

Solar PV Trade and Market Trends Report: Redirection from the Middle East and Global Outlook

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Executive Summary

The global solar photovoltaic (PV) market has entered a period of profound restructuring in 2026. A confluence of geopolitical conflicts in the Middle East, shifting trade policies, and an industry-wide supply glut has fundamentally altered global trade flows for solar equipment. The escalating war in the Middle East, particularly the conflict involving Iran and the closure of the Strait of Hormuz, has disrupted shipping routes and redirected solar PV equipment originally destined for Gulf nations to new markets in Europe, Africa, and South Asia. Meanwhile, the broader solar industry is transitioning from a period of rapid expansion to one of consolidation, driven by technological advancements, the critical need for battery storage integration, and the rising demand for energy security.

Geopolitical Disruption and Trade Redirection

The recent escalation of conflict in the Middle East, notably the US-Israeli strikes on Iran and the effective closure of the Strait of Hormuz to commercial shipping, has triggered a significant shock to global energy and logistics markets [1] [2]. The Strait of Hormuz is a critical chokepoint, normally handling roughly 20% of the world's daily oil and liquefied natural gas (LNG) supply [3]. The disruption has sent fossil fuel prices soaring, reigniting concerns over energy security and accelerating the transition to renewable energy sources in importing nations [4].

Impact on Shipping and Logistics

The conflict has severely impacted the logistics of delivering solar PV equipment to the Middle East. Major shipping liners, including MSC and CMA CGM, have suspended bookings for cargo destined for the region or implemented significant rerouting and emergency conflict surcharges [5]. War-risk insurance premiums for Gulf-adjacent voyages have tightened or been cancelled altogether, adding further costs and delays to near-term shipments [6].

Redirection of Solar Equipment

The logistical bottlenecks and heightened risks in the Middle East have forced manufacturers, predominantly in China, to redirect solar modules and cells originally intended for the region to alternative markets. The Middle East had emerged as a key destination for Chinese solar

exports and a hotspot for new PV manufacturing investments [6]. However, with shipments stalled, this equipment is finding new homes:

- **Europe:** Facing a renewed fossil fuel price shock, European nations are accelerating their solar deployment to offset expensive gas imports. Solar power has saved the EU over €110 million per day since the outbreak of the conflict in early March 2026 [7]. The surge in energy prices has driven a rapid increase in demand for residential solar panels, heat pumps, and electric vehicles in countries like the UK and Germany, with some companies reporting a 50% rise in solar panel sales [8].
- **Africa:** Africa is experiencing its fastest-ever solar growth, adding 54% more capacity in 2025 than the previous year [9]. The continent is benefiting from the influx of redirected solar equipment, which is supporting both utility-scale projects and a booming market for distributed, commercial, and captive solar installations [9].
- **South and Southeast Asia:** Countries like Pakistan have seen a people-led solar boom as a direct response to the energy crisis exacerbated by the Middle East conflict [10]. Chinese solar exports have also surged to non-traditional markets, including a massive increase in shipments to Cuba [11].

Global Solar PV Market Outlook for 2026

The global solar PV market is facing a challenging inflection point in 2026. Following years of robust growth, the industry is grappling with significant overcapacity and inventory pressures, particularly in the upstream polysilicon and wafer segments [12].

Supply Chain Restructuring and the "Industry Trough"

Industry analysts project that 2026 may mark the first year of negative growth in global PV demand in over a decade, with module demand forecast to decline to between 529 and 624 GWdc [12]. This anticipated slowdown is primarily due to a pullback in traditional core markets like China and the US, where policy shifts and grid constraints are tempering new installations [12].

The supply side remains burdened by elevated capacity. Polysilicon inventories have reached critically high levels, forcing manufacturers to shift from a strategy of expansion to one of strict production control and margin preservation [12]. The central theme for the industry in 2026 is managing inventory pressure while navigating rising costs for key materials like silver [12].

The Rise of Non-China Manufacturing

Deglobalization and trade barriers are accelerating the development of localized supply chains. In response to US anti-dumping and countervailing duty (AD/CVD) measures, Southeast Asian solar cell supply has been increasingly redirected to India [12]. Meanwhile, domestic module capacity is expanding significantly in the US and India, reducing reliance on Chinese imports and reshaping global output dynamics [12].

Technological Advancements and System Integration

Despite market headwinds, solar PV technology continues to advance rapidly, driving down the levelized cost of energy (LCOE) and opening new applications.

Efficiency Records and Next-Generation Cells

The industry is moving decisively beyond traditional p-type PERC cells toward higher-efficiency n-type technologies. TOPCon (Tunnel Oxide Passivated Contact) and Heterojunction (HJT) cells are dominating new capacity additions. Furthermore, breakthroughs in perovskite-silicon tandem solar cells are shattering efficiency limits. In late 2025 and early 2026, researchers and manufacturers announced tandem cells achieving certified efficiencies exceeding 32% and even approaching 35% in laboratory settings [13]. These high-efficiency panels are particularly valuable for applications with limited space, aligning perfectly with the innovative design ethos of Solar Arts Co.

The Essential Role of Battery Storage

Energy storage is no longer an optional add-on; it is a critical system enabler. The global battery energy storage system (BESS) market passed the 100 GW milestone in 2025 and is projected to surge further [14]. The integration of solar PV with battery storage is essential for managing grid stability, maximizing the value of solar generation during periods of negative tariffs or dynamic pricing, and providing energy resilience [15].

The future of solar energy is increasingly defined by intelligent energy management. AI-powered systems that automatically schedule battery charging and discharging based on dynamic tariffs and peak shaving requirements are becoming standard in both residential and commercial installations [15].

Conclusion

The solar PV industry in 2026 is characterized by profound geopolitical shifts, supply chain restructuring, and rapid technological evolution. The redirection of equipment from the Middle East highlights the agility of the global supply chain and the urgent demand for energy security in Europe and emerging markets. For Solar Arts Co, navigating this landscape requires a deep understanding of these macro trends, a focus on securing high-efficiency, aesthetically pleasing technologies like TOPCon and perovskite tandems, and a commitment to integrating intelligent storage solutions into every design to deliver true "Creative Engineering for a better world."

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