GLOBAL SOLAR ENERGY OUTLOOK

China+1 strategy creates major solar manufacturing opportunity for India

INVESTMENT THESIS | The global energy sector is entering a multi-decade growth cycle, driven by AI, data centers, EVs, and accelerating electrification, with **solar emerging as the most economical source**. Solar demand is supported by long-term growth in digital infrastructure, industrial automation, clean mobility, and rising energy consumption across emerging markets. At the same time, geopolitical and supply-chain diversification is driving global China+1 manufacturing shift, **creating a sustained reallocation of solar investments and sourcing**.

India is emerging as a key beneficiary through supportive policies, expanding domestic demand, competitive manufacturing economics, and deeper integration into global solar value chains. The opportunity is selective rather than broad-based, with the strongest returns likely accruing to companies that combine scale, execution excellence, balance-sheet strength, and strategic China+1 positioning.

8% → 15%

Share increase of Solar PV from 2025 to 2030E

Renewables structurally displacing fossil fuels, with solar emerging as the dominant source

2.3 TWh → 7.4 TWh

Global solar capacity is expected to increase ~3x by 2030

Demand fueled by secular drivers: Data Centers & AI, EV ecosystem, Industrial automation, Robotics

70-95%

China's share in the solar value chain

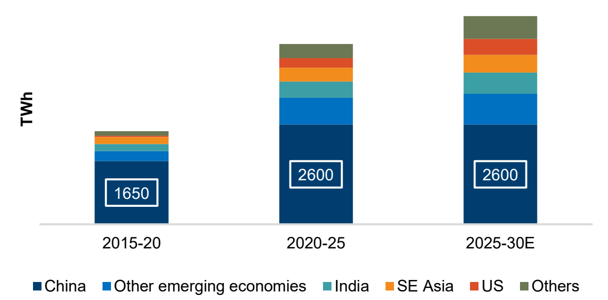
Global solar value chain is highly concentrated in China, thus triggering a global "China+1" diversification strategy

0% → 9%

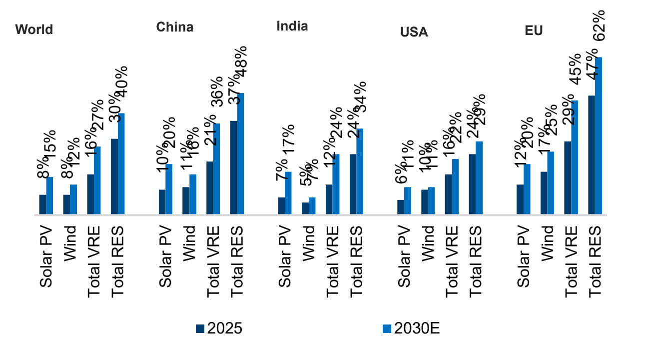
India's share in solar PV exports to the US

India emerging as a key beneficiary of the China+1 shift, aided by strong policy backing, robust domestic demand, lowest import costs

GLOBAL ENERGY TRANSITION: BEGINNING OF STRUCTURAL SUPERCYCLE

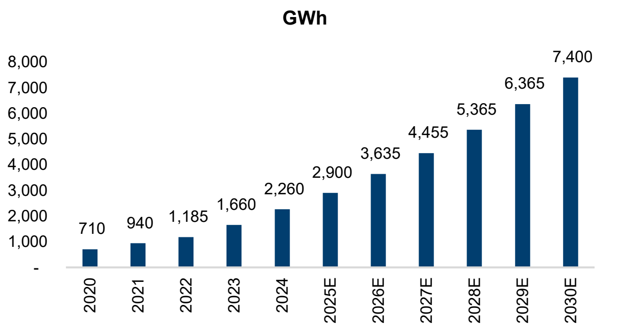


Globally electricity demand is rising, but demand remains strong for emerging nations such as China and India

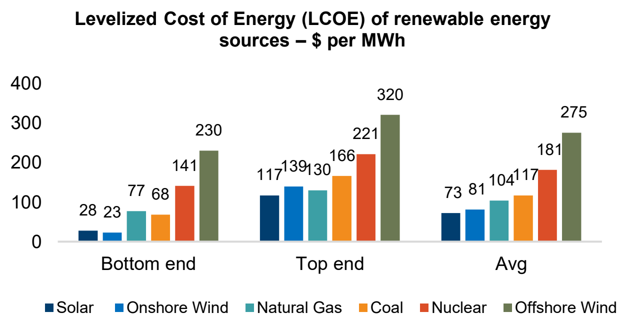


Renewables displacing fossil fuels in electricity generation; Solar PV exhibiting strongest growth through 2030, a trend common across regions

SOLAR ECOSYSTEM: DEMAND IS STRUCTURAL, NOT CYCLICAL



Global solar PV capacity to increase to 7.4 TWh, implying a 3x rise from the current levels of 2.3 TWh



Renewables outcompete fossil fuels, solar emerges as the cheapest source

Data Centers

Electricity demand for data centers to double by 2030

Artificial Intelligence

AI-specific data center power to triple by 2030

Electric Vehicles

Global EV fleet electrification accelerating grid demand

Economic Growth

Emerging economies industrializing

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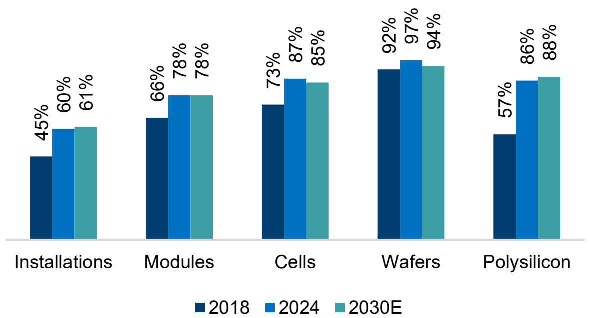
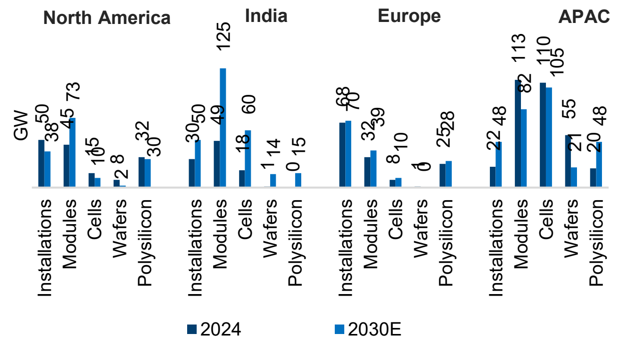
SUPPLY CHAIN SHIFT: FROM CHINA DOMINANCE TO CHINA+1 STRATEGY



The world remains highly dependent on China for its solar energy needs, as the country dominates the entire solar value chain



Growth is occurring outside China, but the critical layers in the solar value chain remain concentrated in China

US Regulatory Initiatives

Inflation Reduction Act, Foreign Entity of Concern, Uyghur Forced Labor Prevention Act forcing non-China sourcing

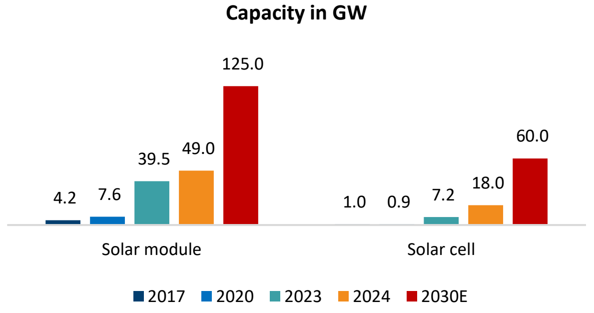
Incentives & Subsidies

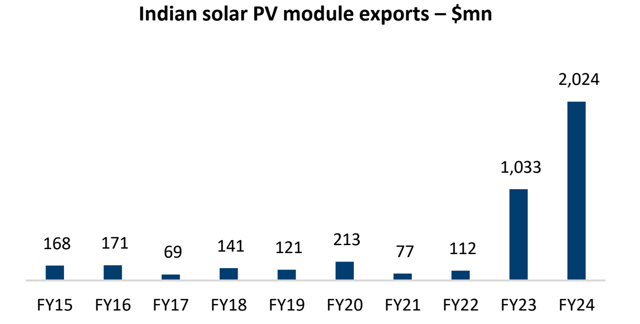
Improving the cost viability of alternative manufacturers

Supply Chain Transparency

Reshaping the upstream sourcing

OPPORTUNITY: MAJOR SOLAR MANUFACTURING CHANCE FOR INDIA

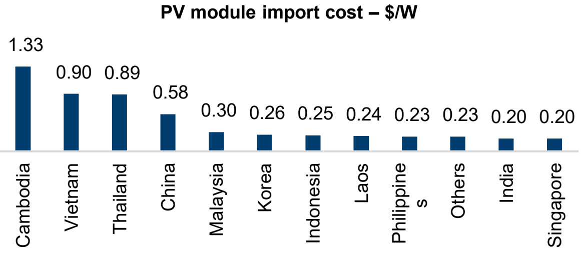




India's module capacity exceeds its cell capacity, creating a strong incentive for backward integration and future investment

Export growth no longer cyclical. Driven by structural policy changes, including anti-dumping duties and China+1 diversification

Ranks	2024	2023	2022	2021
Vietnam	**1**	1	1	2
Thailand	**2**	2	3	3
Malaysia	**3**	4	2	1
India	**4**	5	8	8
Cambodia	5	3	5	5
Singapore	6	7	7	6
Indonesia	**7**	8	9	9
South Korea	**8**	6	4	4
Others	**9**	9	6	7



India's rank by solar PV export share to the US has improved significantly, outpacing the leading countries such as Vietnam and Thailand…

…who have a higher import cost, positioning India as the preferred alternative, amid declining dependence on China

EQUITY IMPLICATIONS

Company	Country of Origin	Market Cap	TTM sales	Revenue CAGR	Opt margin	Free Cash Flow	P/E			EV/EBITDA		
		$mn	$mn	Next 3yr	Next 3yr avg	Next 3yr avg	2026	2027	2028	2026	2027	2028
Integrated Solar Manufacturers												
First Solar	USA	27,691	5,419	6.7%	44.6%	1,289	14.83	10.93	9.06	9.73	7.71	6.55
JinkoSolar	China	1,017	9,003	16.4%	-3.4%	539	DNA	23.35	9.31	11.03	6.20	5.97
Canadian Solar	Canada	1,105	5,476	13.3%	5.3%	-158	DNA	22.62	7.82	11.81	7.64	7.50
Waaree	India	9,888	2,919	22.3%	16.4%	61	19.36	18.07	15.18	11.77	10.17	8.37
Adani Green	India	27,218	1,422	30.4%	68.3%	-1,026	71.00	44.82	37.30	22.81	17.37	13.91
EPC												
Bechtel	USA	4,415	7,494	4.6%	5.4%	304	15.81	14.72	13.47	7.86	7.36	6.95
Fluor Corp	USA	7,495	15,184	6.6%	2.9%	409	20.60	16.59	14.15	9.18	8.22	7.17
L&T	India	63,691	31,446	14.0%	9.4%	1,905	27.99	23.07	20.20	17.40	16.11	14.08
KEC Int	India	1,585	2,586	13.4%	6.9%	118	18.61	13.69	10.27	9.98	8.23	6.74
Renewable Energy Developers												
NextEra Energy	USA	1,80,926	27,867	9.9%	41.9%	-12,926	21.55	19.80	18.21	15.30	13.32	11.97
JSW Energy	India	11,490	2,079	15.7%	44.1%	-360	40.17	30.90	22.67	13.60	11.50	9.52
NTPC	India	39,012	20,612	8.3%	22.8%	588	14.25	13.19	12.26	9.41	8.67	7.78
Inverter Manufacturers												
Enphase	USA	6,890	1,400	0.9%	17.0%	299	26.22	22.42	19.03	21.14	17.89	15.49
SolarEdge	Israel	3,530	1,275	9.9%	3.6%	73	DNA	36.63	22.92	116.05	23.76	15.45
SMA Solar	Germany	2,336	1,759	4.8%	8.8%	87	30.93	18.27	14.99	13.08	9.20	7.90
Energy Storage												
Fluence Energy	USA	4,571	2,585	23.7%	2.5%	-24	DNA	107.16	51.08	89.82	35.91	23.14
Atlanta Elec	India	1,620	204	35.8%	DNA	7	51.92	34.21	DNA	31.95	22.10	DNA
TARIL	India	1,180	276	22.8%	14.6%	10	36.36	28.83	DNA	23.02	18.36	DNA

Valuation dispersion across the renewable value chain reflects a clear divergence between growth-led premium segments (developers), cash flow-backed stability (EPC), and margin-driven manufacturing plays, with select mispricing opportunities emerging in high-quality but underpriced companies

ARANCA VIEW | The renewable energy theme remains structurally intact, **but valuation dispersion** across the value chain highlights that markets are increasingly distinguishing between **growth visibility** and **cash flow credibility**.

While developers continue to **command a premium** on the back of long-duration growth, **we see better risk-adjusted opportunities** in EPC and select manufacturing plays where cash flow generation and margin discipline provide downside protection. Going forward, portfolio construction should move away from thematic beta exposure toward **selective, segment-driven allocation**, emphasizing **balance sheet strength, FCF visibility, and execution track record** over headline growth.

Sources: *Aranca Research, IEA, Reuters, Ministry of Commerce, Waaree Energies;* ***Notes:*** *DNA indicates Data Not Available; 2026 multiples are actuals for Indian companies and estimates for global companies*

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