



Trends in PV Applications 2026 - Market Update

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Disclaimer



- Data for non-IEA PVPS countries are provided by official contacts or experts in the relevant countries.
- Data are valid at the date of publication and should be considered as estimates in several countries due to the publication date.
- Please mention our references if you use these figures.

We are in the TW era



1 GLOBAL DEPLOYMENT SCALE

PV continued to expand rapidly in 2025, reaching 2.96 TW of cumulative capacity, with 0.69 TW added during the year, a 15% increase compared with 2024.



2.96 TW
CUMULATIVE
CAPACITY



0.69 TW
INSTALLED IN 2025

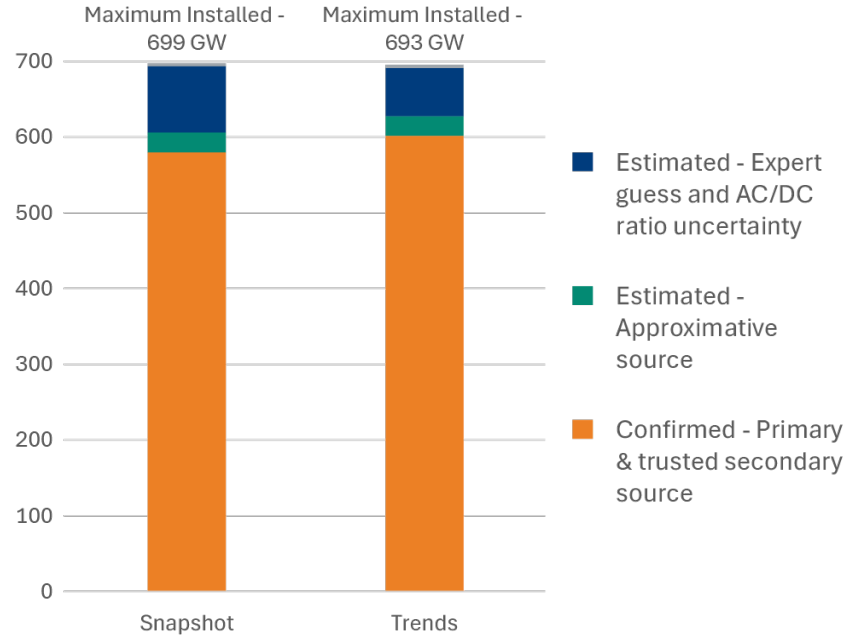


+15%
YEAR ON YEAR

How Much Was Installed in 2025?



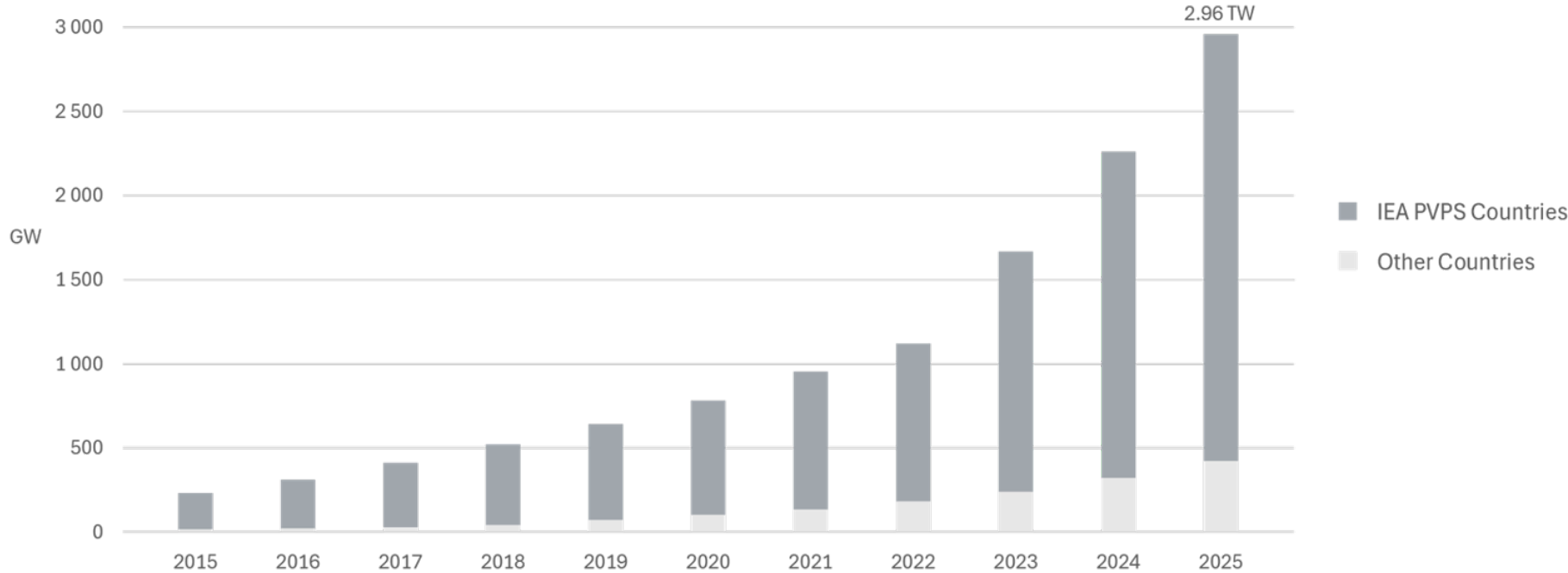
FIGURE 1.1: GLOBAL ANNUAL CAPACITY 2025 - FIRST ESTIMATIONS AND CONSOLIDATED DATA



Evolution of Cumulative PV Installations



FIGURE 2.1: EVOLUTION OF CUMULATIVE PV INSTALLATIONS



PVPS The TW era

China is still and always leading



2 MARKET CONCENTRATION AND GEOGRAPHIC EXPANSION

China accounted for 60% of global additions in 2025. Deployment also broadened, with 36 countries installing more than 1 GW.

TOP 5 MARKETS: ANNUAL INSTALLATIONS IN 2025



60%
OF GLOBAL ADDITIONS
IN CHINA



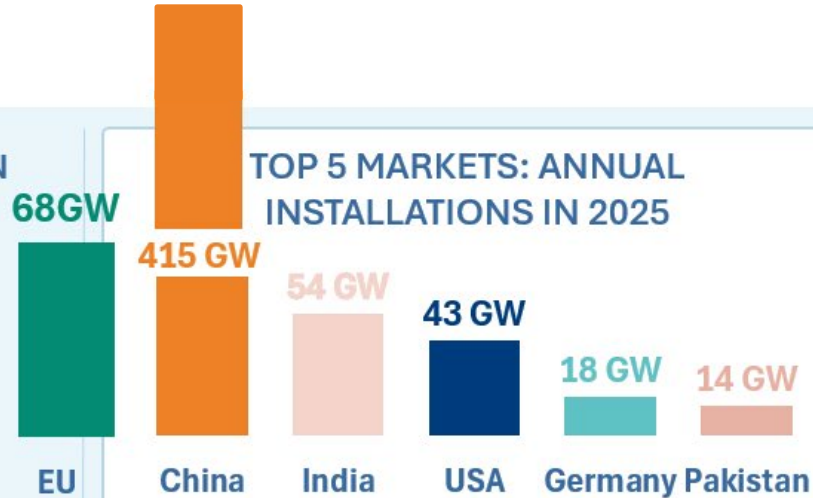
36
COUNTRIES
INSTALLED
OVER 1 GW

... the gap is very large



2 MARKET CONCENTRATION AND GEOGRAPHIC EXPANSION

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60%
OF GLOBAL ADDITIONS
IN CHINA

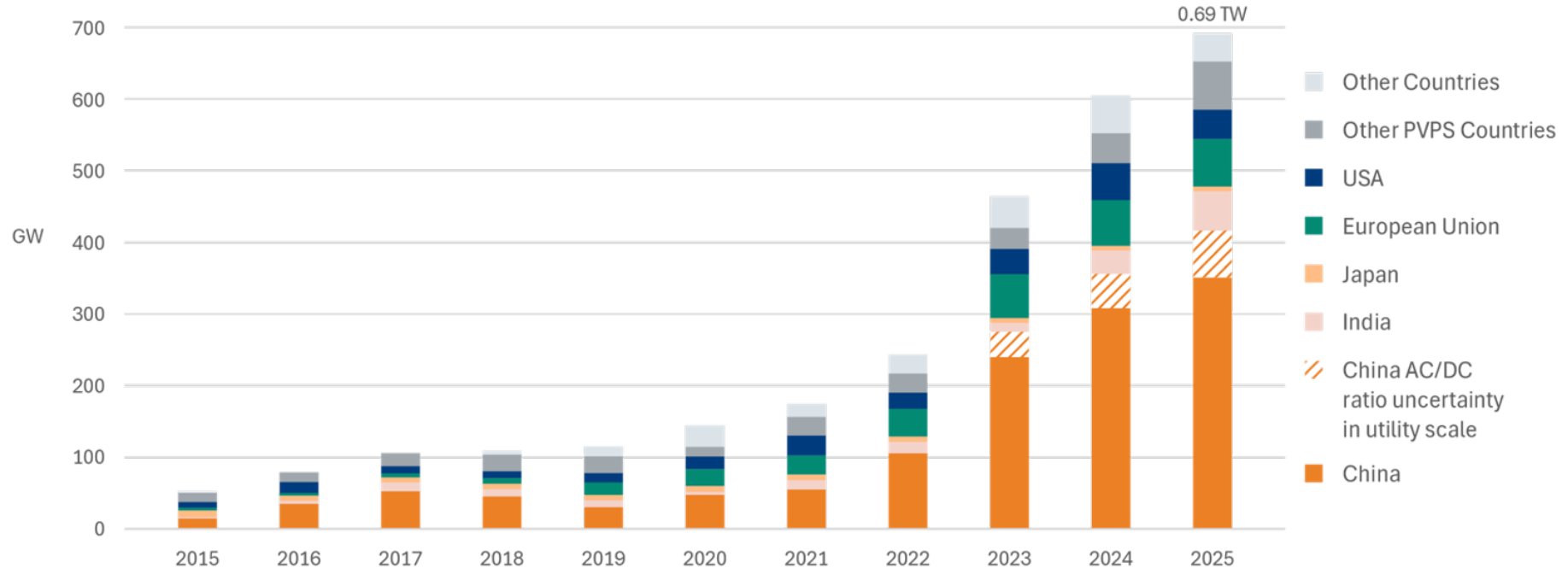


36
COUNTRIES
INSTALLED
OVER 1 GW

Evolution of Annual PV Installations



FIGURE 2.3: EVOLUTION OF ANNUAL PV INSTALLATIONS IN MAJOR MARKETS



Reaching the Top Ten requires more and more PV



TABLE 2.1: EVOLUTION OF TOP 10 MARKETS

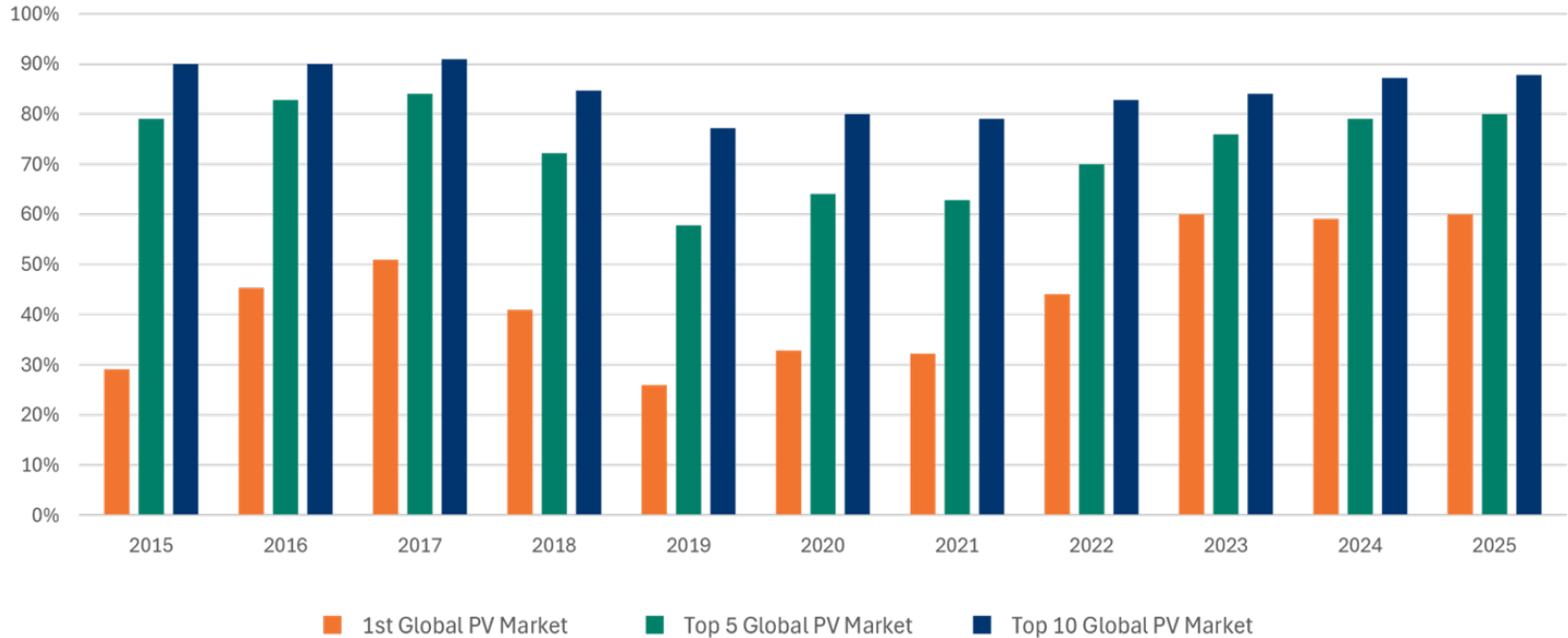
RANKING	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
1	China	China	China	China	China	China	China	China	China	China	China
2	Japan	USA	India	India	USA	USA	USA	USA	USA	USA	India
3	USA	Japan	USA	USA	India	Vietnam	India	India	Germany	India	USA
4	UK	India	Japan	Japan	Japan	Japan	Japan	Brazil	India	Pakistan	Germany
5	India	UK	Türkiye	Vietnam	Spain	Germany	Brazil	Spain	Brazil	Germany	Pakistan
6	Germany	Germany	Germany	Australia	Vietnam	Australia	Germany	Germany	Spain	Brazil	Brazil
7	Korea	Thailand	Korea	Türkiye	Australia	Korea	Spain	Japan	Japan	Spain	Spain
8	France	Korea	Australia	Germany	Korea	India	Australia	Poland	Italy	Italy	France
9	Australia	Australia	France	Mexico	Germany	Spain	Korea	Australia	Poland	France	Saudi Arabia
10	Canada	Türkiye	Brazil	Korea	Ukraine	Brazil	Poland	Netherlands	Türkiye	Japan	Italy
RANKING EU	3	4	4	2	2	2	2	2	2	2	2
MARKET LEVEL TO ACCESS THE TOP 10											
	0.67 GW	0.81 GW	1.07 GW	2.27 GW	3.55 GW	3.78 GW	3.71 GW	4.20 GW	4.84 GW	5.62 GW	6.69 GW

Note: the positions in this table may change for past years as historical data is corrected

Evolution of PV Market Share



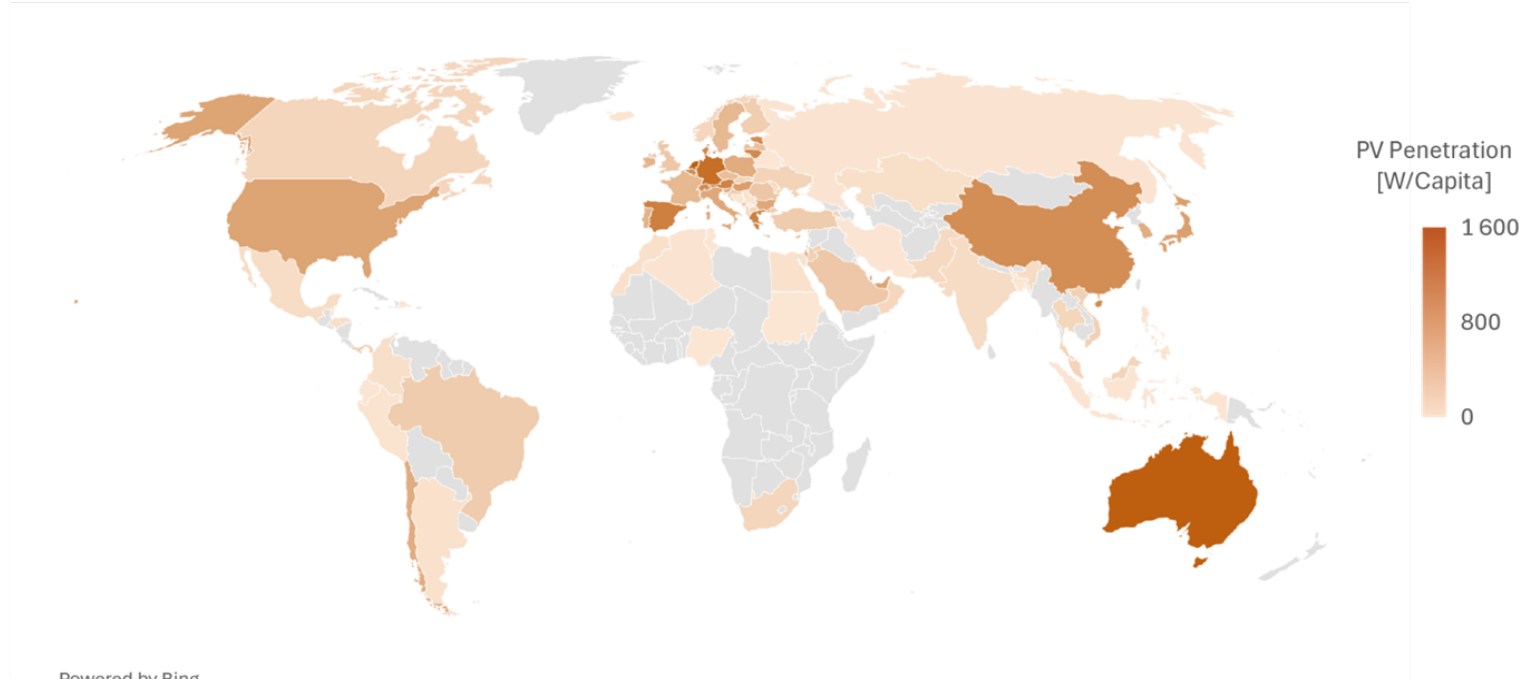
FIGURE 2.4: EVOLUTION OF MARKET SHARE OF TOP COUNTRIES



1kWp per capita is a reality in many countries



FIGURE 2.2: PV PENETRATION PER CAPITA IN 2025

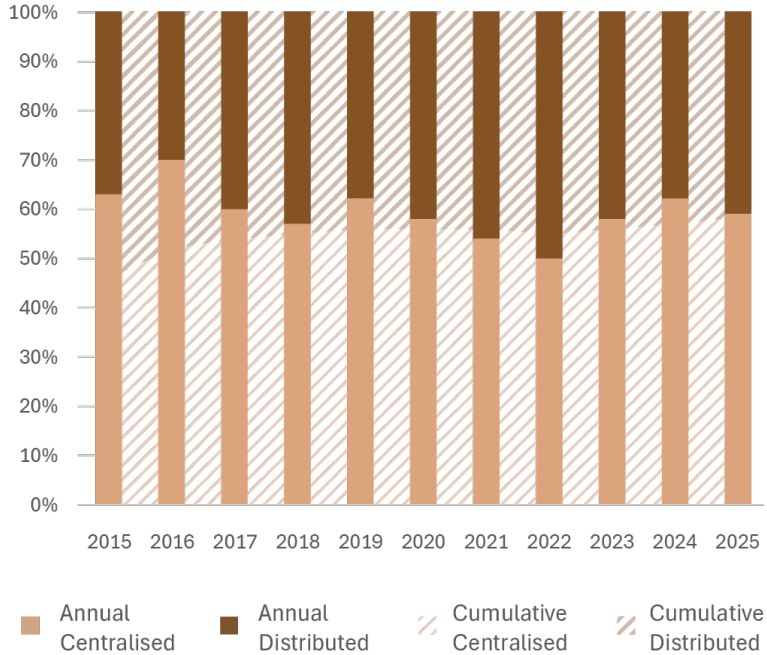


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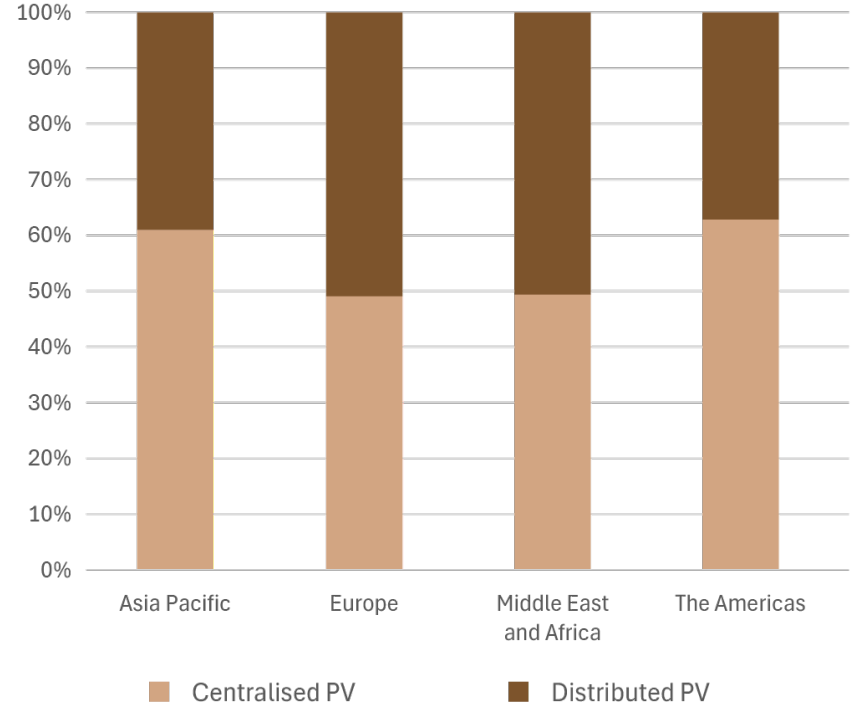
Centralised vs Distributed

FIGURE 2.9: ANNUAL SHARE OF CENTRALISED AND DISTRIBUTED GRID CONNECTED INSTALLATIONS 2015-2025



SOURCE: IEA PVPS & OTHERS

FIGURE 2.12: ANNUAL GRID-CONNECTED CENTRALISED AND DISTRIBUTED PV INSTALLATIONS BY REGION IN 2025



SOURCE: IEA PVPS & OTHERS

FIGURE 2.10: CENTRALISED PV - CUMULATIVE AND ANNUAL
INSTALLED CAPACITY PER REGION 2025

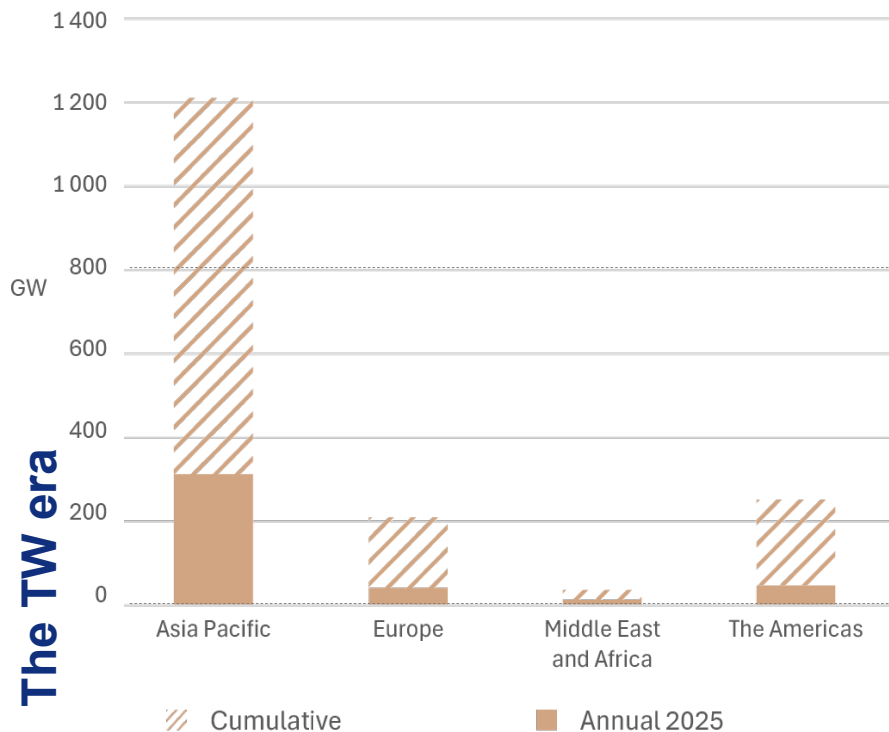
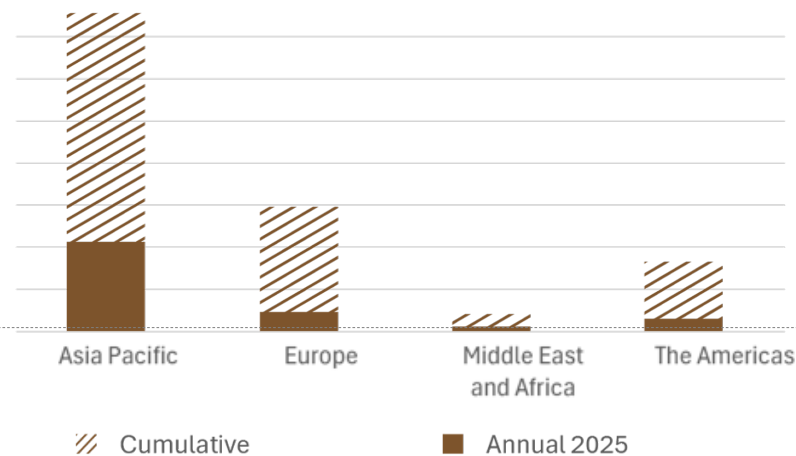
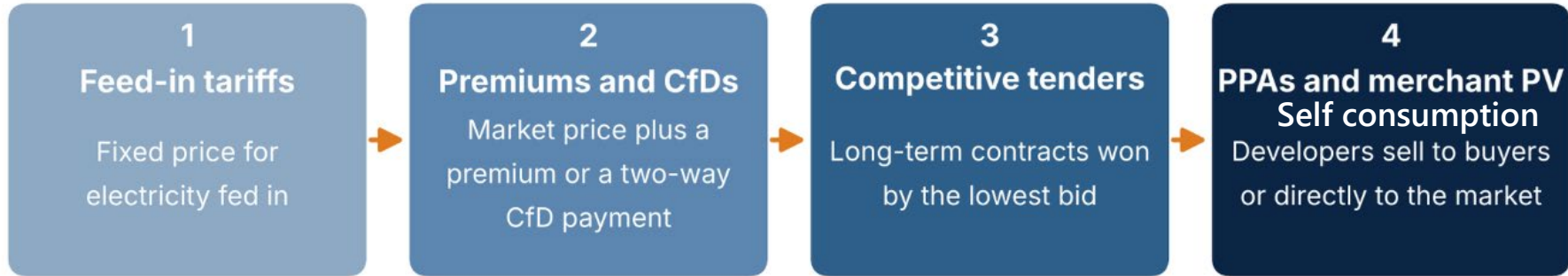


FIGURE 2.11: DISTRIBUTED PV - CUMULATIVE AND ANNUAL
INSTALLED CAPACITY PER REGION 2025



SOURCE: IEA PVPS & OTHERS

Policy and markets are being forced to change



Policy design is increasingly focused on who carries market risk.

Policy still drives PV in many markets



- Germany allocated more than 7 GW across three utility-scale tender rounds in 2025. Italy allocated 7.7 GW in its first FER-X auction, and Saudi Arabia awarded 3 GW.
- India announced around 44 GW of utility-scale solar tenders in 2025, including at least 4.4 GW of solar-plus-storage.
- Lowest 2025 bids were 11 USD/MWh in Saudi Arabia, 28 in Japan and 29 in India and South Africa. In Europe, the lowest winning bid was 39 USD/MWh in Germany and 50 in Italy.

In others policy is handing the job over to markets



- Feed-in tariffs are being replaced for example, in France, Japan, Italy and Switzerland by competitive tenders, market premiums and direct market participation
- China's February 2025 reform requires grid-injected wind and solar to participate in electricity markets, with a price-settlement mechanism to stabilise revenue.
- Pakistan cut the buyback rate for surplus solar electricity, approved in March 2025 and amended in December 2025. The Netherlands has scheduled the end of net metering for 2027.

Whilst markets are pulling in other countries



- The US signed about 30 GW of corporate clean-energy PPAs in 2025, 20 GW of it solar
- Spain was the most active European PPA market in 2025, with about 4.5 GW contracted. Germany and the UK remain established markets
- India (about 11 GW) and Australia (about 4 GW) led Asia-Pacific corporate PPA announcements. Poland contracted about 2.5 GW in corporate PPAs in 2025

Grid congestion and negative prices are increasingly changing the scene



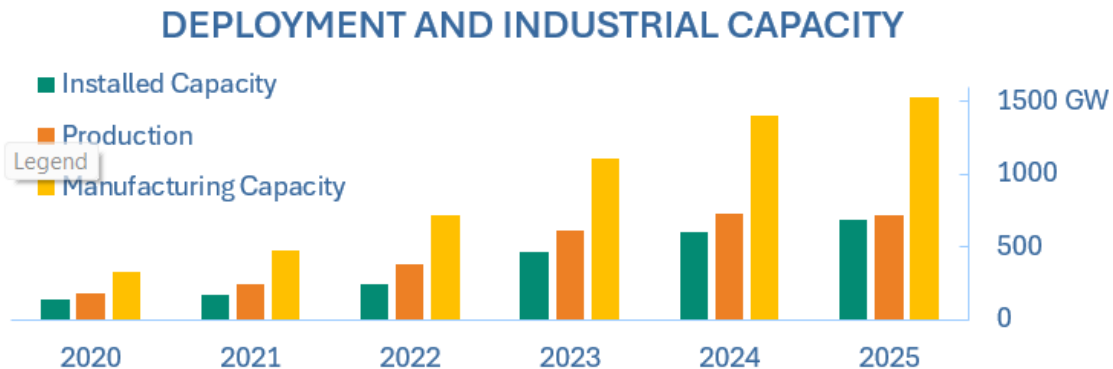
- Germany suspends state-supported remuneration for affected PV during negative-price periods. Its February 2025 legislation also restricts support for systems without suitable control equipment
- China's January 2025 rules require grid operators to publish available connection
- Brazil opened a public consultation in February 2025 on compensating curtailed PV, with calculation rules published in March 2025
- Spain enabled renewable plants to provide dynamic voltage-control services from 2025. France's TURPE 7 network tariff took effect in August 2025
- The policy toolkit includes dynamic export limits, smart meters, flexible demand, batteries and network reinforcement

We could be installing much more; the industrial capacity is there



3 MANUFACTURING OVERCAPACITY AND WEAK UTILISATION

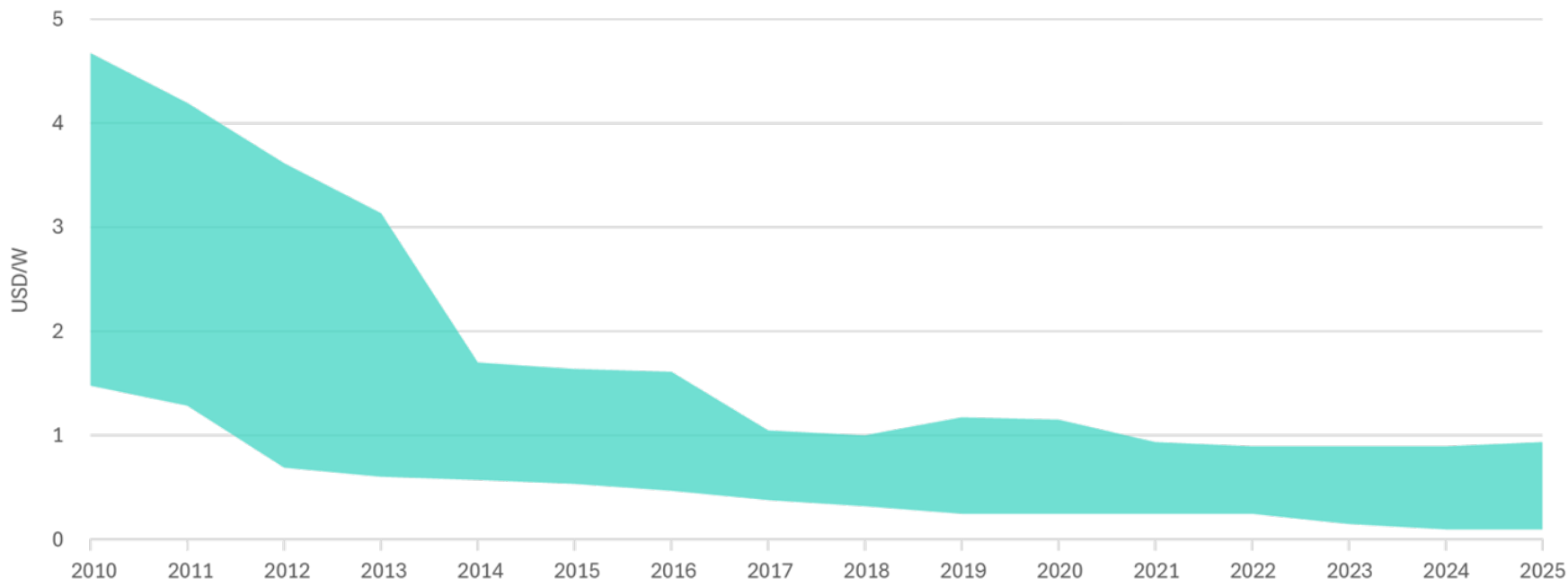
Global module production exceeded annual installations, but remained well below manufacturing capacity, pointing to continued overcapacity.



PV Module Prices are no longer moving significantly



FIGURE 6.2: EVOLUTION OF PV MODULE PRICES RANGE IN USD/W



There is still a very wide distribution across segments and countries



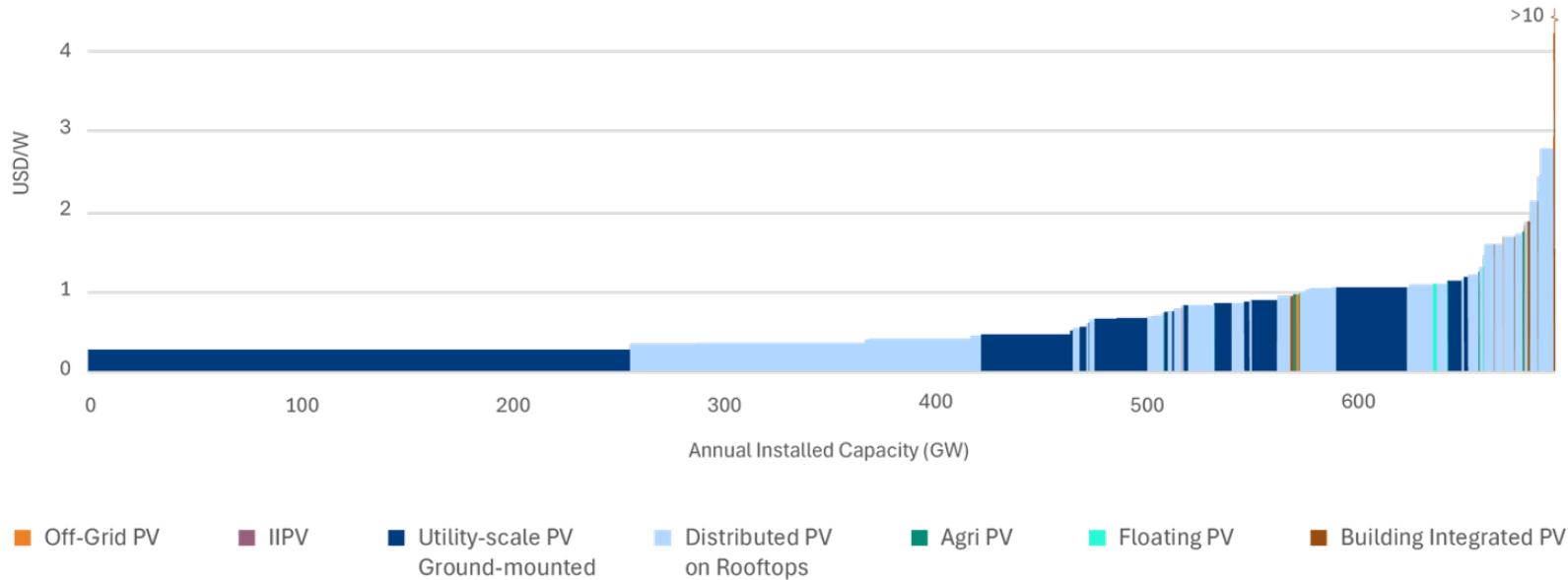
FIGURE 6.6: INDICATIVE INSTALLED SYSTEM PRICES IN SELECTED IEA PVPS REPORTING COUNTRIES IN 2025



Much of the global market was installed at under \$1USD/Wp system costs



FIGURE 6.4: 2025 PV MARKET COSTS RANGES

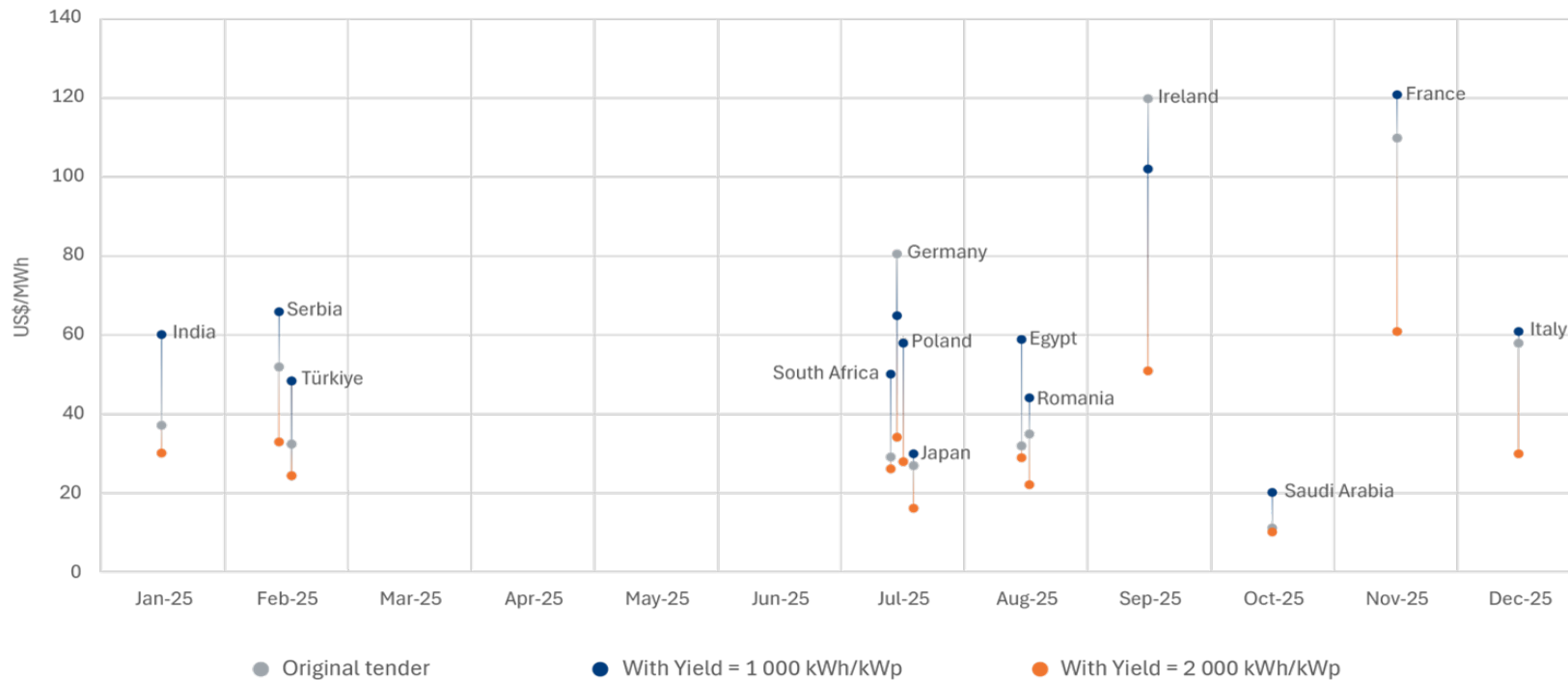


Note: Utility and distributed PV are distributed according to volumes and costs. Floating, Linear, AgriPV and Offgrid PV are indicative average maximum/ minimum price points; the real costs are spread between these two points with outliers.

Differences in yield do not explain differences in costs



FIGURE 6.9: REPORTED 2025 SOLAR TENDER/PPA PRICES NORMALISED FOR REFERENCE SOLAR YIELD



Storage is and will be an essential enabler; and cost is now low enough to take full advantage of it



4 STORAGE DEPLOYMENT ACCELERATED

Annual BESS energy-capacity additions in Europe and the USA combined rose from 2.9 GWh in 2020 to 79 GWh in 2025.

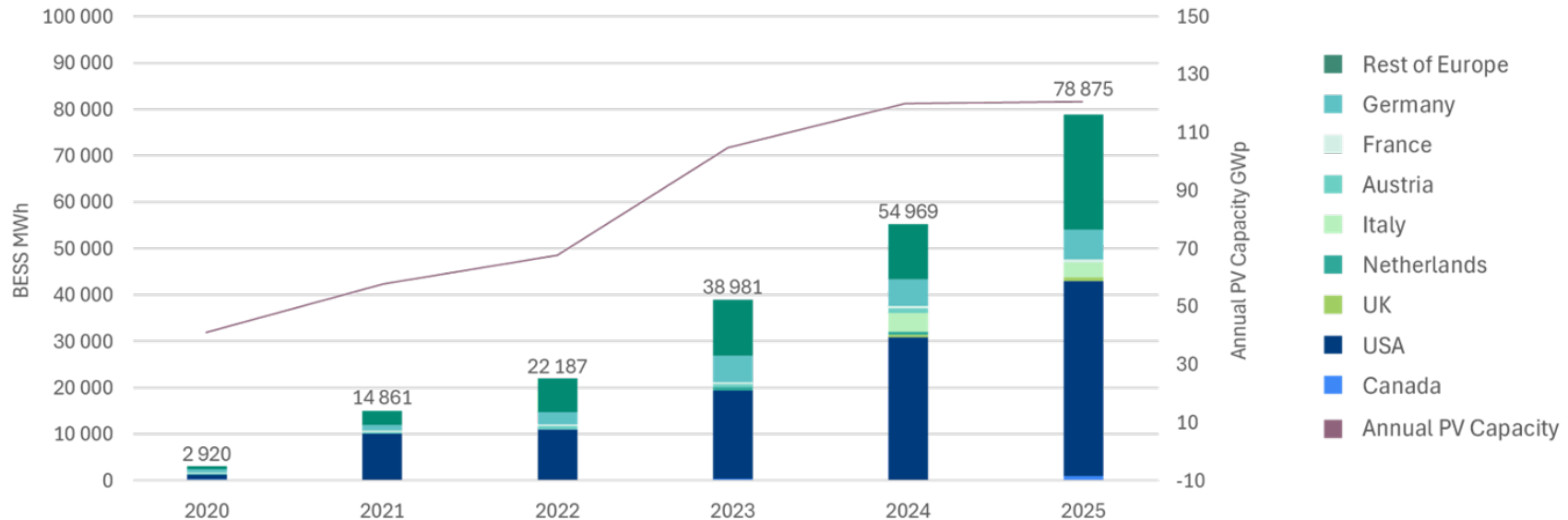
ANNUAL BESS ENERGY-CAPACITY ADDITIONS IN EUROPE AND USA



Battery Energy Storage and PV Deployment



FIGURE 7.2: ANNUAL BATTERY ENERGY STORAGE SYSTEM (BESS), SELECTED COUNTRIES



SOURCE: IEA PVPS, SPE, PVAUSTRIA, CANREA, ENEDIS, BATTERY CHARTS .DE, TERNA, CBS, SISTEMAELECTRICO, GOV.UK

PV is now a fundamental part of the worlds economy



5 CLIMATE AND ECONOMIC CONTRIBUTION

PV contributed to climate mitigation and the economy in 2025, avoiding emissions, supporting millions of jobs and generating substantial market activity.



1.3 Gt CO₂eq
AVOIDED
ANNUALLY



8.2
MILLION
PV JOBS



400 USD
BILLION
IN MARKET
ACTIVITY

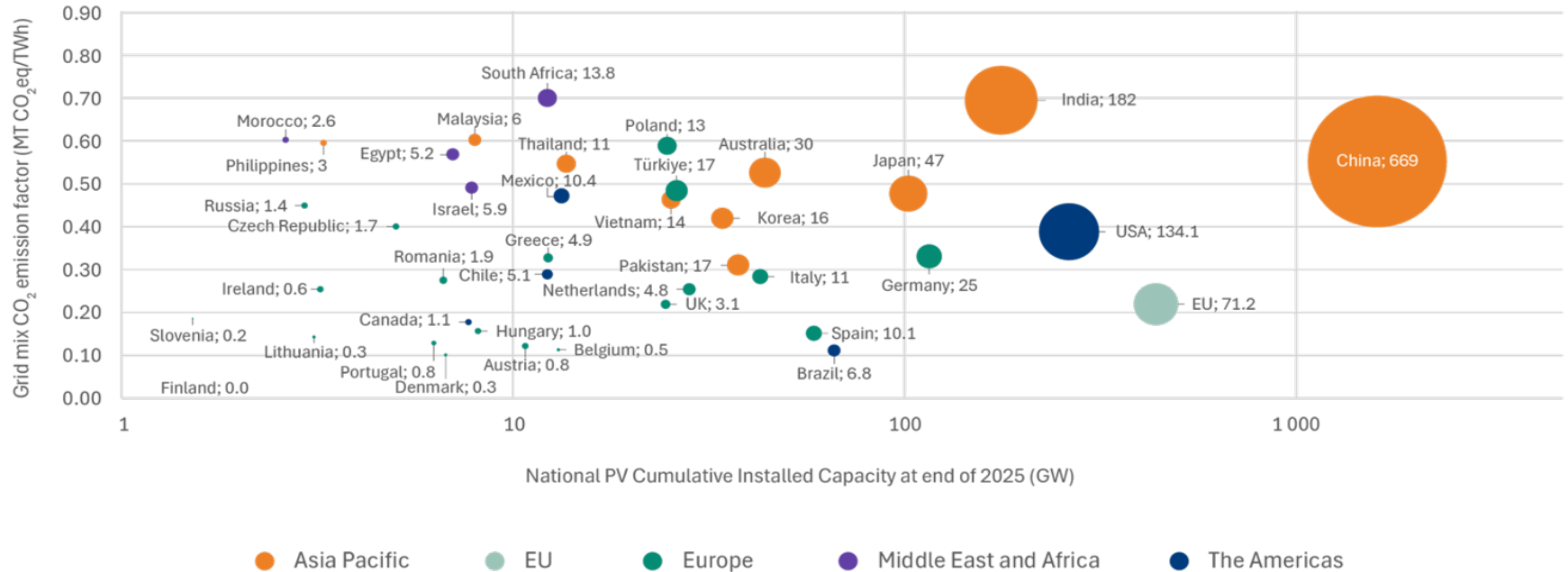


12%
THEORETICAL
PV PENETRATION

CO₂ Emissions Avoided by PV

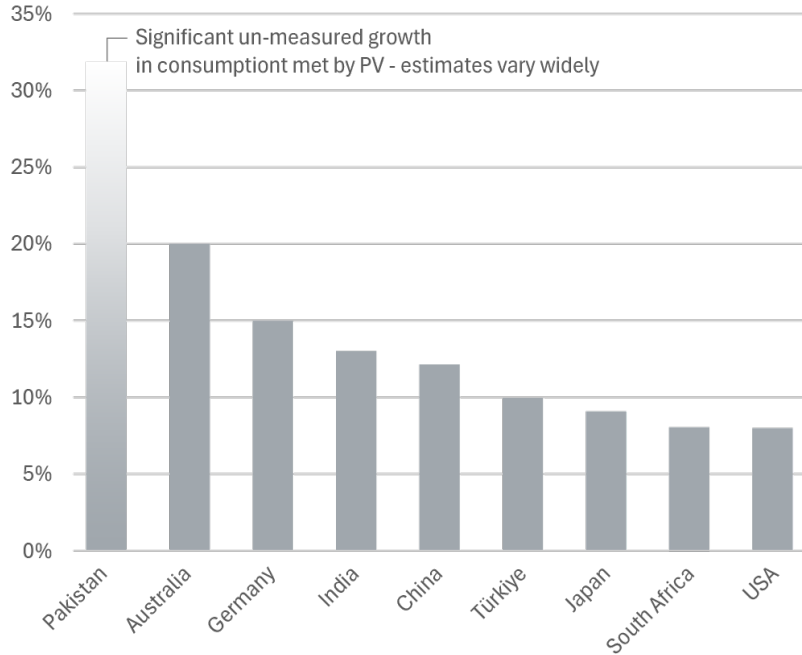


FIGURE 5.1: CO₂ EMISSIONS AVOIDED BY PV [MT], SELECTED COUNTRIES



SOURCE: IEA PVPS FROM IEA PVPS, GLOBAL SOLAR ATLAS, EMBER

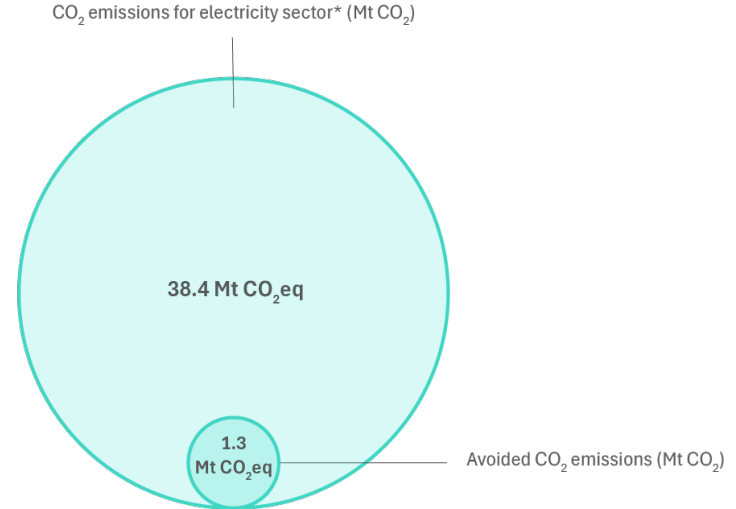
FIGURE 5.2: AVOIDED CO₂ EMISSIONS AS PERCENTAGE OF TOTAL EMISSIONS OF ELECTRICITY SECTOR* IN 2025



*Emissions of final electricity demand

SOURCE: IEA PVPS, OTHERS

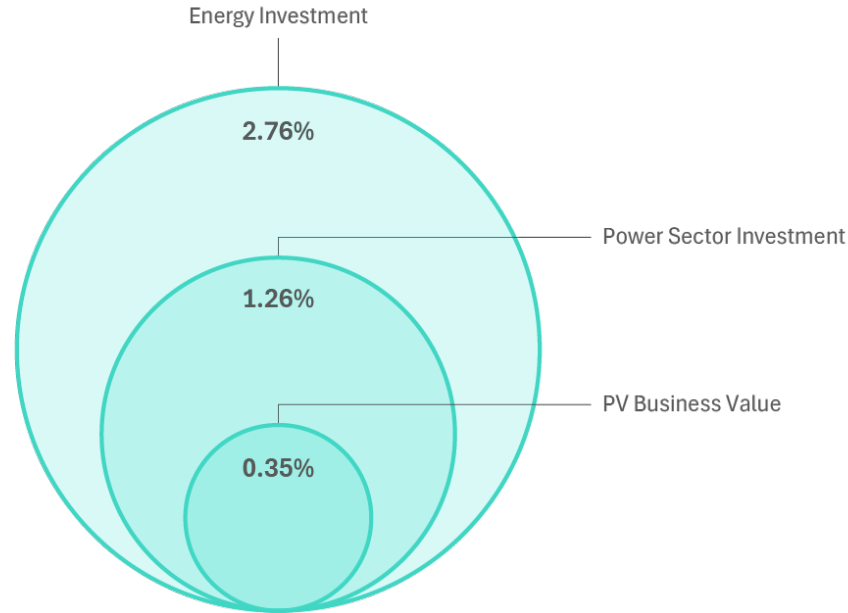
FIGURE 5.3: AVOIDED CO₂ EMISSIONS AS PERCENTAGE OF ENERGY SECTOR TOTAL EMISSIONS



* Energy related CO₂ emissions from power sector

SOURCE: IEA PVPS, IEA

**FIGURE 5.5: CONTRIBUTION TO GLOBAL GDP OF PV
BUSINESS VALUE AND ENERGY SECTOR INVESTMENTS**



Energy: Fuels, Power, End-use

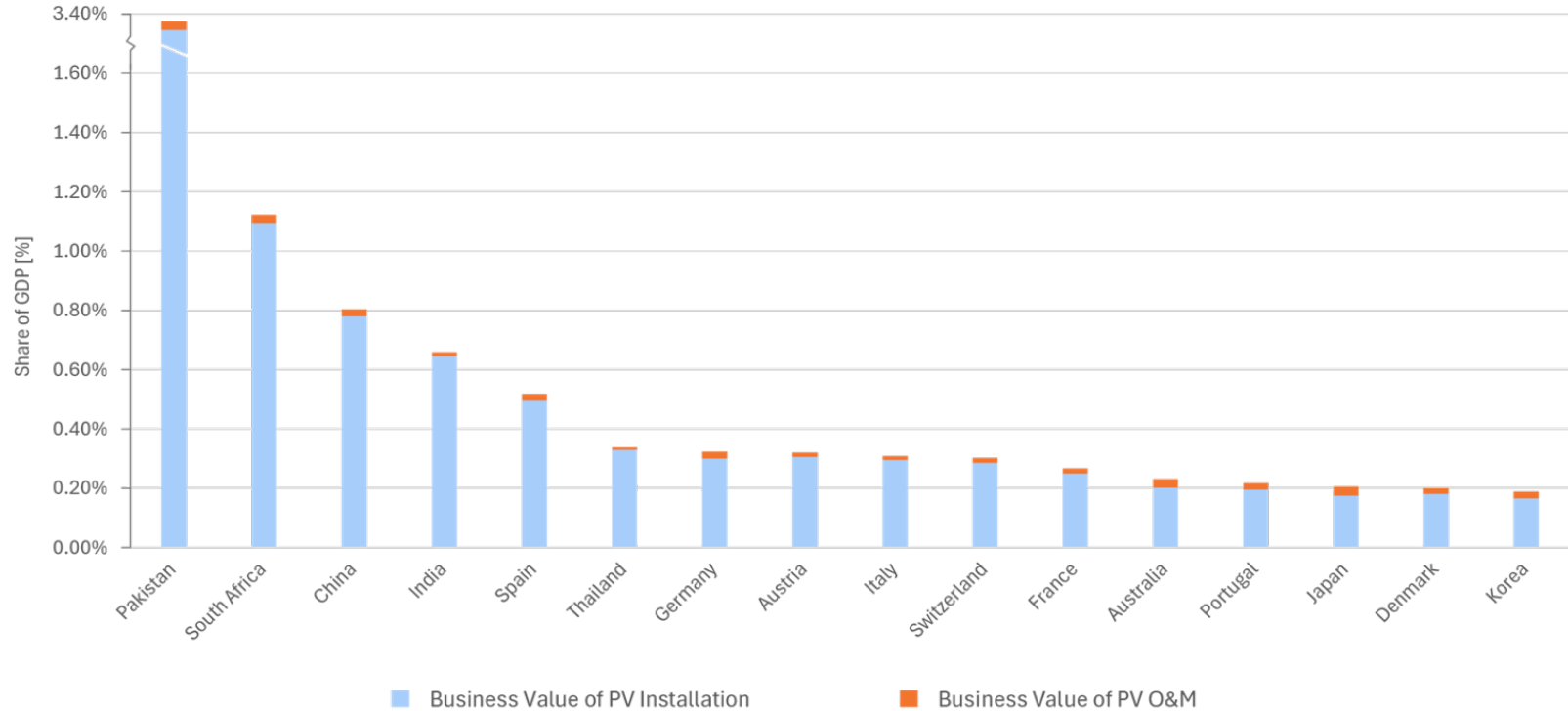
Power Sector: Generation, Batteries and Grids

SOURCE: IEA PVPS, IEA, OTHERS

Business Value of the PV Market in 2025



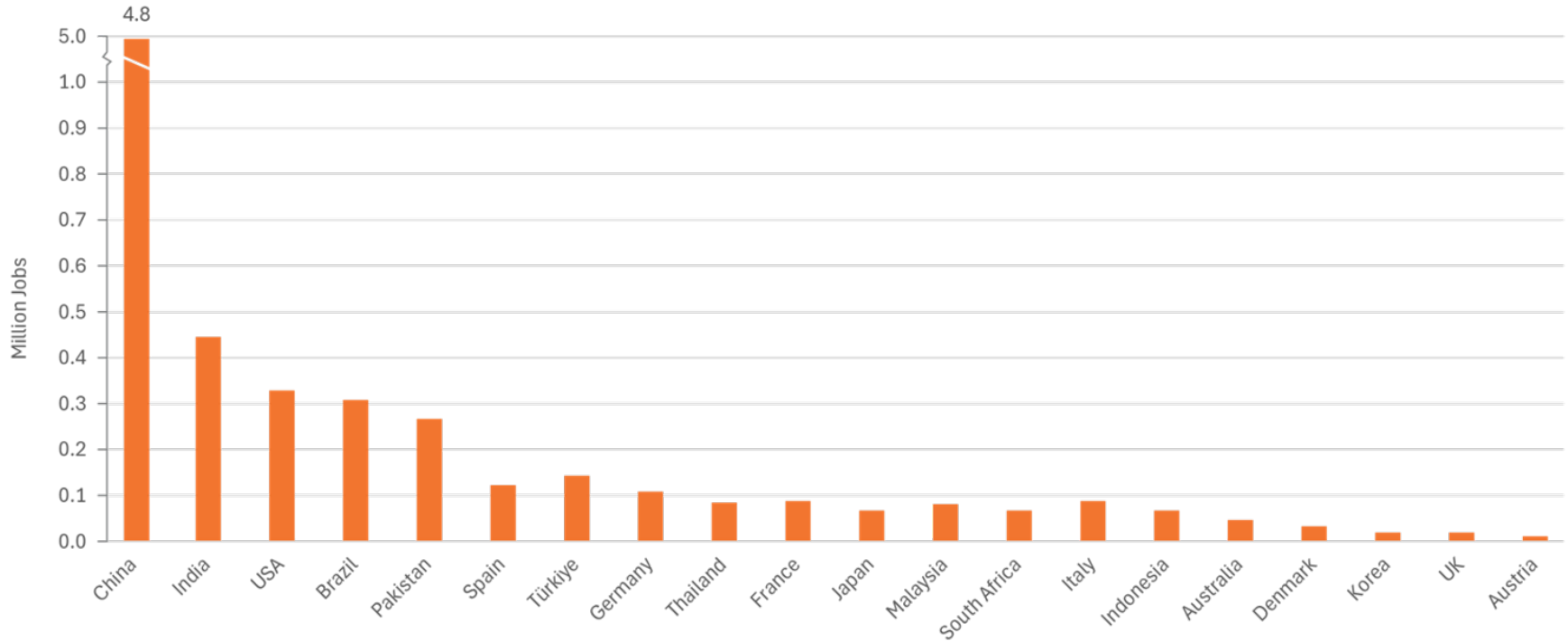
FIGURE 5.4: BUSINESS VALUE OF THE PV MARKET IN 2025 IN SELECTED IEA PVPS COUNTRIES



Global Employment in the PV Sector



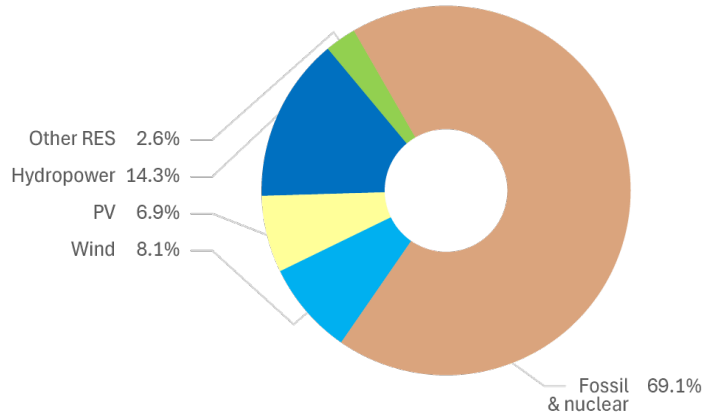
FIGURE 5.9: GLOBAL EMPLOYMENT IN PV SELECTED COUNTRIES



PV in the Global Renewable Energy Landscape

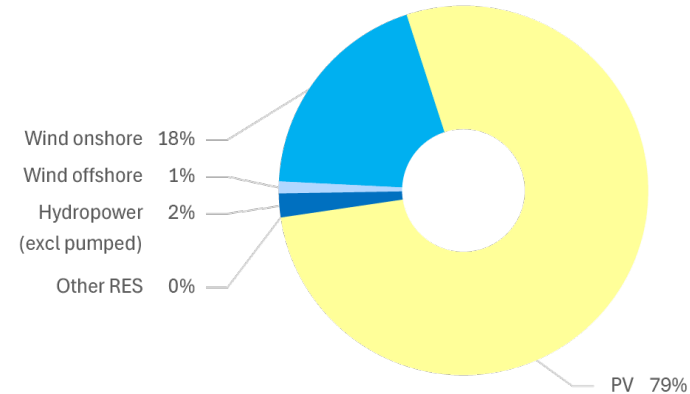


FIGURE 7.3: SHARE OF RENEWABLES IN THE GLOBAL ELECTRICITY PRODUCTION IN 2025



SOURCE: IEA

FIGURE 7.4: NEW RENEWABLE INSTALLED CAPACITY 2025



SOURCE: IEA PVPS, GWEC, IHA, REN21



GENERATION
≠
DEMAND
≠
CONSUMPTION

Electricity generation

- *electricity used within the power sector itself*
- *net electricity imports*
- *network (grid) losses*

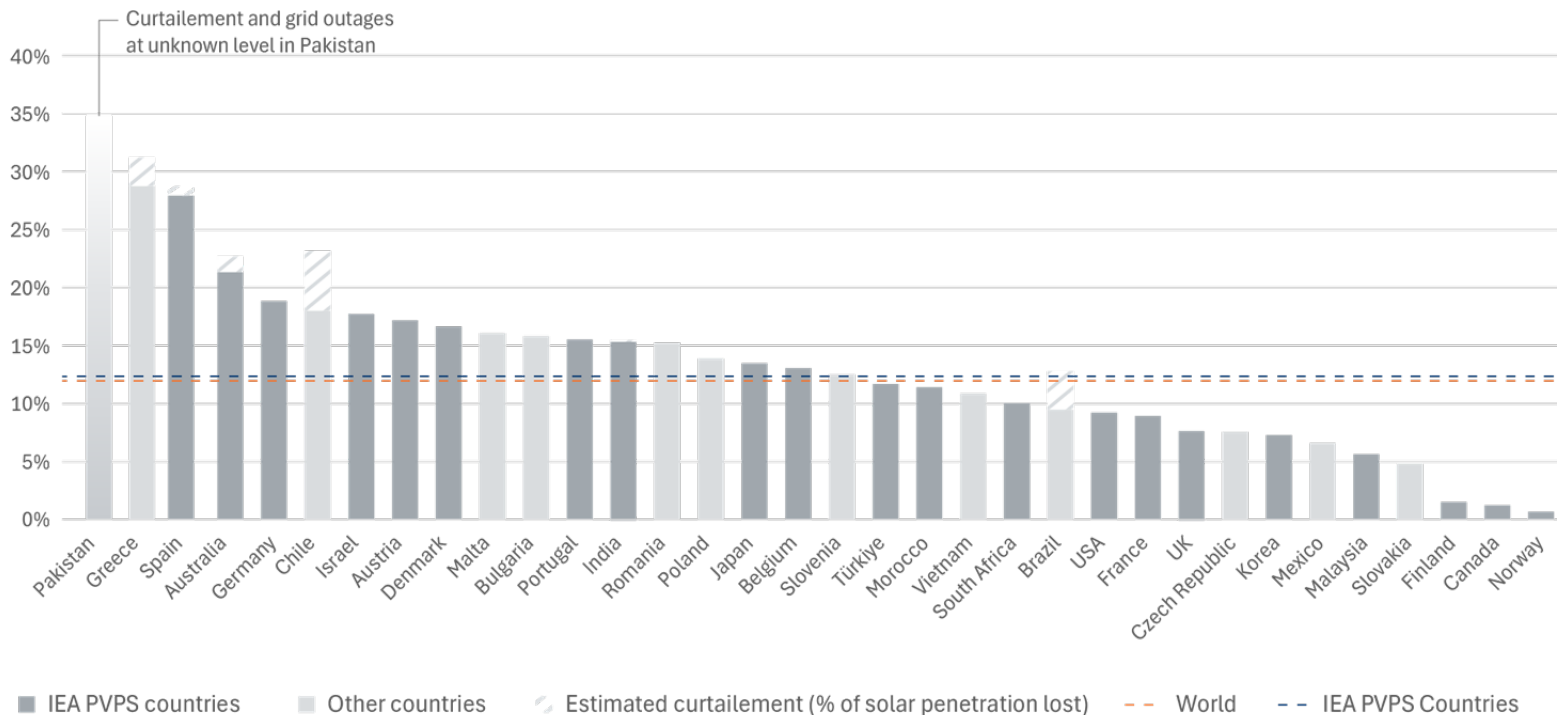
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Electricity consumption (final electricity consumed by end users)

PV Contribution to Electricity Consumption in 2025



FIGURE 7.1: PV CONTRIBUTION TO ELECTRICITY CONSUMPTION 2025





- We are in the Terrawatt era !
- We have the manufacturing capacity to go further and PV must continue to grow to meet the challenges in front of us.
- Policy and markets are having to react to changing contexts as the energy transition progresses.
- PV is now a fundamental part of the world's economy, reducing CO2 emissions, employing millions and providing substantial and meaningful contributions to economies around the world.



Next speaker: Izumi Kaizuka

