

Portugal Solar Energy - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2026 - 2031)

Market Report | 2026-01-16 | 95 pages | Mordor Intelligence

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Report description:

Portugal Solar Energy Market Analysis

The Portugal Solar Energy Market was valued at 6.81 gigawatt in 2025 and estimated to grow from 8.19 gigawatt in 2026 to reach 20.65 gigawatt by 2031, at a CAGR of 20.31% during the forecast period (2026-2031).

Recent gains stem from the 1.77 GW added in 2024, the auction-linked pipeline that aligns with the 2030 National Energy and Climate Plan, and the release of 1.2 GW of grid headroom following the retirement of the Sines coal plant. Module prices under USD 0.12 per W, streamlined licensing under Decree-Law 99/2024, and a surge in self-consumption systems have drawn both infrastructure funds and corporate offtakers into the Portugal solar energy market. Competitive activity sharpened after Brookfield and EQT completed acquisitions worth a combined USD 3.91 billion, concentrating utility-scale pipelines among the top five developers. Meanwhile, policy signals, such as the July 2025 VAT reversion for rooftops, introduce near-term uncertainty, yet upside persists in floating solar, agrivoltaics, and storage-hybrid projects that ease curtailment risk in the congested Alentejo grid.

Portugal Solar Energy Market Trends and Insights

Government Auctions & 2030 NECP Solar Target

The 20.8 GW 2030 target requires average annual additions of 2.5 GW, which is well above 2024's record. Auctions between 2020 and 2023 cleared 2.2 GW at some of Europe's lowest bids, reinforcing long-term cost leadership. Yet the 2024 auction deferral

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revealed grid-connection bottlenecks, prompting developers to pivot toward bilateral PPAs that trade auction certainty for counterparty risk. Substation upgrades in the Alentejo lag commissioning by up to 18 months, underlining the mismatch between policy ambition and infrastructure readiness. The Portugal solar energy market, therefore, hinges on timely grid reinforcement to keep its growth curve intact.

Falling Module Prices & Lower LCOE

Polysilicon oversupply pushed module prices to USD 0.10-0.12 per W in 2024, compressing LCOEs to EUR 20-30 per MWh in high-irradiance zones and rendering solar cheaper than onshore wind for the first time in Portugal. Developers now specify bifacial modules and single-axis trackers that lift yields by up to 20%, yet ultra-thin manufacturer margins could reverse price declines if trade actions or capacity closures emerge. Projects locked through 2025 are insulated, but 2026 deliveries may face renewed cost pressure, underscoring procurement-timing risk for the Portugal solar energy market.

Grid Congestion & Slow Permitting

Connection queues in the Alentejo region have stretched beyond 18 months, and REN's EUR 1.5-1.7 billion investment plan will not fully alleviate backlogs until 2027. Administrative reforms reduce paperwork, yet physical bottlenecks persist, forcing developers to accept curtailment risk or invest in substation upgrades. Environmental reviews can add six to nine months near protected areas, and the Portugal solar energy market could face a mid-decade plateau if reinforcement is delayed.

Other drivers and restraints analyzed in the detailed report include:

Corporate PPA Momentum
UPAC Self-Consumption Boom
High Interest-Rate Financing Environment

For complete list of drivers and restraints, kindly check the Table Of Contents.

Segment Analysis

Solar PV captured 100.00% of the installed capacity in 2025 and is set to retain that position, growing at a 20.31% CAGR within the Portuguese solar energy market. Converging module and polysilicon costs have widened PV's edge over CSP, whose direct-normal irradiance requirements exceed Portugal's diffuse profile. Bifacial modules already account for 60% of shipments and, when paired with single-axis trackers, deliver 15-20% yield boosts that offset the mild curtailment risk in the saturated Alentejo grid. TOPCon and heterojunction cells are pushing conversion efficiencies past 24%, and when paired with central inverters that offer ancillary-service functions, they underpin the next efficiency wave. Storage hybrids, such as EDP's 17 MW battery at Alqueva, illustrate emerging value-stacking paths that mitigate grid-constraint risk and anchor long-term competitiveness for the Portugal solar energy industry.

PV's absolute grip shapes procurement dynamics: developers aim to keep all-in capital costs below EUR 500,000 per MW and lock module supply at negative-margin pricing before potential trade actions reset costs. CSP remains sidelined, and no pilot projects are slated through 2030, indicating that the Portuguese solar energy market will likely remain PV-exclusive absent a significant step-change in CSP economics.

The Portugal Solar Energy Market Report is Segmented by Technology (Solar Photovoltaic and Concentrated Solar Power), Grid Type (On-Grid and Off-Grid), and End-User (Utility-Scale, Commercial and Industrial, and Residential). The Market Sizes and Forecasts are Provided in Terms of Installed Capacity (GW).

List of Companies Covered in this Report:

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Volitalia SA Iberdrola SA EDP Renovaveis SA Galp Energia SGPS SA Acciona Energia SA Greenvolt Energias Renovaveis SA Endesa SA (Enel Group) R.Power SA Eurowind Energy A/S Sonnedix Power Holdings Ltd Q cells GmbH First Solar Inc. Trina Solar Co. Ltd JinkoSolar Holding Co. Ltd SunPower Corporation Canadian Solar Inc. LONGi Green Energy Technology Co. Ltd Akuo Energy SAS Exus Management Partners Nomad Electric Sp. z o.o.

Additional Benefits:

The market estimate (ME) sheet in Excel format

3 months of analyst support

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