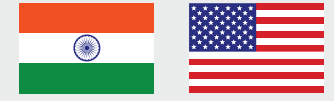


Comparing Solar Costs & Deployment in India and the United States

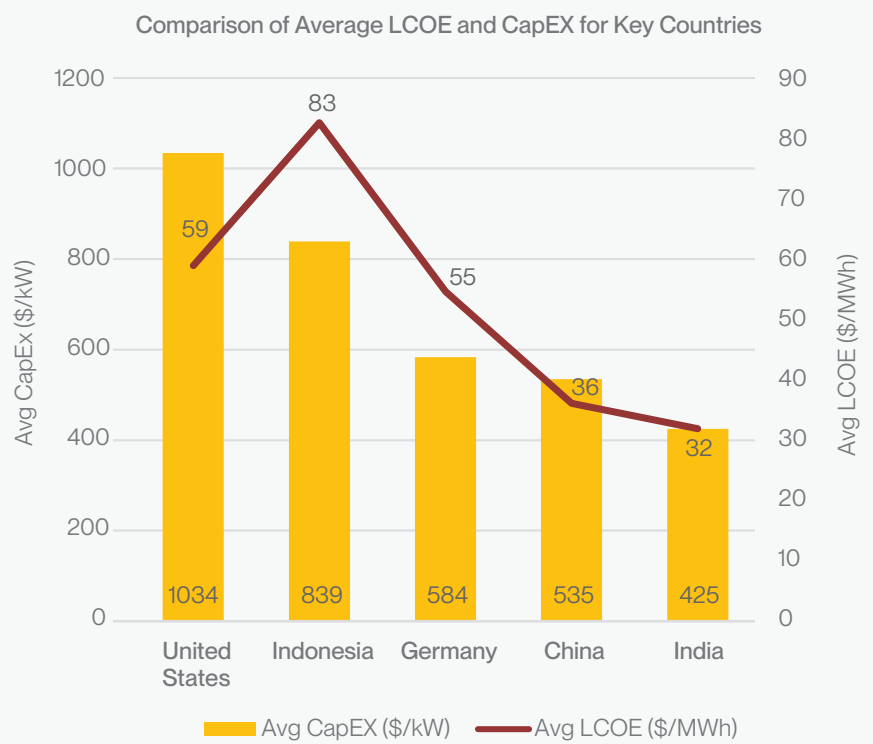


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Over the past decade, India has witnessed substantial declines in solar installation costs, driven by innovative policies and falling prices of solar modules. Competitive solar auctions have significantly reduced tariffs, dropping from over \$0.20 per unit in 2010 to below \$0.03 per unit today.

India Leads in Affordable Solar Energy with Record Low Costs

The average Levelized Cost of Electricity (LCOE) is now at \$31.9/MWh, while the capital expenditure (CapEx) has dropped to \$425.3/kW—the lowest among major countries. These cost reductions have made solar energy affordable, driving large-scale renewable expansion and enabling cost-effective growth in electricity demand.



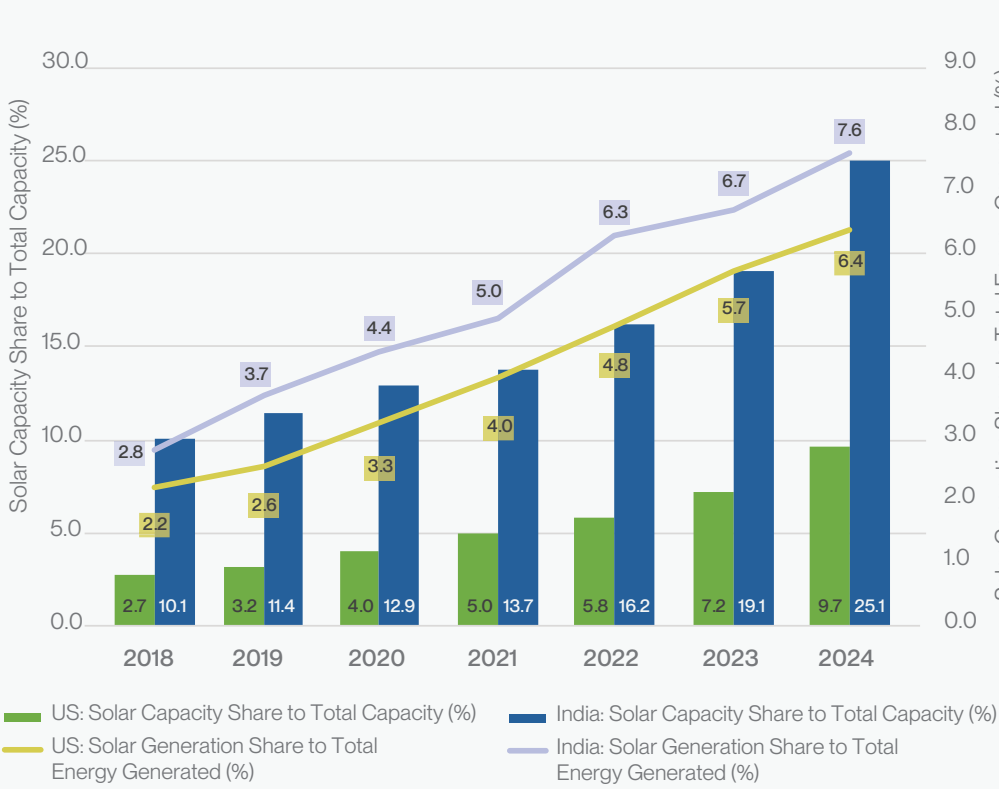
Annual Solar Capacity Additions and Share of Total Capacity in the US & India (2018-2024)



India's solar deployment rate has consistently outpaced that of the U.S., when normalized for total grid size.

India has deployed solar capacity at a rate of 3–4% of total capacity in recent years, with projections suggesting an increase to 6.7% in 2024—significantly higher than the U.S. deployment rate of 1–2.8%.

Cumulative Solar Capacity and Generation as a Percentage of Total in the US & India (2018-2024)



The Government of India has addressed implementation and procurement challenges by establishing policies on transmission, land access, and state-level purchase obligations.

India's cumulative solar capacity is projected to constitute 25.1% of total capacity by 2024, compared to 9.7% in the United States. Additionally, solar's share of total electricity generation in India is projected to grow from 6.7% in 2023 to 7.6% in 2024, higher than 6.4% share in the U.S.

Although this pace of deployment is still below the level required to meet India's 2030 target of 500 GW of clean capacity, India's success with solar offers valuable policy insights for other developing countries aiming to scale renewable energy.



United States

Installed Capacity Data: U.S. Energy Information Administration (EIA) - Form EIA-860 Detailed Data
Electricity Generation Data: U.S. Energy Information Administration (EIA) Electricity Data Browser

India

Installed Capacity Data: Central Electricity Authority (CEA), Government of India, Installed Capacity Reports
Electricity Generation Data: NITI Aayog (India) India Energy Dashboard

Data Sources