydro) is projected to reach 360-370 GW by 2030, accounting for about 50% of the total installed capacity and growing at a healthy CAGR of 15.9%-16.5%. Additionally, 23-24 GW of Battery Energy Storage System (BESS) capacity is expected to be added to support peak power supply with the growing share of renewables.

Installed Capacity in FY25 (GW)



Expected Installed Capacity by FY30 (GW)



■ Renewables ■ Coal ■ Large Hydro ■ Nuclear ■ Gas

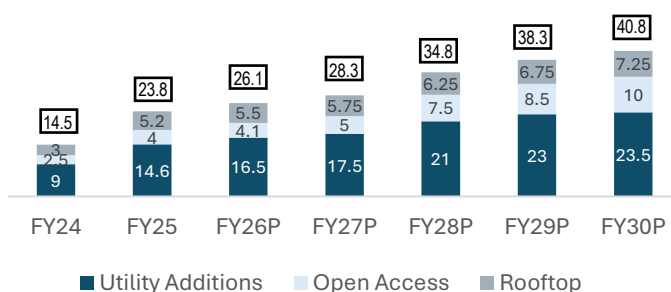
■ Renewables ■ Coal ■ Large Hydro ■ Nuclear ■ Gas

Source: Vikram Solar RHP.

Solar to account for bulk of incremental renewable capacity additions between fiscal 2026-30

The demand for renewable energy in India is on the rise, driven by environmental concerns and government support. The solar sector is flourishing due to an aggressive tendering strategy and key catalysts such as technological advancements, affordable financing, and supportive policies. **CRISIL Intelligence projects a significant addition of 150-170 GW of solar capacity between fiscal 2026 and 2030.**

Year wise expected solar capacity additions (FY26-FY30)



Source: Vikram Solar RHP.

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