

## Solar - China

## New norm with low price, no turnaround before 2025/26 – expert call takeaways

Industry Overview

**Demand: 15-25% growth in 2024, 10-20% in 2025-26**

We hosted Mr. Frank Haugwitz, from AECEA, to share his view on global solar supply and demand. AECEA expects global solar installation to grow by 15-25% YoY in 2024 to 460-500GW, and by 10-20% for 2025-26, much lower than 65% YoY in 2023. AECEA expects China installation to grow by 10-15% in 2024 to 240-250GW. The low growth is expected to continue in 2025-2030. AECEA expects 15% growth in EU 2024 installation, to c.65GW, and the growth rate to sustain in the coming 3-4 years. The 70-80GW inventory levels across Europe will weigh on demand in 2024-25.

**Supply: Rising capacity and hard to see massive exit**

Equipment suppliers have secured TOPCON laser equipment orders totaled 850GW by Nov 2023, an indication of how much capacity is coming. In 2024, AECEA sees capacity for poly/ wafer/ cell/ module capacity to reach 1,100/ 1,200/ 1,450/ 1,300GW, but subject to adjustment of expansion plans. There will be faster retirement/ upgrading of older lines, and faster technology transition. AECEA doesn't expect many companies to exit the market as Chinese companies are good survivors. In addition, Chinese officials recognize PV's drive in GDP growth. 19 SOEs are joining PV supply chain, with motivation not only for profit. International efforts on domestic PV capacity are subject to major delays and government budget constraints. Plans of ex-China capacity by Chinese companies is < 100GW, not big yet compared to domestic capacity.

**Module pricing: RMB0.7-0.8/W is the new norm**

AECEA expects RMB0.7-0.8/W module prices may become the new norm throughout 2024 and translate to slim margin. 18-24 months ago, the average number of bidders for a tender was 25-30, and now it easily goes to 50-60, an indication of a crowded market. N-P price gap continues to narrow, urging P-type manufacturer to either keep cutting prices or exit the market eventually. Supply and demand balance may not be restored before 2025/26, which means low(er) capacity factor to sustain.

**EU subsidy in doubt; US capacity may undershoot**

AECEA sees China TOPCon module (assuming a 10GW integrated facility) production cost ranges between USD16–18.9cents/Wp, vs. India USD19.5cents/Wp, US USD28.1cents/Wp, and EU USD24.3-30cents/Wp, excluding subsidies. China module production emits 810g CO<sub>2</sub>-eq/kWh, vs. 480g in EU, hence a potential EUR3.3cents/ Wp carbon cost on China imports could help narrow the cost gap. Such carbon mechanism is yet to be discussed among EU. In the US, after IRA, module production cost can drop by 30-50%. By announcements, 14GW poly, 29GW wafer, 36-40GW cell, 94-98GW modules are planned for 2026/27. However, AECEA expects realized capacity could be significantly lower than announced levels. AECEA expects US module price premium vs. rest of the world to sustain, due to shortage of domestic supply.

02 February 2024

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AECEA: Asia Europe Clean Energy  
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GW: gigawatt

TOPCON: Tunnel Oxide Passivated  
Contact

SOE: state-owned enterprises

PV: photovoltaic

W: watt

Wp: Watt-peak

IRA: Inflation Reduction Act

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Timestamp: 02 February 2024 10:11AM EST



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