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

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Report description:

Saudi Arabia Solar Energy Market Analysis

Saudi Arabia Solar Energy Market size in 2026 is estimated at 13.47 gigawatt, growing from 2025 value of 10.25 gigawatt with 2031 projections showing 52.72 gigawatt, growing at 31.40% CAGR over 2026-2031.

Demand for clean electricity, Vision 2030 mandates, and record-low auction tariffs keep investor momentum high, while streamlined REPDO tenders slash development risk and financing costs. Utility procurements now embed battery storage and local-content thresholds, aligning climate goals with industrial policy and driving domestic manufacturing. Abundant solar irradiance and available desert land sustain world-leading capacity factors that anchor competitive pricing. At the same time, rising commercial and industrial uptake signals a pivot from purely utility-scale builds toward diverse distributed applications, reinforcing a dynamic, multisegment market framework.

Saudi Arabia Solar Energy Market Trends and Insights

Vision 2030 National Renewable Energy Program Targets Drive Systematic Deployment

The government targets 58.7 GW of renewables by 2030, equal to roughly half of expected installed capacity, which reshapes the country's generation portfolio from hydrocarbons to clean power. REPDO's multi-round auctions provide developers with predictable timelines, uniform contract structures, and escalating local-content rules, which increased from 15% to 35% between

Round 1 and Round 6. Over 3.3 GW was awarded in the latest rounds at an average tariff of 1.97□/kWh, underscoring the program's credibility. The tender cadence signals to investors that additional land banks, transmission upgrades, and financing windows will remain in sync. Predictability reduces capital costs and underpins a bankable project pipeline, ensuring that the Saudi Arabia solar energy market continues attracting global and regional developers.

Declining Levelized Cost Creates Grid Parity Advantage

Recent winning bids dipped to 1.67 c/kWh, surpassing natural gas estimates by more than 50% once LNG export opportunity costs are factored in. Module pricing benefits from local fabrication agreements with JinkoSolar and TCL Zhonghuan that eliminate import duties and freight charges. Superior average irradiation of 2,200 kWh/m□/year delivers capacity factors above 28%, enabling fewer panels to deliver more energy and improving project economics. Bifacial modules and single-axis trackers extract incremental yield, while risk-based O&M contracts keep downtime low. Combined, these factors lock in grid-parity or better economics, helping the Saudi Arabia solar energy market outcompete conventional assets.

Grid Connection Bottlenecks Constrain Remote Development

Legacy transmission grids radiate from coastal gas-fired hubs toward load centers, leaving northern deserts underserved. High-capacity 380 kV lines and flexible AC/DC converters are budgeted, yet construction timelines extend up to five years, outpacing PV build schedules. Interim battery tenders totaling 8 GWh mitigate imbalance risk but cannot substitute for bulk transmission. Developers front-load interconnection studies, sometimes relocating projects nearer to substations, which shifts optimal irradiation trade-offs. Until grid corridors catch up, the Saudi Arabia solar energy market must juggle resource quality against infrastructure readiness.

Other drivers and restraints analyzed in the detailed report include:

REPDO Tender Pipeline Ensures Market PredictabilityAbundant Solar Resources Enable Competitive AdvantageHigh Upfront Capital Requirements Limit CSP Deployment

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

Segment Analysis

Solar photovoltaic installations held 98.55% of the Saudi Arabian solar energy market share in 2025, reflecting unmatched cost advantages and modular scalability. Large desert tracts enable gigawatt-scale PV clusters, and single-axis trackers plus bifacial modules push capacity factors past 28%. Falling module prices and standardized EPC contracts drive levelized costs below 2 c/kWh, entrenching PV as the workhorse of new renewable capacity. As more local factories ramp up, project developers anticipate steadier pricing and shorter lead times, deepening PV's dominance within the Saudi Arabia solar energy market.

Concentrated solar power, though small in absolute volume, is projected to book a 44.3% CAGR during 2026-2031. Storage-equipped CSPs fill late-evening demand and provide inertia, an attribute prized as variable PV penetrates deeper into the grid. Thermal storage up to 15 h allows dispatch beyond sunset, reducing reliance on gas peakers. NEOM, industrial clusters, and remote desalination plants value this dispatchable green heat. As molten-salt technologies and heliostat automation reduce capital expenditures (capex), CSP's addressable niche widens, ensuring it remains a strategic complement within the Saudi Arabia solar energy market.

The Saudi Arabia 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:

ACWA Power Company Alfanar Group Abu Dhabi Future Energy Company (Masdar) Saudi Electricity Company EDF Renewables ENGIE SA JinkoSolar Holding Co. Ltd Enel SpA First Solar Inc. Canadian Solar Inc. Trina Solar Co. Ltd LONGi Green Energy Technology Co. Ltd JA Solar Technology Co. Ltd Huawei Digital Power Sungrow Power Supply Co. Ltd SMA Solar Technology AG Desert Technologies First National Operation & Maintenance Company (NOMAC) TotalEnergies Renewables Larsen & Toubro Ltd Hitachi Energy Ltd Scatec ASA

Additional Benefits:

The market estimate (ME) sheet in Excel format
3 months of analyst support

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