



FACT SHEET



Task 1 Strategic PV Analysis and Outreach

PVPS
S

Snapshot of Global PV Markets

May
2026



A Snapshot of Global PV Markets

In 2025, global photovoltaic capacity approached 3 TW, up from 2 276 GW in 2024, with 698 GW of new PV systems installed. Annual growth reached 16%, confirming PV's continued rapid expansion.

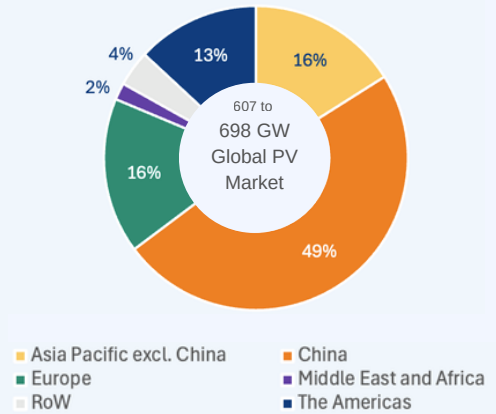
The global market remains highly concentrated, with China accounting for around 60% of new annual additions, while geographic diversification continued with 39 countries installing at least 1 GW. PV now covers approximately 10.5% of global electricity demand and 12% of electricity consumption — cementing its role as a cornerstone of the global energy transition.



PV has entered a new era. Market growth remains strong, but system integration, flexibility and storage are now becoming the defining factors for the next stage of global deployment.

Melodie de l'Epine, lead-author of the Snapshot of Global PV Markets report.

REGIONAL SHARE OF CUMULATIVE CAPACITY



~3 TW

CUMULATIVE

installed worldwide by end of 2025



~700 GW

NEW CAPACITY

installed in 2025

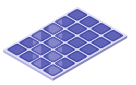


39

COUNTRIES

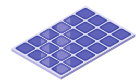
installed at least 1 GW in 2025

Global Installations



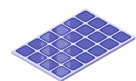
China

remains the world No. 1 PV market with ~1 464 GW cumulative*



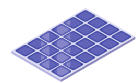
26 countries

had installed at least 10 GW of cumulative capacity at the end of 2025.



16%

annual growth rate in 2025, down from ~30% in 2024 and 93% in 2023, normalising but still strong.



59%

of new 2025 capacity was centralised/utility-scale PV; distributed PV reached 288 GW.

PV now covers:



10.5%

of global electricity demand



12%

of electricity consumption



Over 10%

of national electricity demand in 35 countries

* IEA-PVPS preliminary assessment is higher than official China reporting



Market Trends

>>> China dominates

China accounted for ~60% of new annual capacity (est. 415 GW), maintaining its position as the world's largest PV market by a wide margin.

>>> Distributed PV grows

Distributed PV reached 286 GW in 2025, remaining structurally important in prosumer-driven markets like Germany, Brazil, Pakistan and Japan.

>>> Dual use applications

Floating PV, agriPV, parking canopies and solar-plus-storage hybrid projects continued to expand across utility and distributed segments.

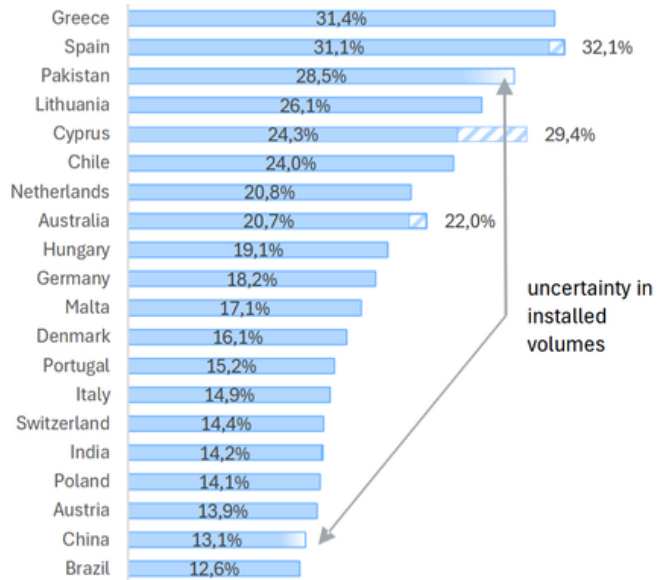
>>> Utility-scale leads

Centralised PV installations accounted for approximately 60% of new capacity (410 GW), continuing to outpace distributed growth in volume terms.

>>> Module price pressure

Module prices in China fell >60% from 2023 levels; manufacturers' cumulative losses approached USD 5 billion, increasing the gap between growth and profitability.

THEORETICAL MINIMUM PV PENETRATION 2026



Top 10 Countries in 2025

For Annual Installed Capacity

	China	415 GW *
	European Union	65.7 GW
	India	55.9 GW
	USA	43.2 GW
	Germany	16.9 GW
	Pakistan	15.8 GW*
	Brazil	13.8 GW
	Spain	11.3 GW
	France	7.4 GW
	Saudi Arabia	6.8 GW
	Italy	6.5 GW

For Cumulative Capacity

	China	1 463.5 GW *
	European Union	406 GW
	USA	268.2 GW
	India	180.5 GW
	Germany	117.3 GW
	Japan	102.7 GW
	Brazil	66 GW
	Spain	59 GW
	Pakistan	52.2 GW*
	Australia	44.3 GW
	Italy	43.5 GW

* IEA-PVPS preliminary assessment is higher than official China, Pakistan reporting



Regional Highlights

Americas

- ▶▶▶ The **USA** installed approximately 43 GW in 2025, a decline from 2024 levels, marking the first time since 2019 that it ranked outside the global top three. Grid connection constraints and policy uncertainty affected both utility-scale and distributed segments.
- ▶▶▶ **Brazil** added approximately 14 GW of new capacity, with continued growth driven largely by distributed PV installations.

Europe

- ▶▶▶ **Germany, Spain, France and Italy** remained the leading markets in Europe in 2025
- ▶▶▶ The **European Union** added 65.7 GW of new capacity, reaching a cumulative total of 406 GW.
- ▶▶▶ As PV penetration approaches 15% of electricity demand, challenges such as curtailment, negative market prices and grid constraints are becoming increasingly relevant.

Asia Pacific

- ▶▶▶ **China** continued to dominate the global market, with 415 GW of new capacity installed in 2025, bringing cumulative capacity to approximately 1 464 GW, nearly half of the global total.
- ▶▶▶ **India** installed approximately 56 GW, ranking third globally, supported by strong utility-scale growth ahead of domestic content deadlines.
- ▶▶▶ **Pakistan** added close to 16 GW, with installations remaining almost entirely in the distributed segment.

Middle East & Africa

- ▶▶▶ **Saudi Arabia** entered the global Top Ten with 6.8 GW; 12 GW cumulative.
- ▶▶▶ **South Africa** reached approximately 12 GW of cumulative capacity.
- ▶▶▶ Large-scale project pipelines continue to expand across Africa and the MENA region.

Manufacturing and Trade

China

China maintained its dominant position in global PV manufacturing, with persistent overcapacity driving module price declines of more than 60% since 2023 and supporting continued deployment.

India

India's Production Linked Incentive (PLI) scheme, together with Domestic Content Requirements (DCRs) and the Approved List of Models and Manufacturers (ALMM), supported rapid growth in PV manufacturing, with capacity additions accelerating further in 2025.



EU

Policy support under the Net Zero Industry Act and state-aid flexibility continued, but manufacturing capacity across the value chain remained below targeted levels.

USA

The Inflation Reduction Act (IRA) supported manufacturing expansion, while tariff uncertainty increased procurement costs and supply-chain risk.

MENA

Manufacturing developments in countries such as Saudi Arabia, Oman, Egypt and Morocco remained linked to broader industrial strategies and export ambitions rather than domestic demand.

Southeast Asia

US tariff pressure led to supply-chain rerouting and what could be temporary assembly activity rather than stable long-term manufacturing expansion.



Key Policy Instruments

1

Feed-in tariffs

are being phased out in mature markets as PV becomes cost-competitive, with market-based pricing mechanisms increasingly replacing direct subsidies.

2

Net billing/net metering

remain common prosumer support mechanisms, with a shift toward lower export remuneration and stronger incentives for self-consumption.

3

Sales outside of subsidy mechanisms

continue to expand as remuneration mechanisms for utility-scale and commercial PV diversify, with structures increasingly incorporating flexibility and storage.

4

Mandatory rooftop solar

requirements are being introduced in new buildings across several regions, particularly in Europe and Asia-Pacific, making PV increasingly standard in the built environment.



5

Storage incentive schemes

are expanding in regions with high PV penetration, with mandates introduced in countries such as China and India alongside utility-scale solar deployment.

6

Grid integration rules

are evolving, with new requirements in China mandating distributed PV systems to be monitorable, measurable, adjustable and controllable, reflecting a shift toward actively managed generation across an increasing number of countries.

7

Revenue stacking

is increasingly being evaluated in some markets where PV penetration contributes to negative prices, as the search for additional revenue on top of market and wholesale electricity prices becomes necessary.

Challenges



Curtailment and grid congestion

As PV penetration rises, curtailment, negative market prices and grid access constraints are becoming material. Deployment bottlenecks are shifting from module cost toward system integration.



Manufacturing imbalance

Persistent global overcapacity and very low module prices support deployment but maintain strong pressure on manufacturers; cumulative losses approaching USD 5 billion.



Data discrepancies

AC/DC reporting conventions, DC/AC ratios for utility-scale systems, and differences between installed vs. commissioned volumes create significant uncertainty in global totals.



Integration vs. deployment

The key market question entering 2026 is no longer how much PV can be deployed, but under what conditions it can be integrated and receive fair, predictable value.



Future Outlook



Policy evolution

Policy frameworks are shifting from deployment support toward integration support, with greater emphasis on storage, flexibility, market-based remuneration and more actively managed distributed generation.



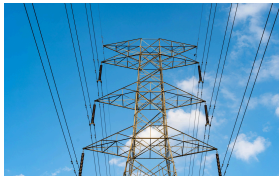
Sector coupling

PV is expected to play a larger role decarbonising other sectors via electric heating and electrified transport, with EVs and electric cooling providing flexible demand to absorb solar output.



Digitalisation & reliability

Inspection digitalisation, digital twins, predictive maintenance and performance-risk management are becoming central as global PV scales up past 3 TW.



System value & integration

The central question for 2026 is under what conditions PV can be integrated into reliable, economically sustainable electricity systems — not just how much can be deployed.

Want to know more?

If you are interested in more insights and detailed data, explore the full [Snapshot of Global PV Markets report](#).

About IEA PVPS Task 1

Task 1 supports the global deployment of PV by analysing market trends, policy drivers, and industry developments. It provides comprehensive reports like *Snapshot of Global PV Markets* and *Trends in PV Applications*, helping stakeholders make informed decisions.

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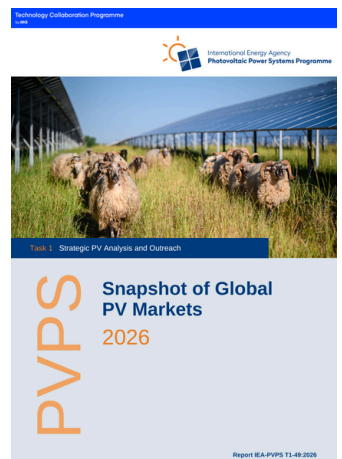


Photo Front Page:
22 MW system in Les Essards,
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