

PRESS RELEASE  
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## Indian solar PV module manufacturing capacity to cross 60 GW by 2025 with improved backward integration: ICRA

- **Indian solar OEMs are expected to enhance the wafer and cell manufacturing capacities over the medium term**
- **The PLI scheme is expected to enable addition of 48 GW integrated module manufacturing units with investment of over Rs. 1.0 lakh crore**

ICRA expects the solar photovoltaic (PV) module manufacturing capacity in India to increase to over 60 GW by 2025 from the current level of ~37 GW, with improved backward integration into cell and wafer manufacturing. This is likely to further enhance to nearly 100 GW as the capacity awarded under the production-linked incentive (PLI) scheme comes on stream, led by the strong policy support and growing demand from domestic solar power installations. The policy measures include the notification of Approved List of Models & Manufacturers (ALMM) comprising only domestic manufacturers, imposition of basic customs duty on imported cells & modules, and the PLI scheme. Further, the solar power generation capacity is expected to witness significant growth over the coming decade on the back of India's climate transition goals, in turn driving the demand for solar PV modules.

Commenting on the solar OEMs, **Mr. Vikram V, Vice President & Sector Head - Corporate Ratings, ICRA**, said: *"While the abeyance of the ALMM order till March 2024 and sharp decline in global module prices is leading to an increase in PV module imports in FY2024, the expected scale-up in domestic manufacturing capacity with backward integration over the next two to three years, along with resumption of the ALMM order, is expected to reduce import dependence. Apart from module capacity, the OEMs are expected to enhance the wafer and cell manufacturing capacities with cell capacity expected to cross 25 GW by 2025 from the current level of ~6 GW. However, the country will remain dependent on polysilicon imports as these capacities are likely to take longer to set up, involving a larger capital investment."*

The solar PV module supply chain is dominated by China, with over 80% share in manufacturing capacity across polysilicon, wafer, cell, and modules. In comparison, the manufacturing capacity in India is relatively low and is largely restricted to the last manufacturing stage. The PLI scheme is expected to change this, with integrated module units expected to come up in India over the medium term.

The Government of India (GoI) has awarded incentives for setting up module manufacturing capacity of 48 GW, including fully integrated facilities of 24 GW, i.e., from polysilicon to module. The capex outlay for setting up these integrated module capacities is estimated to exceed Rs. 1.0 lakh crore. Given the significant scale-up expected in manufacturing capacity, garnering a share of the global demand through exports would remain critical for domestic solar OEMs.

Commenting on the export prospects, **Mr. Vikram V** said: *"The Indian module manufacturers have benefited from the healthy export demand growth, mainly from the US, over the past 18 months. The exports increased by over 364% in FY2023 over FY2022 and further by 748% in the first five months of FY2024 over the corresponding period of the previous year. This is owing to the healthy demand from the US and restrictions imposed by that country on*

*module-sourcing from China. While this remains positive in the near term, the sustainability of this demand remains to be seen, considering that a large scale-up is expected in the module manufacturing capacity in the US, given the significant benefits available under the Inflation Reduction Act, a significant climate legislation announced by the US Government.”*

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