

Document name: ESMC Emergency support proposal
Date: February 28, 2024

Contact for inquiries:
 lindahl@esmc.solar

Emergency support — safeguarding EU PV module producers in a cost-efficient and strategic pattern

I. STATUS QUO OF PV MODULE IMPORT TO THE EU AND INVENTORIES OF EU PV MODULE PRODUCERS

There is currently a surplus of imported PV modules in stock in EU ports and warehouses, estimated in a range of 70–85 GW (equivalent to at least 140–170 million PV modules). The oversupply of PV modules from China in late 2022 and throughout 2023 has triggered a drastic reduction in PV module prices, plummeting from 30¢/W_p to around 10¢/W_p. European manufacturers were forced to reduce their production in 2023 to only around 2 GW of PV modules and leaving 0.8 GW of them languishing in their inventories. Unfortunately, these stocks remain unsold due to the prevailing market conditions characterized by ultra-low pricing, a situation expected to persist at least throughout 2024.

1. Inventories of imported PV modules in the EU

- Export of PV modules to the EU in 2022 reached an estimated 86.4 GW while in 2023 (January – October) the export to the EU accounted for about 95.4 GW of PV modules.
- Estimating the PV deployment scale in the EU in 2022 (41 GW) and in 2023 (57 GW), currently in the EU there are of at least 85 GW of imported PV module capacity in stock.

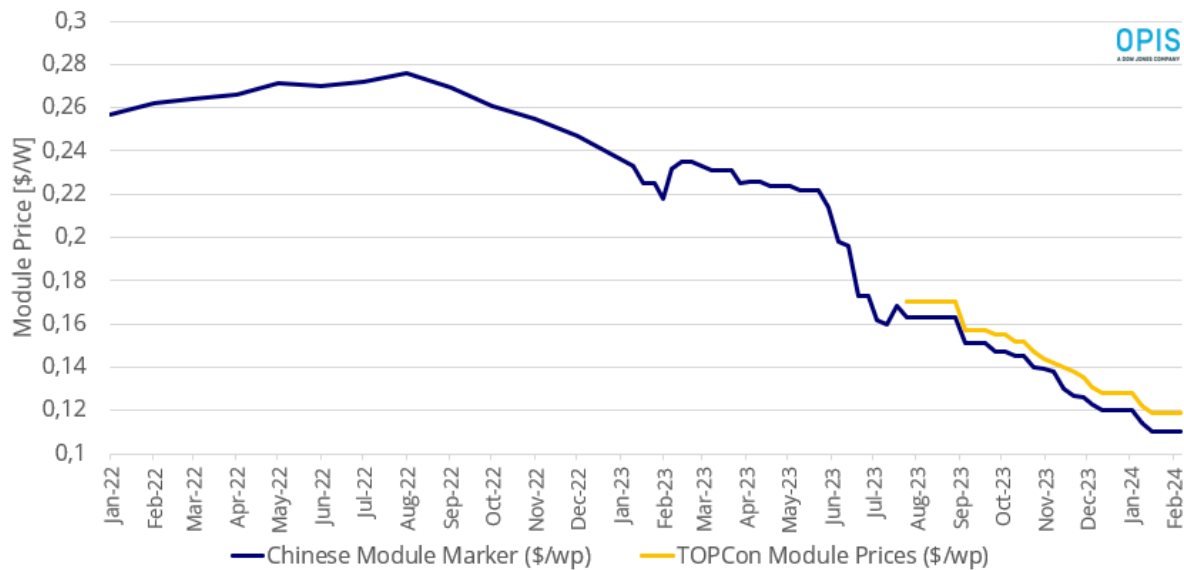
| 2022 | | 2023 | |
|--|--|---|---|
| Exported value into EU 2022 [US\$, billions] | Approximated exported capacity into EU 2022 [GW] | Exported value into EU first 10 months of 2023 [US\$, billions] | Approximated exported capacity into EU first 10 months of 2023 [GW] |
| 22.9 | 86.4 | 18.1 | 95.4 |

Summary – exported value from main manufacturing countries into EU27.

Source: The analysis relies on data obtained from TradeMap, a database managed by the International Trade Centre (ITC).

2. Price drop of imported PV modules: from 0.27 \$/Wp in summer 2022 to 0.11 \$/Wp now

The prices of imported PV modules dropped significantly in 2023, crossing the historical record low prices in June 2023. Such a price decline cannot be attributed to technological improvements or changes in raw materials. Such a price decline is clearly correlated with the massive oversupply described above. Imported PV modules currently are sold in the EU market below the production cost (0.16–0.18 \$/W_p) in China.



3. Production and inventories of EU PV module producers

- In 2022, EU PV module producers’ running capacities were estimated at 5 280 MW, while actual production reached 2 360 MW — 45% capacity utilization.
- In 2023 EU PV module producers' running capacities were about 6 320 MW while actual production reached 2080 MW — 33% capacity utilization. The capacity utilization dropped extensively, as the EU PV module producers suspended PV module production in Q3 2023 due to the inability to sell PV modules in the market due to higher production costs.
- Although EU PV module producers in 2023 produced 2 080 MW, ~ 800 MW are now in stock and there have been no changes for the last 3–4 months.

4. EU PV module producers planning to close the facilities during the next weeks

- During the last months, we have already lost 180 MW of running PV module manufacturing capacities and an additional 310 MW “sleeping” PV module capacity.
- In addition, Europe has last year lost 4150 MW of silicon production capacity, 500 MW of ingot capacity, 1000 MW of wafer capacity by permanent closure or temporary full halt of production in Norway.
- During the next weeks, the major EU PV module producers will be closing manufacturing lines in case no substantial emergency measures are taken. **We are at major risk of losing more than 50% of the operational EU PV module production capacities.** Its closure will have significant irreversible negative consequences for the entire EU PV manufacturing industry for years to come.

II. EMERGENCY MEASURES TO SUPPORT EU PV MODULE PRODUCERS

Without promptly implementing emergency measures, potentially combined with safeguard measures, the European Union risks losing 6 GW of PV module production capacity. ESMC presents the following concrete emergency support proposal and the rationale behind it.

- The enforcement of the Net-Zero Industry Act (NZIA) is expected to yield positive effects on utility-scale projects and industrial installations. However, the positive effects of NZIA are expected only in 2026 — there is a need to bridge this time gap by elaborating and implementing emergency measures for the EU PV module producers.
- Safeguarding 6 GW of PV module production capacities would enhance the competitiveness of EU PV producers across various market segments, particularly in public procurements, once the NZIA becomes effective.

1. How to safeguard/rescue current EU PV module production capacities — financial support is necessary

- Operational (OPEX) support dedicated to 2.4 GW – per year (for 40% of running capacities out of 6 GW, proportional to a minimum level to maintain economical operation).
- Set up a support distribution plan for 0.8 GW (current EU production stock) 2023 and 4.8 GW for 2024–2025, totalling 5.6 GW of modules for the period 2023–2025.

| Support item | Year | Cost |
|---|-----------|--------------|
| Emergency support of 0.8 GW _p | 2023 | €160 million |
| Emergency support of 4.8 GW _p | 2024–2025 | €720 million |
| Total: support for 5.6 GW_p of EU PV modules | 2023–2025 | €880 million |

- Price difference (production cost vs. market price) presumptions:
 - 2023: 20 €/W_p → €200/kW_p → €200,000/MW_p → €200,000,000/GW_p
 - 2024–2025: 15 €/W_p → €150/kW_p → €150,000 MW_p → €150,000,000/GW_p

2. How to implement such a support scheme without delay

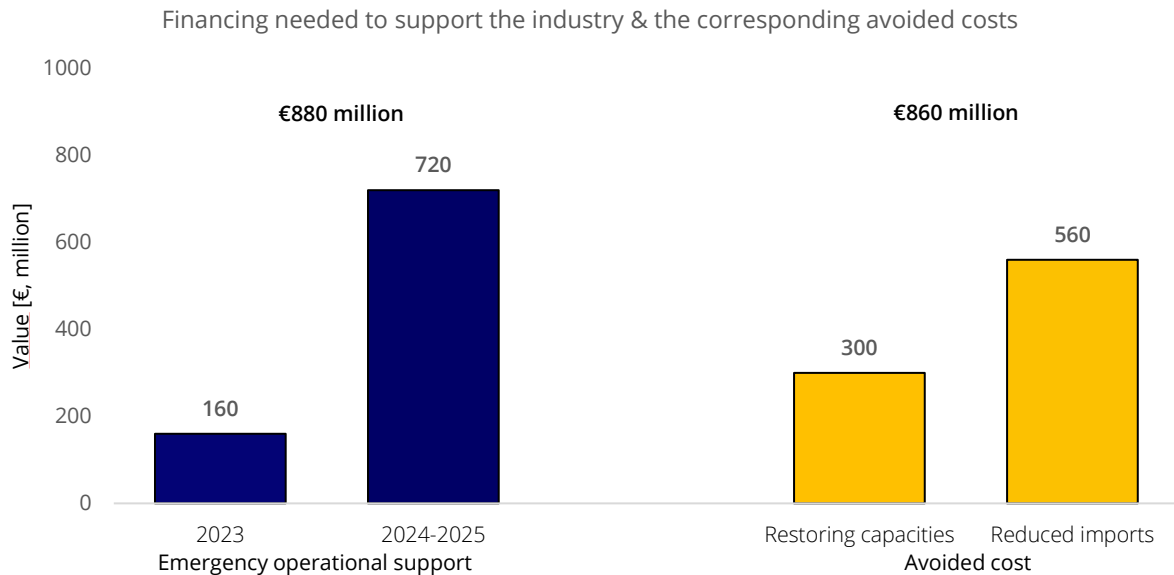
- Financial support would be provided to companies while safeguarding PV module production lines and jobs.
- This financial support would be allocated temporarily, retroactively for 2023 and prospectively for 2024–2025, under a State aid exemption.
- Two scenarios could be considered: a) compensating for the price difference between market/selling price and production costs; b) providing a lump sum to PV module producers based on production rates in 2021–2022.

- The support should be structured as an EU-wide instrument and/or allocated through Member States or a mixed solution of both options.
- The support would bridge the gap between actual sales prices of PV modules and their production costs for individual EU PV companies. Companies would sell modules at market prices while the difference is compensated by Member States from EU financing sources.
- To ensure that the support is exclusively for PV modules produced in the EU, it would be verified by comparing quantities of purchased/imported materials used for PV module production.

3. Positive impacts of support — salvaged capacities and investor confidence

Direct positive effects:

- **Maintaining 6 GW of EU PV module production capacities at a 40% utilization rate — instead restoring the 6 GW of PV module manufacturing capacities later would save €300 million for new brownfield projects, with €60–80 million needing public support from Member States or EU funding.**
- **Buying 1 GW of PV modules locally from the EU would lower the trade deficit to China by €100 million, under the current market circumstances (a PV module spot price at minimum 10€/W_p). A 5.6 GW buy-out from EU PV module producers would thus avoid €560 million going out of the European Economic Area, thereby reducing the trade imbalance with China, and instead contributing to tax revenue, economic growth, and green jobs in Europe.**



Indirect positive effects:

- The temporary measure, endorsed by the European Commission, would send a robust signal to investors in the EU PV value chain, affirming the protection of the EU industry.
- Additionally, other EU industries closely associated with PV module manufacturing, such as cell, wafers, glass, and frame production, would also be safeguarded.

4. Anticipated Impact of NZIA — transitioning from emergency to systemic measures

- Pre-qualification criteria incorporating a 20% price difference in public procurements and a 15–30% price difference in auctions, along with pre-qualification criteria, would enhance the competitiveness of the EU PV module producers. However, realistically, the framework may only be enforced within a two-year timeframe, starting from 2026.
- The €880 million support ensures that EU PV module producers can sell their modules (including inventories from 2023 and production from 2024–2025) can be compared to the €860 million investment required to restore PV module production after 2–3 years. This demonstrates the strategic payoff of the EU investment while preserving jobs in current PV module production facilities and providing additional incentives for investors.
- The implementation of this framework would (a) safeguard 6 GW of European PV module production capacities, (b) reduce the trade deficit, (c) safeguard jobs, (d) prevent the insolvencies and bankruptcies of associated industries, and (e) create investor's confidence and trust towards new EU PV manufacturing projects.
- The implementation of the proposed emergency support framework as a temporary solution for 2–3 years would bridge the gap between the current existential crisis for the EU PV module production industry towards a resilient, sustainable, and competitive European PV manufacturing ecosystem once the NZIA effects will be materializing across the EU in 2026.

5. What next steps should be taken?

Step 1

European Commission's approval to allow Member States to cover the cost difference between market price and production costs, preferably utilizing EU-level financing for this purpose.

Step 2

Establish and commit to specific support targets, including covering EU PV module producers' stocks (€160 million) and operational expenditure for 2024–2025 (up to €720 million).

Step 3

Notify EU PV module producers of the measure considered to prevent insolvencies/bankruptcies and take all necessary steps to implement the framework within 2 months at the latest.

Step 4

Secure commitments from EU PV module producers to maintain PV manufacturing capacities until NZIA becomes effective.