



SolarPower
Europe

Global Market Outlook For Solar Power 2021-2025

Smarter E Industry Days 2021

Global Solar Market Outlook 2021 - 2025



Thanks a lot to all supporters of the GMO 2021 – 2025!

Global Solar Market Outlook

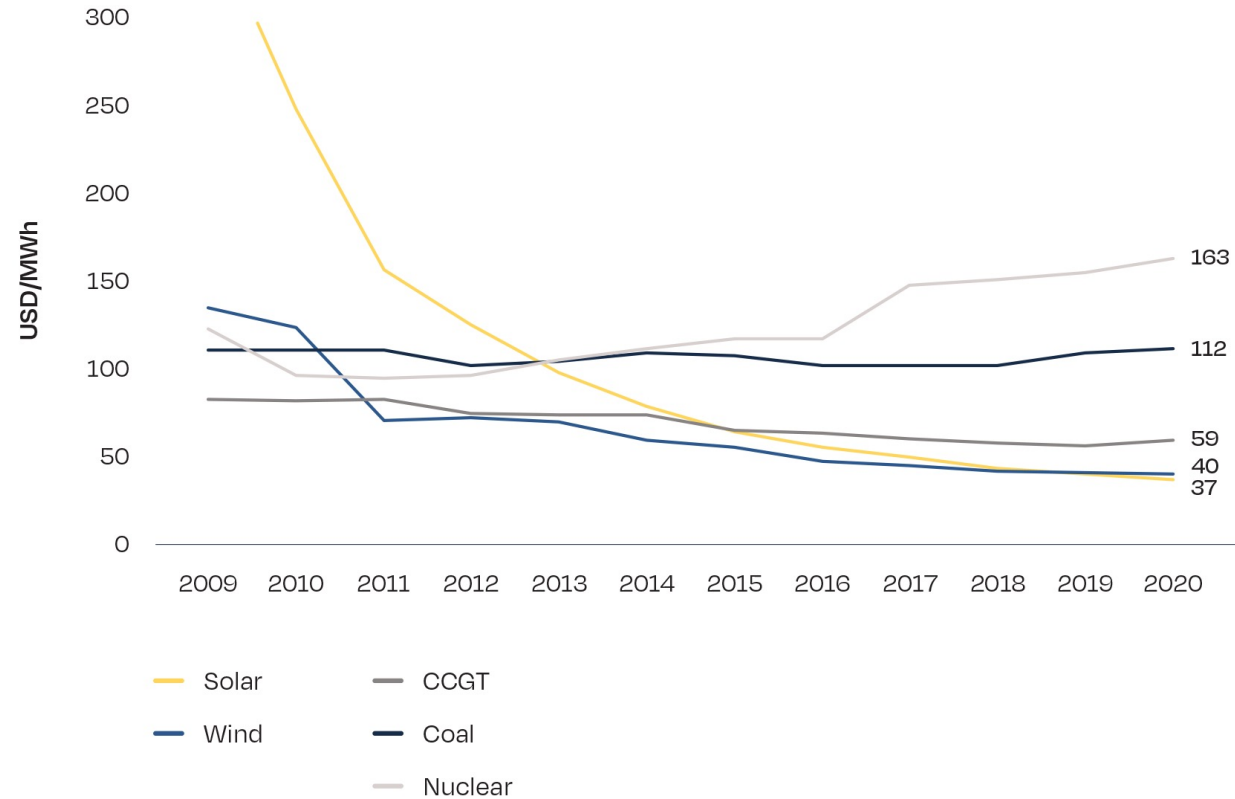
Update 2000 - 2020



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SOLAR ELECTRICITY GENERATION COST IN COMPARISON WITH OTHER POWER SOURCES 2009-2020

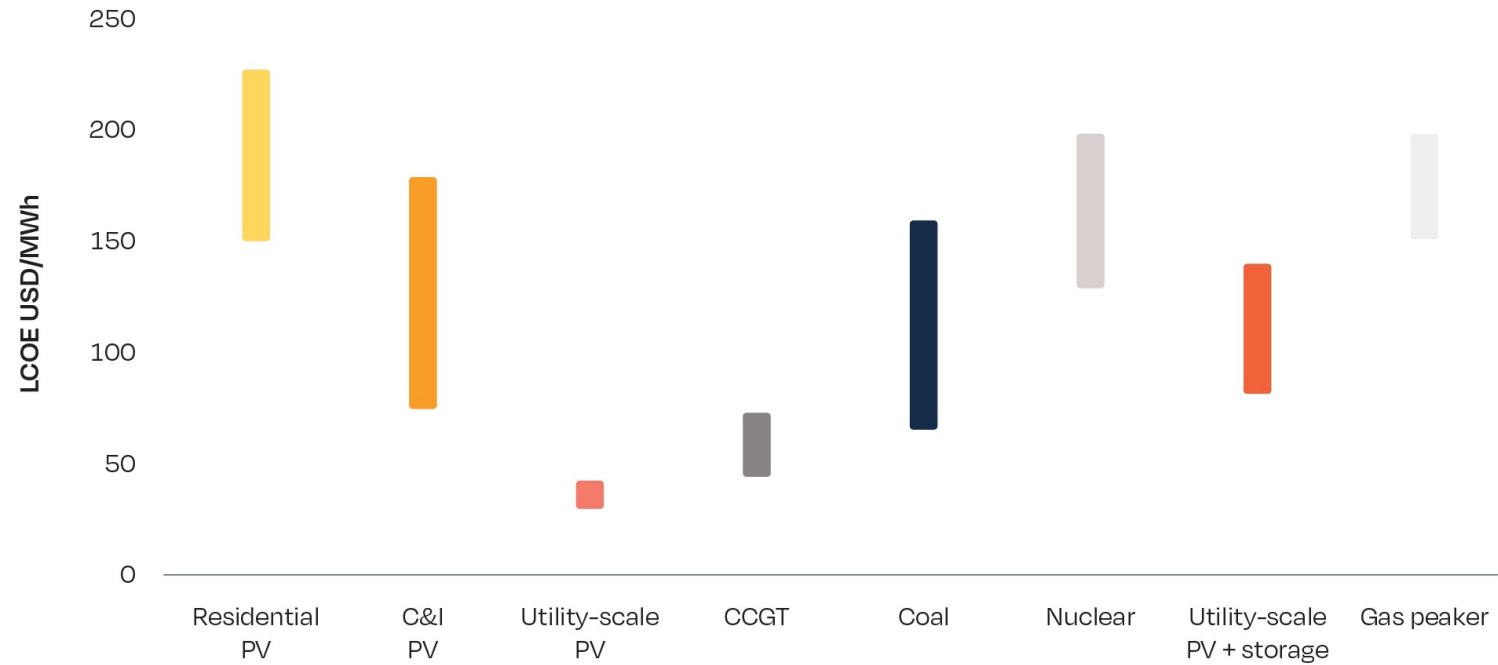


SOURCE: Lazard (2020).

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Costs improvements for utility-scale solar cost have progressed by a further 8% compared to 2019. The spread with conventional generation technologies is widening, considering that the cost of gas, coal and nuclear all went up.

SOLAR ELECTRICITY GENERATION COST IN COMPARISON WITH CONVENTIONAL POWER SOURCES 2020

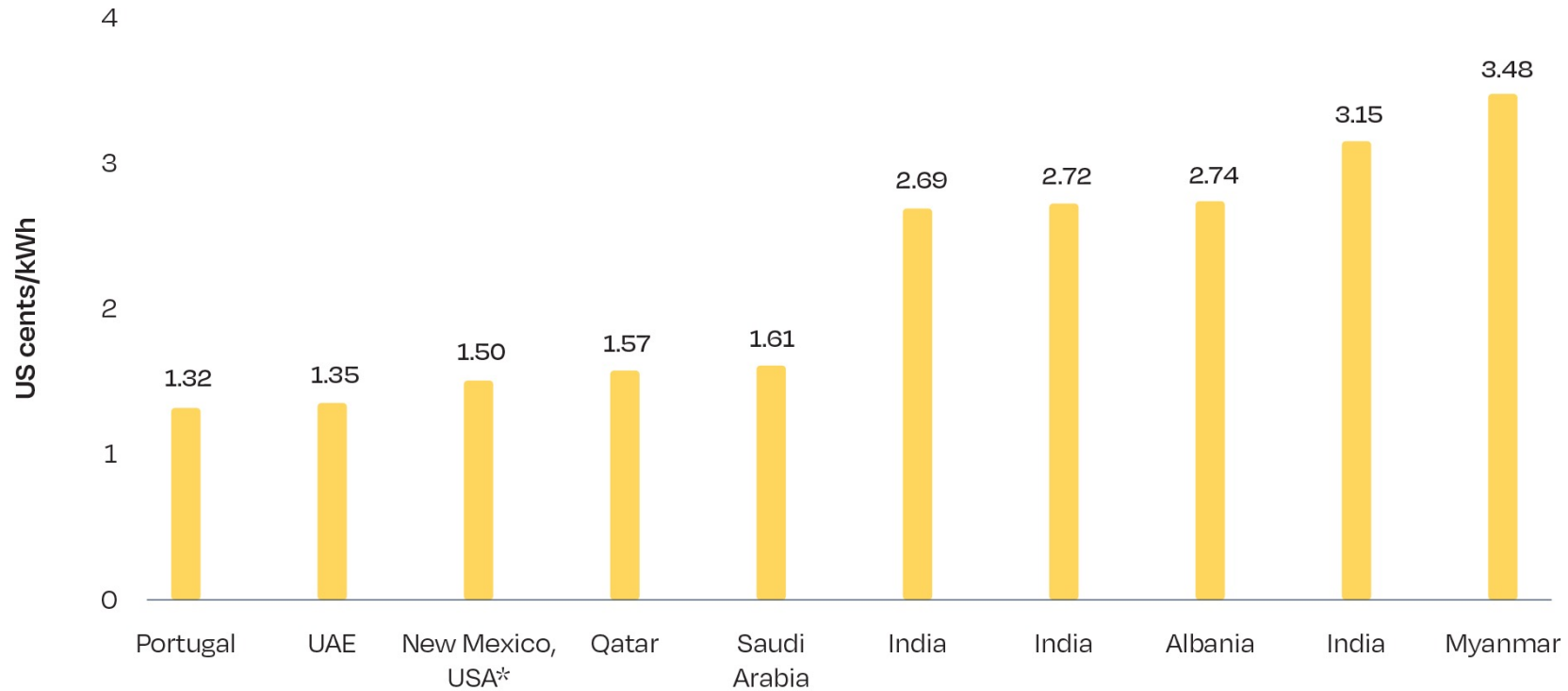


SOURCE: Lazard (2020).

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Solar's cost improved across the board for all segments, with utility-scale solar now superior to fossil fuels in all unsubsidised investment cases and PV + storage outcompeting gas peakers.

SELECTION OF LOWEST SOLAR AUCTION BIDS AROUND THE WORLD IN 2020

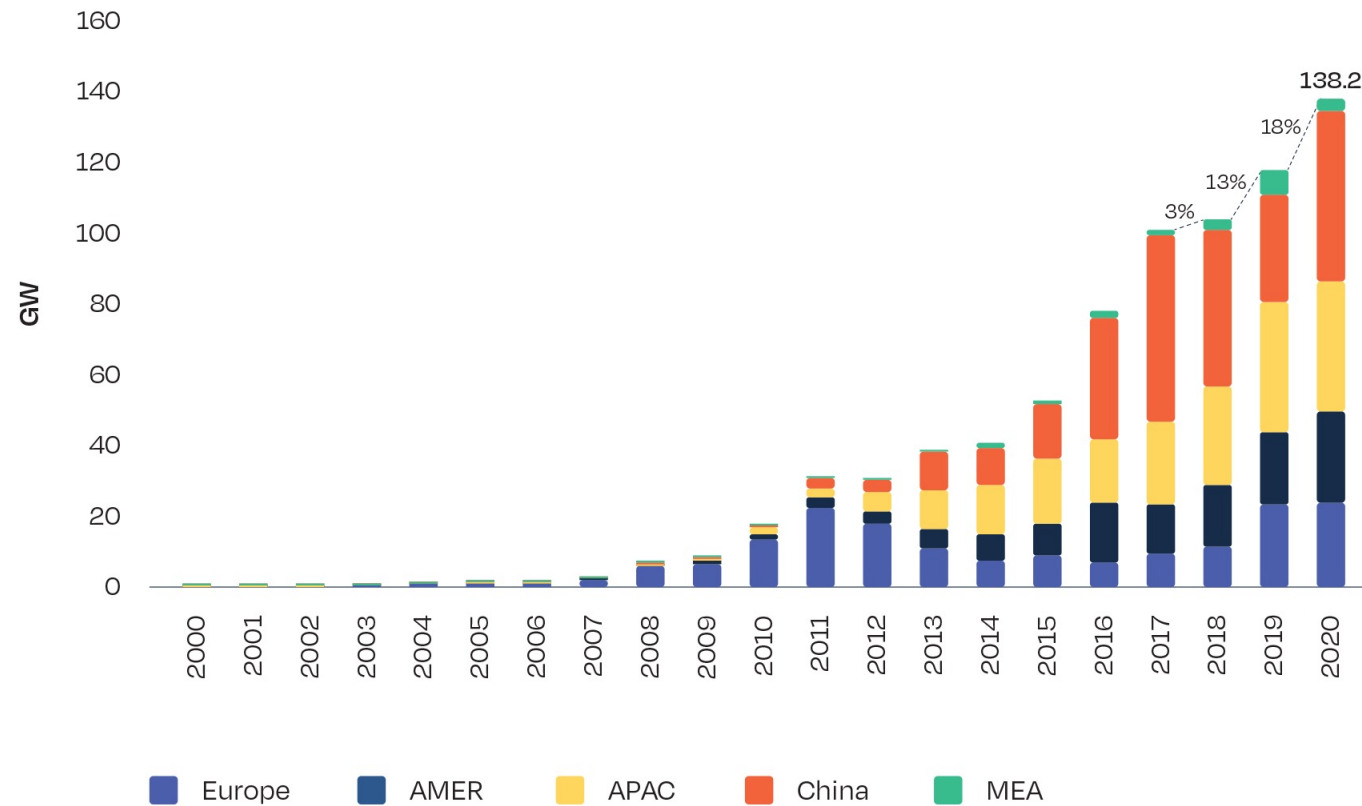


*PPA with Investment Tax Credit.

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Solar auctions in 2020 saw a continuation of the downward price trend, with two awarded bids even below 1.5 USD. Five bids in 2020 were below the 2019's world record.

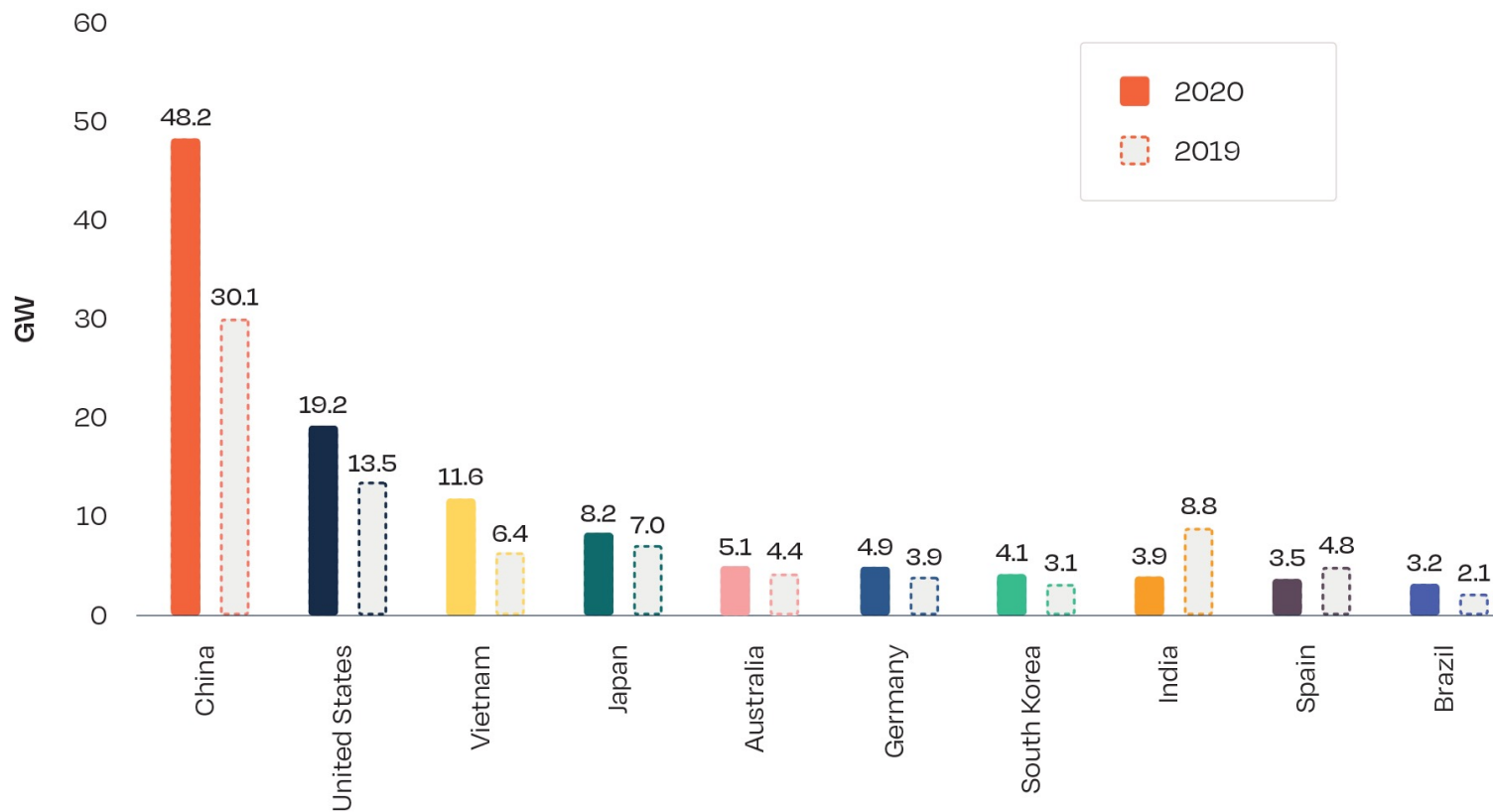
ANNUAL SOLAR PV INSTALLED CAPACITY 2000-2020



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In 2020, 138.2 GW of solar were installed globally, an 18% growth compared to 2019. In a year characterised by a global health crisis, solar demand showed strong resilience.

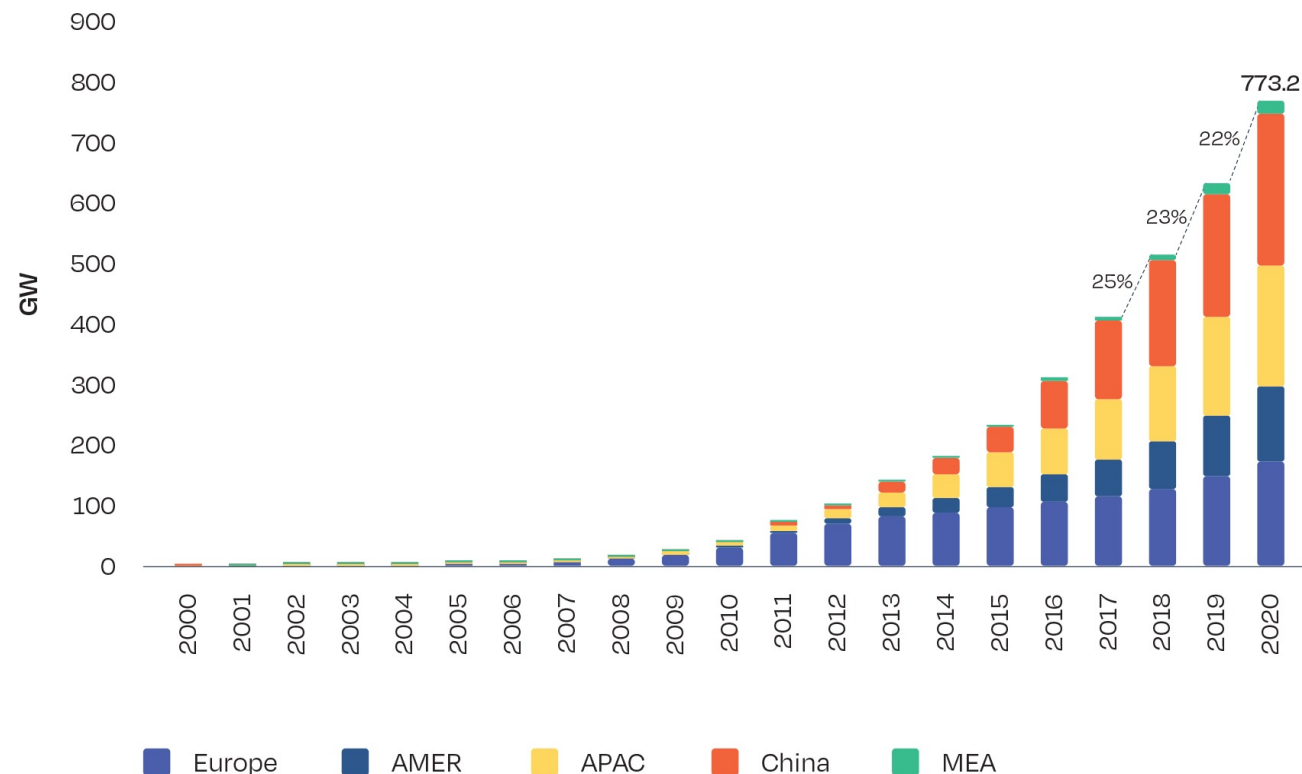
TOP 10 SOLAR PV MARKETS, 2019-2020



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China remained the market leader in 2020, adding over 2x the capacity of the #2 market, the United States. Many countries around the world showed strong resilience to COVID-19, performing much better than forecasted.

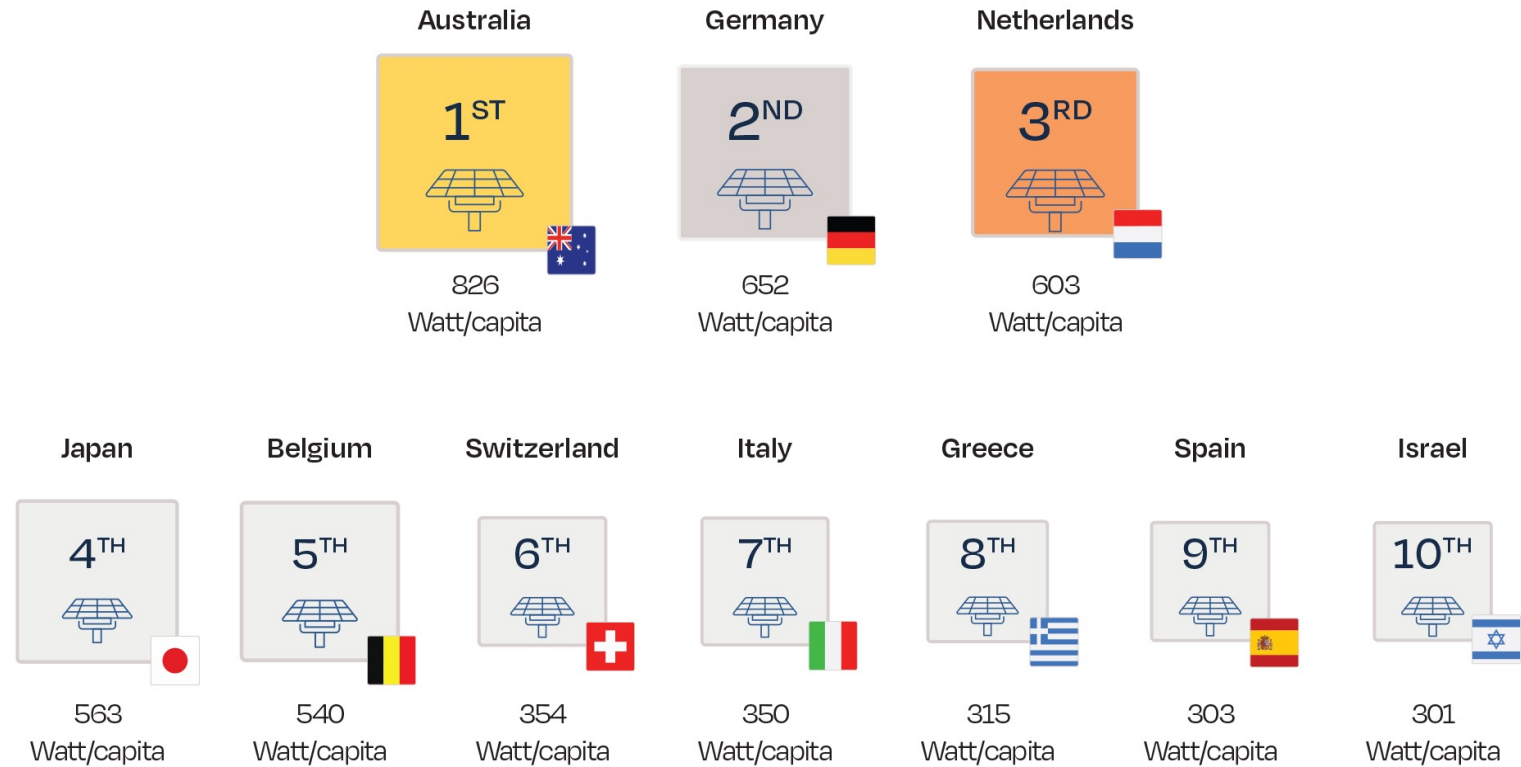
TOTAL SOLAR PV INSTALLED CAPACITY 2000-2020



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Global cumulative solar capacity increased by 22% to 773.2 GW, marking a new milestone for the solar sector by exceeding three quarters of a Terawatt.

TOP 10 COUNTRIES SOLAR CAPACITY PER CAPITA 2020



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While three of the four countries with the highest installed system capacities per inhabitant – Australia, Germany and Japan – also belong to the top 10 largest solar markets, none of the global top 3 belongs to the leading W/capita markets

Global Solar Market Outlook

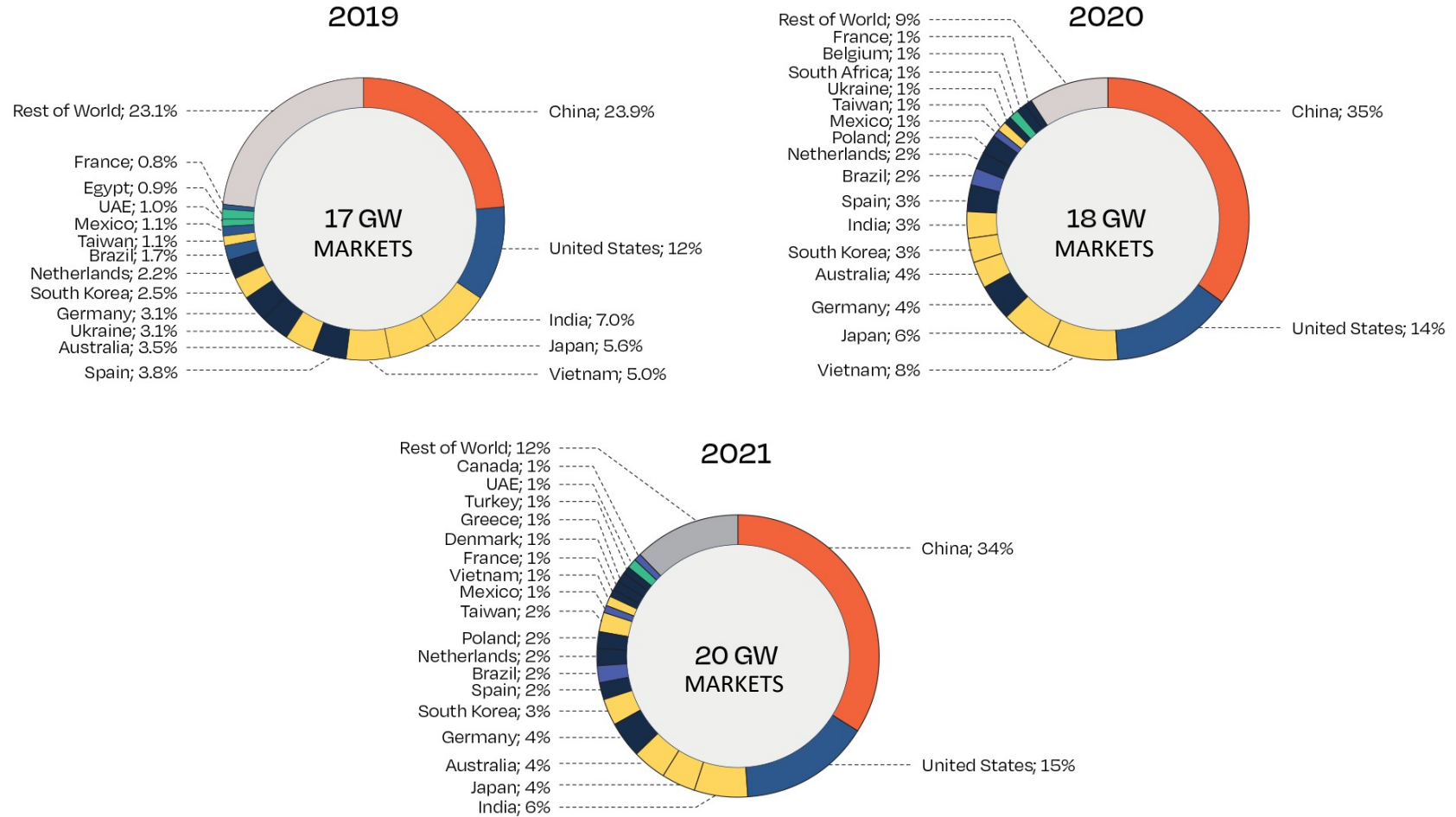
Update 2021 - 2025



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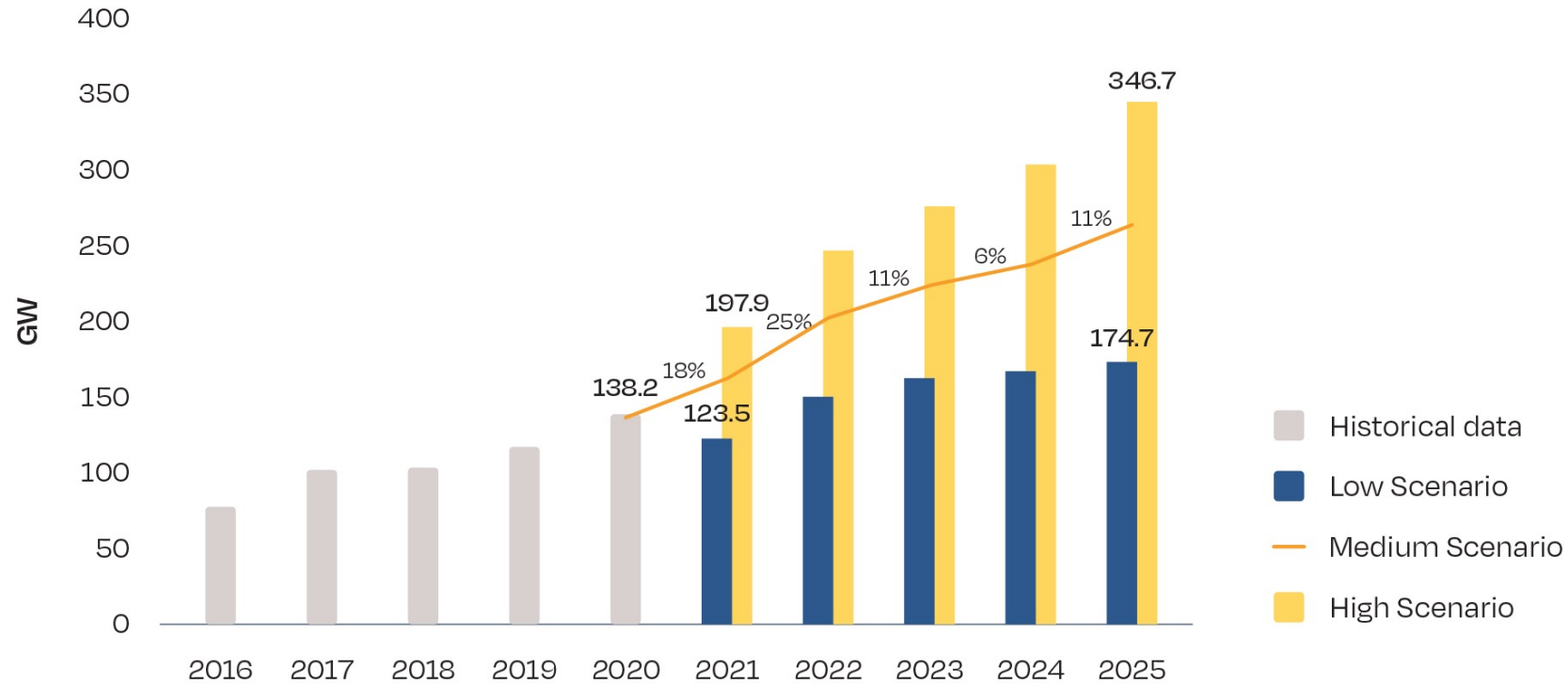


GW-SCALE SOLAR PV MARKETS 2019-2021



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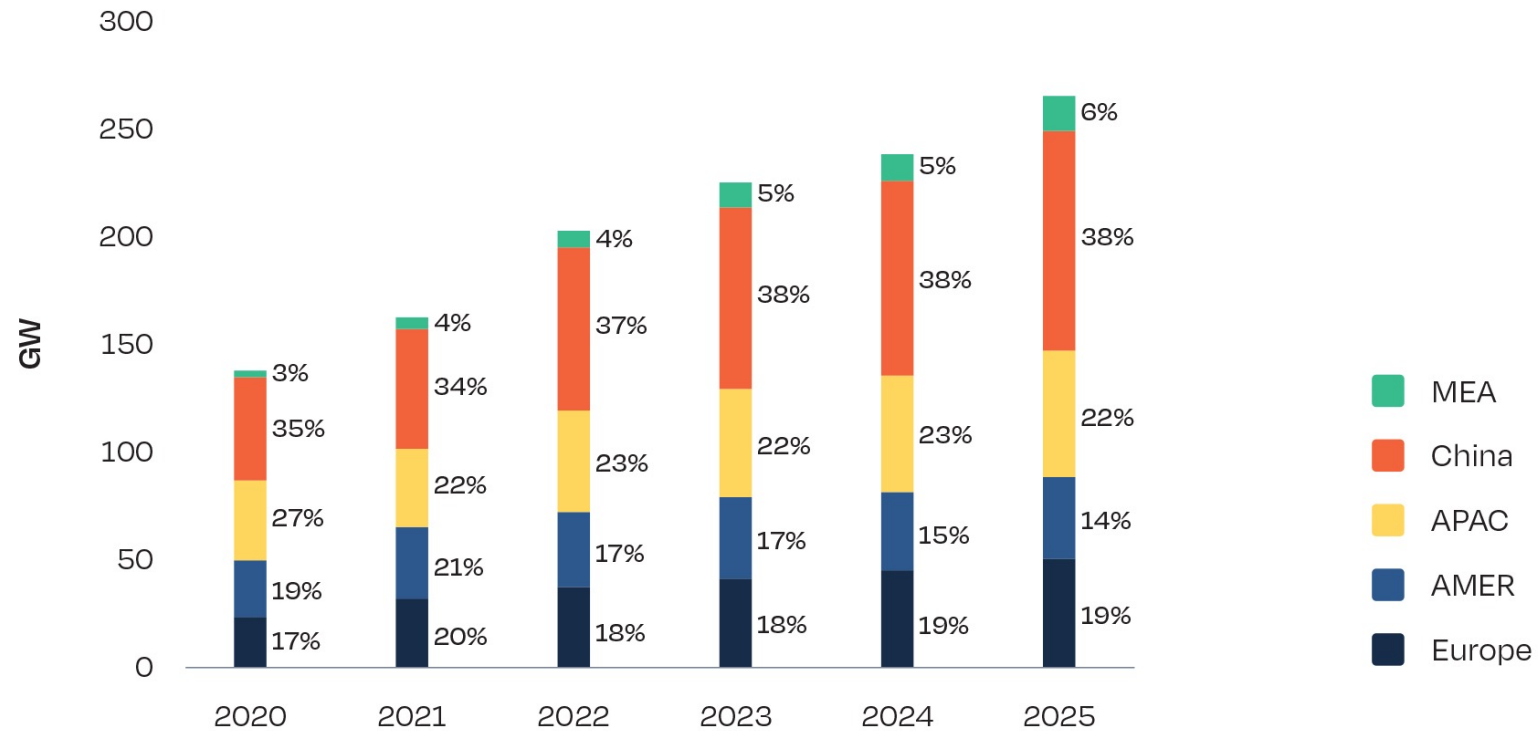
WORLD ANNUAL SOLAR PV MARKET SCENARIOS 2021 - 2025



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Despite price increases and further negative impacts from the pandemic, solar will see another stellar growth year in 2021. Newly installed capacities are set to grow by 18% to 163.2 GW.

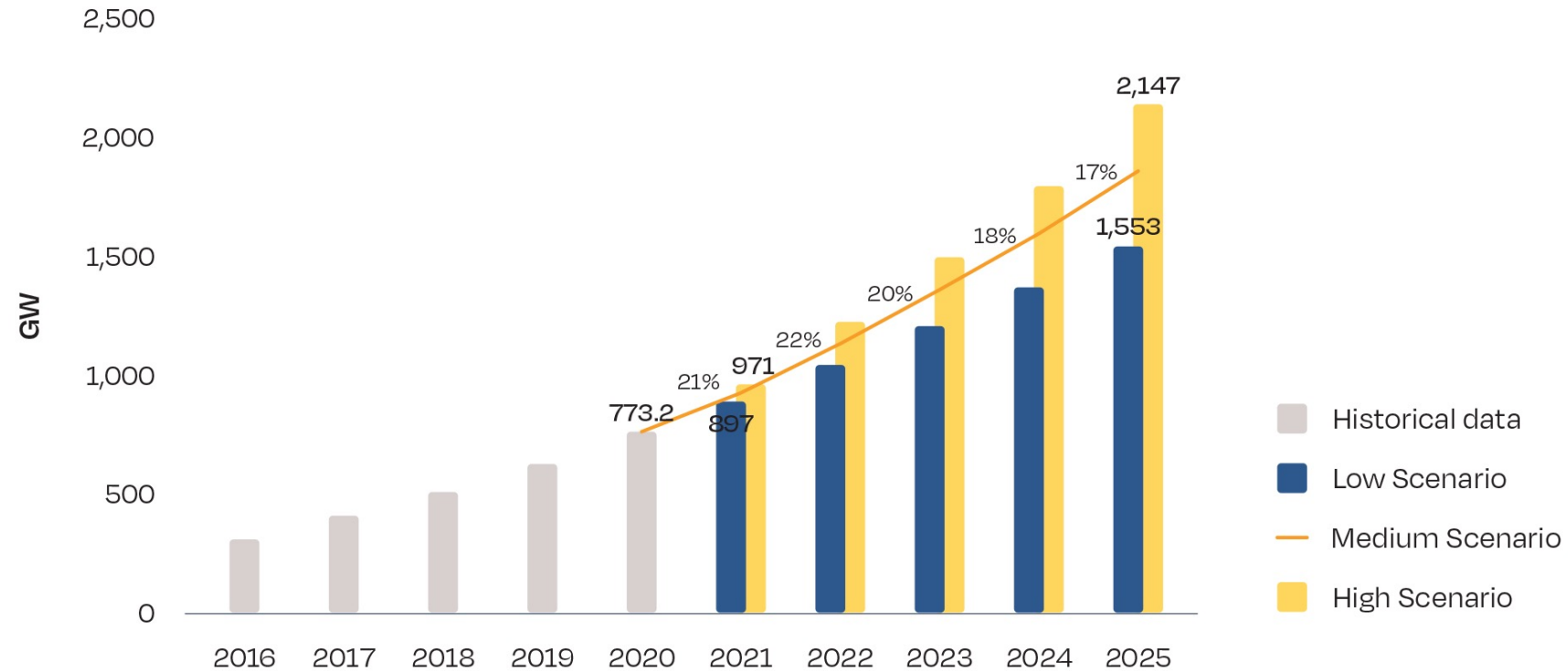
EVOLUTION OF GLOBAL ANNUAL SOLAR PV MARKET SHARES UNTIL 2025



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While Asia-Pacific will retain about 60% of annual installations in 2021-2025, Europe will regain rank #2, driven by its ambitious climate targets.

GLOBAL TOTAL SOLAR PV MARKET SCENARIOS 2021 - 2025



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Solar will reach the TW scale no later than 2022. Total installed capacity is set to more than double within just five years, jumping from 773 GW in 2020 to 1,870 GW in 2025.

Off-Grid Solar Special

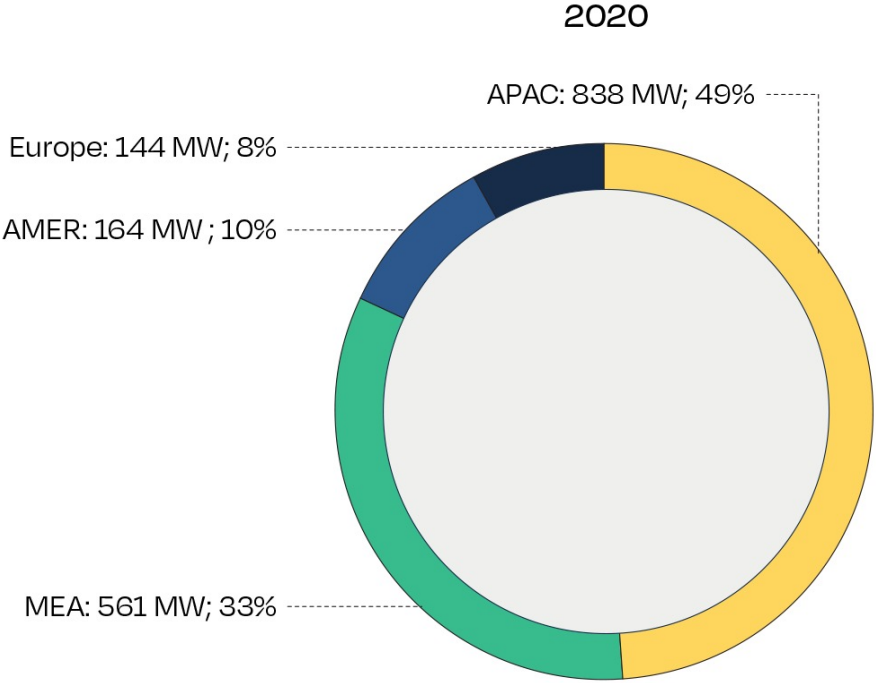
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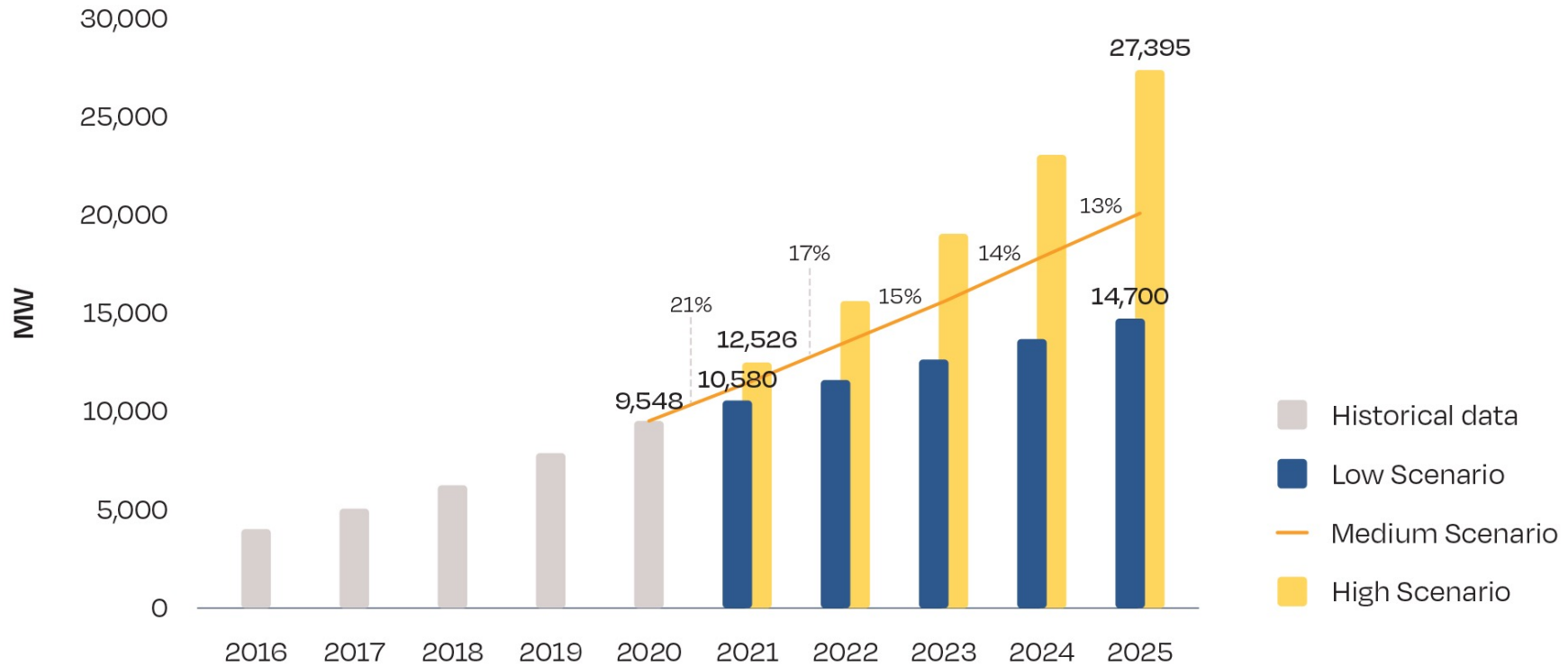
ANNUAL OFF-GRID SOLAR PV MARKET SHARES 2020.



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Off-grid solar is particularly active in the Asia-Pacific and Middle-East & Africa regions, which made up over three quarters of the 2020 annual off-grid solar PV market collectively.

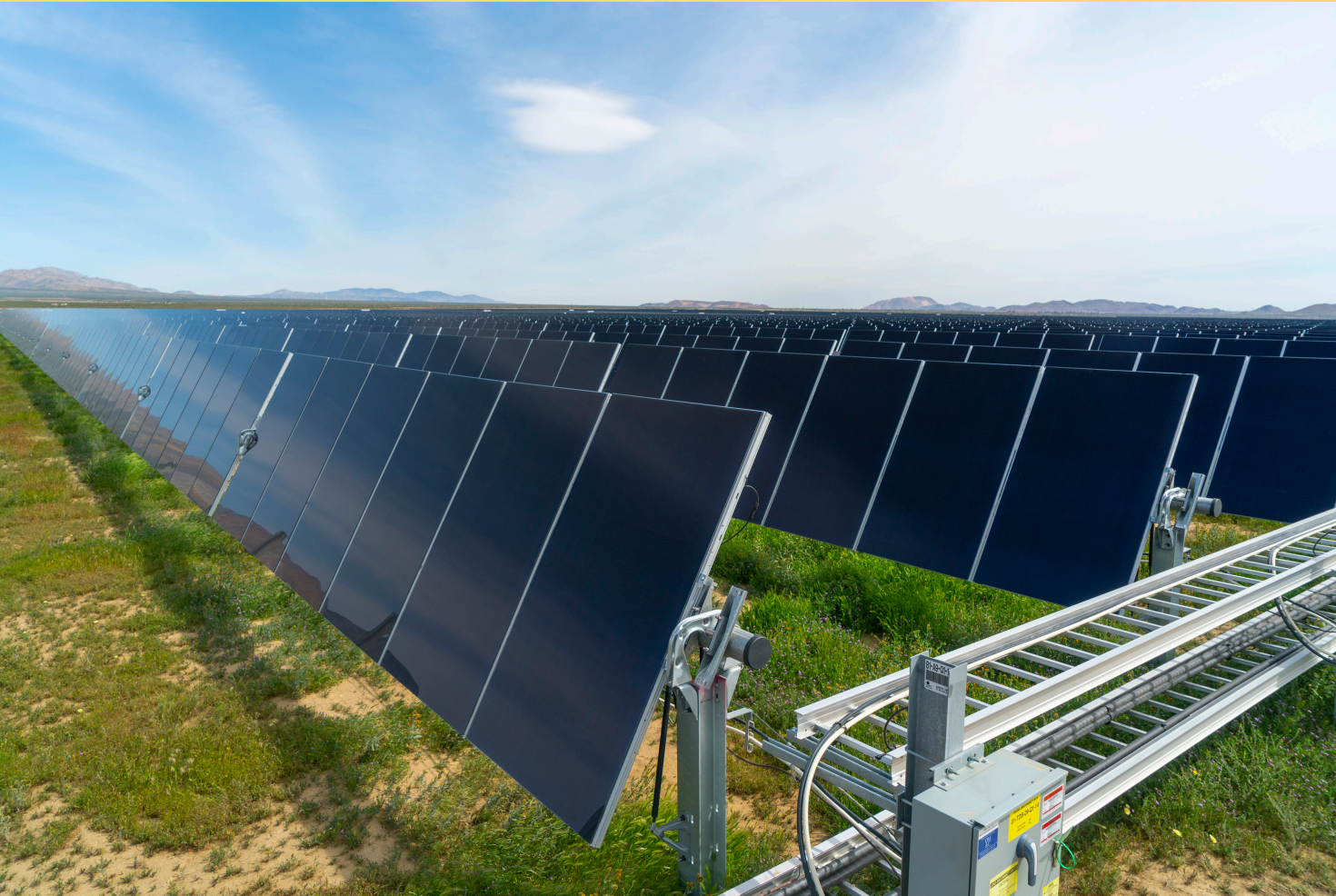
GLOBAL CUMULATIVE CAPACITY OF OFF-GRID SOLAR 2016-2025



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Total off-grid solar reached nearly 10 GW in 2020 and it is expected to grow steadily to over 20 GW by 2025.

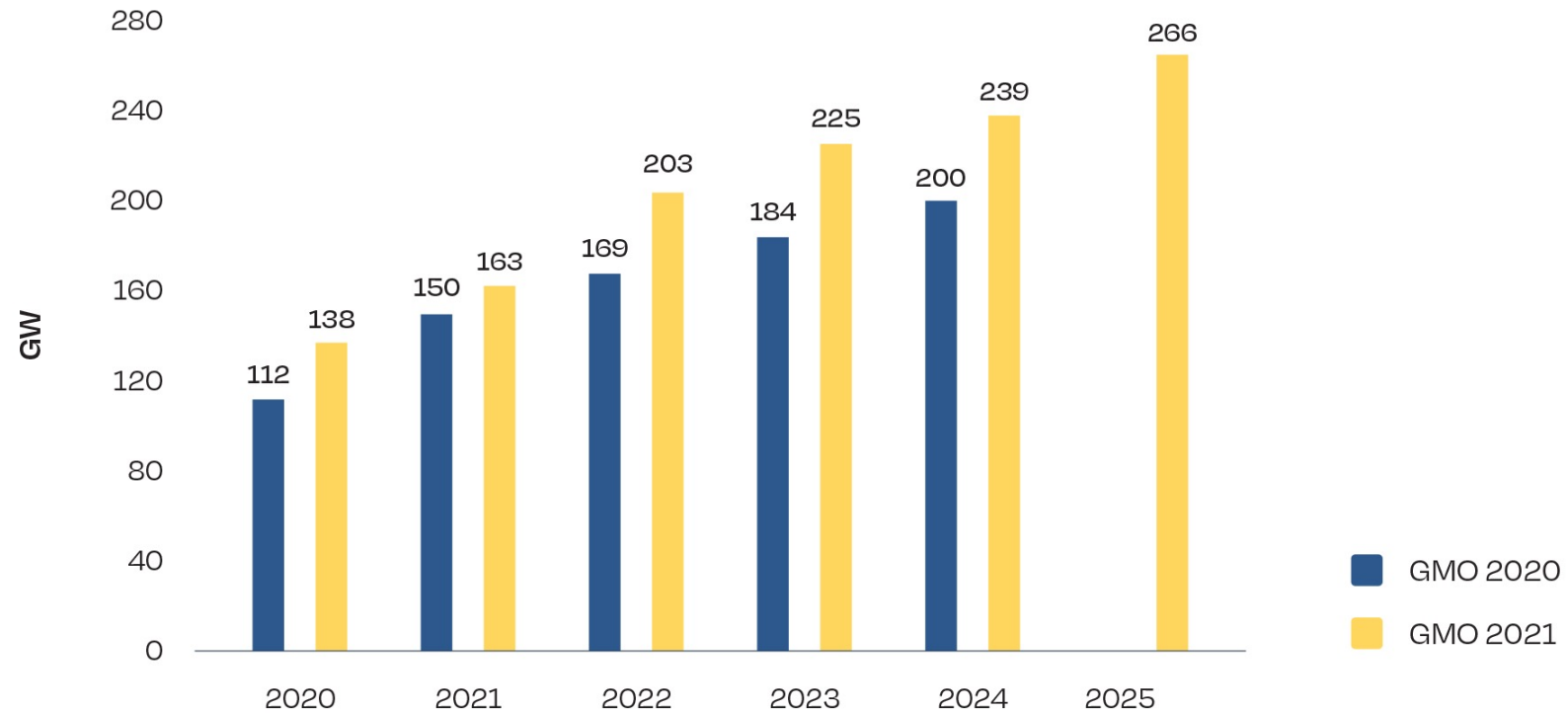
Takeaways



© First Solar



COMPARISON MEDIUM SCENARIO GMO 2020 VS GMO 2021



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Our 5-year GMO 2021 forecast for the solar sector is much more optimistic than in the previous year. In 2022 the global solar market will exceed 200 GW level; which we had previously expected to be accomplished only in 2024.

GSC SURVEY QUESTION 1 RATING OF HOW GOVERNMENT HAS RESPONDED TO THE NEW SCENARIO

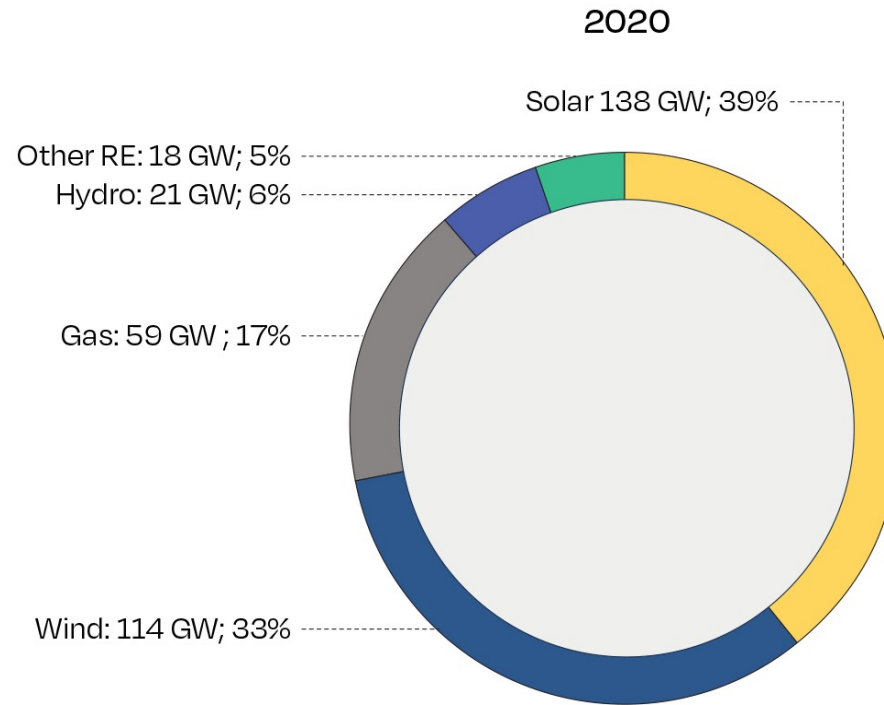


SOURCE: Global Solar Council, 2021.

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Global Solar Council poll on the impacts of the pandemic on the solar sector shows an improving industry outlook, with respondents more optimistic than last year towards government action.

NET POWER GENERATING CAPACITY ADDED IN 2020 BY MAIN TECHNOLOGY

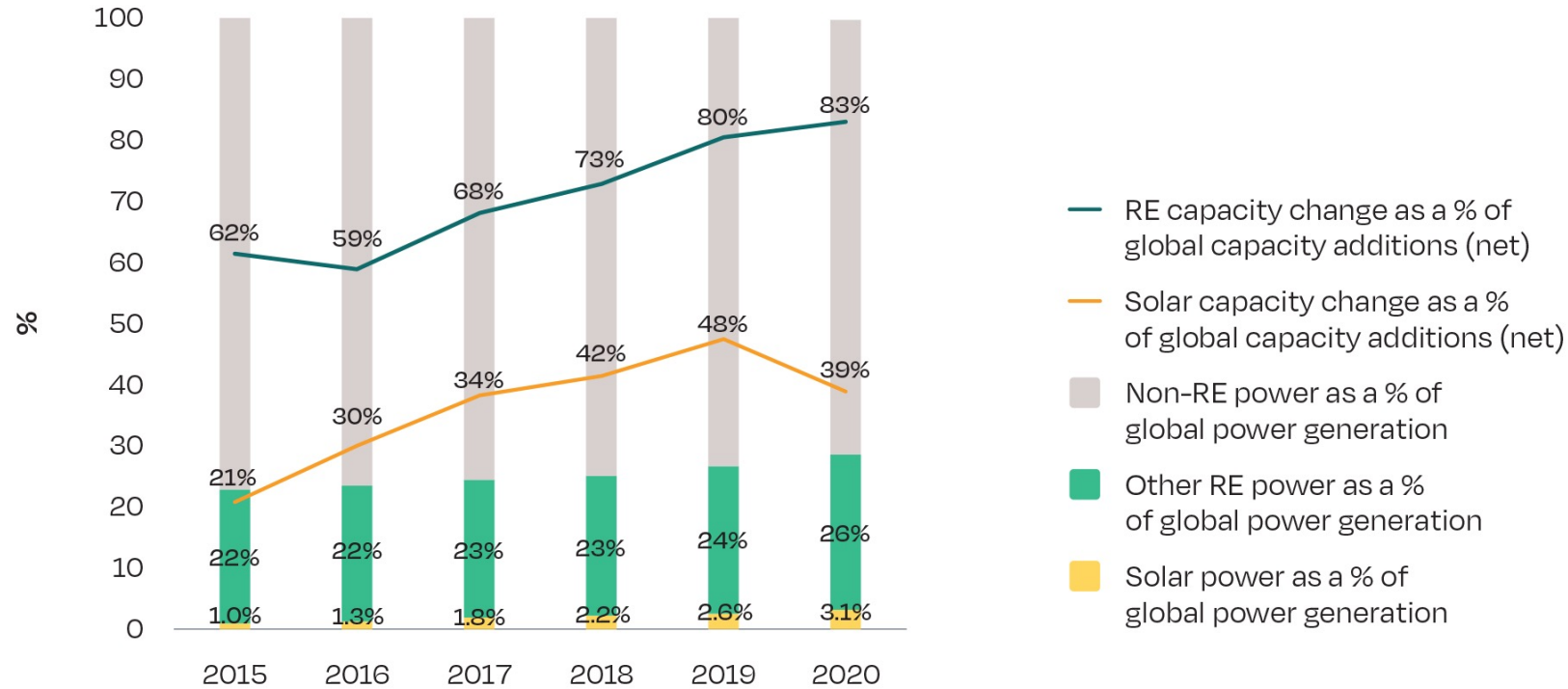


SOURCE: IEA (2021).

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In 2020 solar maintained its dominance among all newly installed power generating technologies, with a 39% global share. This is more than twice as much as all new fossil fuel capacity combined.

SOLAR AND RENEWABLE POWER AS A SHARE OF GLOBAL POWER 2015-2020



SOURCE: IRENA (2021); IEA (2021); SPE estimates. RE capacity includes large hydro.

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Solar's total power generation share increased by 0.5% points to around 3.1%, with 70% still coming from fossil fuel and nuclear, showing how much faster solar needs to grow to leave the conventional power generation era behind.

Summary

- **Cost leadership:** Solar LOCEs improve, further outcompeting other technologies
- **Pushing power price limits:** Five auction bids in 2020 were below the 2019's world record. The the new record winning bid reaches 1.32 USD cents per kWh
- **Resilient:** Surprisingly, despite Covid-19, solar demand did not decrease in 2020 as anticipated in previous GMO, but showed 18% growth, grid-connecting 138 GW, another record year
- **Growth ahead:** Despite price increases and further negative impacts from the pandemic, solar will see another stellar growth year in 2021. Newly installed capacities are set to grow by 18% to 163.2 GW. 5-year GMO 2021 forecasts continued growth for coming years with maximum additions of 263 GW in 2025
- **Towards TW level:** Global cumulative solar capacity increased by 22% to 773 GW in 2020, marking a new milestone for the solar sector by exceeding three quarters of a Terawatt. Only 2 years later, solar will reach the TW. Total installed capacity is set to more than double within just 5 years, jumping from to 1,9 TW in 2025.
- **More than on-grid:** Though capacity additions are about a factor 100 smaller, four first Off-grid Special forecasts also shows 2-digit growth rates for coming years
- **Large & small:** While solar adds 39% of global power generation capacities in 2020, cumulative installed solar capacity share remains in single digits, solar power output share grows to 3.1% compared to 70% coming still from no-renewable conventional power plants.

>>>> Solar needs more support to implement better policy frameworks that enable lowest-cost solar unfold its full potential much faster & encourage investment to keep 1.5°C in reach, one of the top goals of COP26





Thanks for listening and join us for discussion

Walburga Hemetsberger
CEO, SolarPower Europe

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