

# Indian Renewable Energy Sector

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**ALMM for solar PV cells to drive domestic solar cell capacity; however, cost of modules likely to rise for developers**

**DECEMBER 2024**



## 1 Highlights



## 2 Solar manufacturing ecosystem in India



## 3 Impact of ALMM for solar cells on module pricing in India



## 4 Performance of key domestic OEMs



## 5 Global module capacity and profitability trends



## 6 Key takeaways





## Highlights

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*Cell manufacturing capacity in India expected to increase to 50 GW by June 2026 based on the plans announced by key players*

*Cost of PV cell manufactured in India is likely to be higher than the landed cost of imported cell (including customs duty) by 1.4-1.5 times*



- The solar photovoltaic (PV) module manufacturing capacity in India increased to over 70 GW currently from less than 20 GW in 2022. This benefitted from the strong policy support in the form of approved list of models and manufacturers (ALMM), which effectively barred the direct import of modules. While ALMM was put under abeyance in FY2024, it was reinstated in April 2024. Further, the strong demand from domestic and export markets supported the domestic solar module manufacturers.
- Domestic solar module manufacturers demonstrated a significant growth in revenues and profitability over the past three years, including expansion in the profitability margins. This was driven by the scale up in manufacturing capacity and robust demand from domestic and export markets. While revenue growth is likely to taper down, going forward, the sustainability of profitability margins remains linked with the demand from export markets and extent of backward integration.
- The ALMM order issued by the Ministry of New & Renewable Energy (MNRE) on January 2, 2019, had provisions for List-I of Solar PV Modules and List-II of Solar PV Cells. The MNRE has now proposed to issue List-II of solar PV cells effective from June 1, 2026, and thereby restrict the use of imported cells. Hence, a scale up in domestic cell manufacturing capacity remains important. However, the domestic module manufacturers would remain dependent on imports for wafers, given the lack of backward integration.
- The notification of ALMM for solar PV cells is expected to fast track the expansion of cell manufacturing capacity in India, which is likely to increase to about 50 GW by June 2026 from the current level of ~12.5 GW. While this is positive for solar OEMs, the landed cost of modules is estimated to increase for solar power developers, as the cost of PV cell manufactured in India is likely to exceed the landed cost of imported cell (including customs duty) by 1.4-1.5 times.
- The solar PV module supply chain is dominated by China, with over 90% share in global manufacturing capacity across polysilicon and wafer and over 80% share in cell and modules. The global module manufacturing capacity increased to over 1,100 GW in 2024 from ~600 GW in 2022, leading to an oversupply in the market and low module prices. This in turn lowered the profitability of leading Chinese OEMs. A sustained period of low profits could lead to a consolidation in the industry.



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