

Saudi Arabia Solar Energy Market By Technology (Photovoltaic Systems, Concentrated Solar Power Systems), By Solar Module (Monocrystalline, Polycrystalline, Cadmium Telluride, Amorphous Silicon Cells, Others), By Application (Residential, Commercial, Industrial), By End-Use (Electricity Generation, Heating, Charging, Lighting), By Region, Competition, Forecast and Opportunities, 2028

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Abstracts

Saudi Arabia Solar Energy Market is anticipated to grow at a steady pace during the forecast period, 2024-2028. The Saudi Arabia solar energy market is growing as a result of factors such as favorable government regulations, increased attempts to meet electricity demand using solar energy, and a reduction in reliance on fossil fuels.

Sun energy is the term for solar radiation that can create heat, trigger chemical reactions, or create electricity. The total solar energy incident on Earth is higher than the global energy needs at the moment, and it is expected to remain the same in the future. This highly distributed source has the ability to meet all future energy demands if properly exploited. Due to its limitless supply and lack of pollution, solar energy is predicted to become a more appealing renewable energy source in the twenty-first century than the finite fossil fuels coal, petroleum, and natural gas.

Growing Adoption of Renewable Sources for Power Generation to Boost Market Growth

Considered to be the best feasible replacement for traditional power sources such as coal and oil, renewable energy sources assist minimize carbon emissions and serve as

an affordable supply of daily power. Presently, over 29% of the electricity produced across the world comes from renewable sources. In the coming years, it is anticipated to increase significantly, which, in turn, will drive the growth of the market. Solar PV had an installed capacity of 842.14 GW by the end of 2021, making it the second-largest renewable energy source after wind.

Energy production and consumption in developing nations are directly impacted by population growth. With the increased need to reduce carbon emissions, power generation from renewable sources is the most viable replacement for conventional power sources. For instance, the price of coal and oil goods is rising steadily. Another option for the expansion of the solar power sector is the building of new grids and mass storage systems by utilities to use the energy produced from renewable sources.

Integration of New Technologies to Hold Immense Growth Opportunities

Artificial intelligence's enhanced prediction capabilities are enabling improved forecasting and asset management, and its automation capability is driving operational excellence, giving stakeholders a competitive advantage and cost savings. With the backing of other cutting-edge technologies such as big data, the Internet of Things (IoT), sensors, and distributed ledger technology, artificial intelligence can unleash the enormous potential of solar energy.

Recent developments promise to produce solar panels that are more affordable, potent, and less wasteful after their useful lives are through. Pyramidal lenses, invented by Stanford University researchers, aim to concentrate the quantity of light that strikes a solar cell, obtaining the same amount of light to hit an area. This innovation can increase the efficiency of solar panels in conditions of indirect light. The integration of more power electronics, which transforms energy from one form to another, is facilitated by increased solar and DER on the electrical grid. Depending on where the electricity is flowing and how it will be utilized, this can entail converting between high and low voltage, controlling the quantity of power flow, or switching between direct current (DC) and alternating current (AC) electricity. Up to 80% of electricity may be used to power electronic devices by 2030. The inverter is one kind of power electrical gear that is crucial for the integration of solar energy. Solar panels provide DC electricity, which is then converted by inverters into AC electricity that is used by the electrical grid.

Solar Photovoltaic (PV) Technology to Boost Market Growth

The unique geographic and climatic conditions of Saudi Arabia make it economically

advantageous to use renewable energy sources, particularly solar energy sources, aiding Saudi efforts to diversify the domestic energy mix. Due to the decreasing cost of solar modules and the adaptability of these systems for many applications, such as power production and water heating, the solar PV segment is anticipated to hold the biggest market share during the projection period. The Saudi green initiative reaffirmed the nation's pledge in 2021 to produce 50% of its primary energy mix from renewable sources and the remaining 50% from natural gas by 2030. By 2030, it is anticipated that the country would have developed more than 40 GW of solar photovoltaic (PV) capacity and 2.7 GW of concentrated solar power (CSP) capacity. The National Renewable Energy Program (NREP) targets must be met in accordance with Vision 2030, and this responsibility falls under the purview of the Ministry of Energy's Renewable Energy Project Development Office (REPDO), which was founded in 2017. The total installed solar capacity in Saudi Arabia, according to the International Renewable Energy Agency (IRENA), was 14 MW in 2012 and is expected to reach 439 MW by the end of 2021. With 389 MW installed nationwide, solar PV has the largest percentage of the nation's total solar energy capacity and accounts for more than 88% of it.

In September 2022, Saudi Power Procurement Co. began five projects to produce power as a part of the National Renewable Energy Program's fourth phase. Two of these projects use solar energy, and three of them use wind energy. The capacity of the two solar energy plants in Tabarjal and Al Hinakiyah would be 400 MW and approximately 1,100 MW, respectively. Saudi Arabia awarded solar energy projects with a combined capacity of 1 GW in March 2022. A 25-year power purchase agreement for a 700-Megawatt plant with Ar RassSolar Energy Company was inked as part of this project by the Saudi Power Procurement Company. It is anticipated that the project will cost around USD 450 million. The business has finalised a second contract for a 300 MW solar power facility. A Chinese solar startup named Jinko Power won the contract. The project is anticipated to cost USD 213 million and be developed in the Saad area of Riyadh. The solar PV segment is anticipated to increase during the projection period as a result of such impending and massive projects as well as rising government efforts.

Market Segmentation

The Saudi Arabia Solar Energy Market is segmented based on technology, solar module, application, end-use, and region. Based on technology, the market is segmented into photovoltaic systems and concentrated solar power systems. Based on solar module, the market is divided into monocrystalline, polycrystalline, cadmium telluride, amorphous silicon cells, and others. Based on application, the market is split into residential, commercial, and industrial. Based on end-use, the market is split into

electricity generation, heating, charging, and lighting. Based on region, the market is segmented into eastern, central & northern, western, and southern.

Market Players

The main market players in Saudi Arabia Solar Energy Market are ACWA Power Company, Alfanar Group, Abu Dhabi Future Energy Company (Masdar), EDF Renewables, Saudi Electricity Company, Engie SA, JinkoSolar Holding Co. Ltd, and Enel SpA.

Report Scope:

In this report, the Saudi Arabia Solar Energy Market has been segmented into following categories, in addition to the industry trends which have been detailed below:

Saudi Arabia Solar Energy Market, By Technology:

Photovoltaic Systems

Concentrated Solar Power Systems

Saudi Arabia Solar Energy Market, By Solar Module:

Monocrystalline

Polycrystalline

Cadmium Telluride

Amorphous Silicon Cells

Others

Saudi Arabia Solar Energy Market, By Application:

Residential

Commercial

Industrial

Saudi Arabia Solar Energy Market, By End-Use:

Electricity Generation

Heating

Charging

Lighting

Saudi Arabia Solar Energy Market, By Region:

Eastern Region

Central & Northern Region

Western Region

Southern Region

Competitive Landscape

Company Profiles: Detailed analysis of the major companies present in the Saudi Arabia Solar Energy Market.

Available Customizations:

Saudi Arabia Solar Energy Market report with the given market data, Tech Sci Research offers customizations according to a company's specific needs. The following customization options are available for the report:

Company Information

Detailed analysis and profiling of additional market players (up to five).

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