

Next-Generation Solar Cell Market by Material Type (Cadmium Telluride (CdTe), Copper Indium Gallium Selenide (CIGS), Amorphous Silicon, Gallium-Arsenide, Others), Installation (On-Grid, Off-Grid), End User and Geography - Global Forecast to 2028

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Abstracts

The next-generation solar cell market is valued at USD 3.0 billion in 2023 and is projected to reach USD 7.4 billion by 2028, growing at a CAGR of 19.5% from 2023 to 2028. The advantages of the next-generation solar cell over traditional solar cells are one of the major drivers in the market. One of the major restraints in the market is intense competition from players providing other renewable resources, including wind power and hydropower.

Copper indium gallium selenides is expected to account for a significant market share during the forecast period

Copper indium gallium selenides (CIGS) solar cells are among the most efficient thin-film PV technologies. CIGS PV cells are manufactured using CIGS by compressing between conductive layers. This material is characterized by its direct band gap, which allows it to absorb a high amount of energy while limiting the transmittance of light. This material can be deposited over substrates such as glass, plastic, steel, and aluminum and is thin enough to allow full-panel flexibility when deposited on a flexible backing. CIGS PV modules have efficiencies exceeding 20% in laboratories. Its solar panels can be installed on roofs and other surfaces because they are more efficient in producing more electricity. They are also cheaper than silicon-based panels.

Commercial & Industrial segments to exhibit significant growth in the next-generation solar cell market during the forecast period

The commercial and industrial sector includes commercial buildings, banks and financial institutes, educational institutions, enterprises, manufacturing plants, hospitals, hospitality buildings, and so on. The lighting and other electricity needs are fulfilled by installing PV systems on the rooftop and open areas. The excess electricity generated can be sold to local electricity companies by transmitting it through local grids (depending on the technical feasibility). PV systems are also used for electrification in various places, such as visitor centers in parks, hunting lodges, park ranger sites, remote farm workshops, vacation cabins, village lighting, highway rest stops, and public beaches. Hybrid PV systems, comprising PV modules and heat extraction units, are mounted together for industrial applications. These systems can also provide electrical and thermal energy simultaneously and achieve a higher energy conversion rate of the absorbed solar radiation than plain photovoltaics. Hence, they are used to generate electricity for commercial and industrial facilities.

US in North America is expected to record the largest market size during the forecast period

The US held the largest share of the North American next-generation solar cell market in 2022 and is expected to register a significant CAGR during the forecast period. The growth of the next-generation solar cell market in the US is driven by factors like an increase in state and federal policies and PV systems adoption programs, among others. Due to constant developments and government funding promoting renewable energy in North America, the next-generation solar cell market can anticipate rising demand from utilities in the region.

The break-up of the profile of primary participants in the Next-generation Solar Cell Market:

By Company Type: Tier 1 – 40 %, Tier 2 – 40%, and Tier 3 – 20%

By Designation: C-Level Executives –40%, Directors- 40%, and Others – 20%

By Region: North America– 40%, Asia Pacific – 30%, Europe- 20%, and RoW – 10%

The report profiles key players in the next-generation solar cell market and analyzes their market shares. Players profiled in this report are First Solar (US), Hanwha Q

CELLS (South Korea), Ascent Solar Technologies (US), Oxford PV (UK), Kaneka Solar Energy (Japan), Flisom (Switzerland), Solatron (US), Mitsubishi Chemical Group (Japan), MiaSole (US), and Hanergy thin film power group (China), Heliatek (Germany), Polysolar Technology (US), NanoPV technologies(US), 3D-Micromac(Germany), Suntech Power Holdings (China), Sharp Corporation(Japan), Trina Solar (China), Panasonic Corporation(Japan), Sol Voltaics(Sweden), Geo Green Power(England), Jinko Solar(China), Canadian Solar(Canada), Sunpower Corporation(US), Yingli Solar(China), REC Group(Norway)

Research Coverage

The report defines, describes, and forecasts the next-generation solar cell market based on material type, installation, end-user industry, and region. It provides detailed information regarding drivers, restraints, opportunities, and challenges influencing the growth of the next-generation solar cell market. It also analyzes competitive developments such as product launches, acquisitions, expansions, contracts, partnerships, and actions carried out by the key players to grow in the market.

Reasons to Buy This Report

The report will help the market leaders/new entrants in this market with information on the closest approximations of the revenue numbers for the overall next-generation solar cell market and the subsegments. This report will help stakeholders understand the competitive landscape and gain more insights to position their businesses better and to plan suitable go-to-market strategies. The report also helps stakeholders understand the pulse of the market and provides them with information on key market drivers, restraints, challenges, and opportunities.

The report will help leaders/new entrants in the next-generation solar cell market in the following ways:

1. The report segments the next-generation solar cell market comprehensively and provides the closest market size estimation for all subsegments across regions.
2. The report will help stakeholders understand the pulse of the market and provide them with information on key drivers, restraints, challenges, and opportunities in the d next-generation solar cell market.
3. The report will help stakeholders understand their competitors better and gain insights to improve their position in the next-generation solar cell market. The competitive landscape section describes the competitor ecosystem.

4. Detailed insights on upcoming technologies, research & development activities, and new product & service launches in the next-generation solar cell market
5. In-depth assessment of market shares, growth strategies and product offerings of leading players like First Solar (US), Hanwha Q CELLS (South Korea), Ascent Solar Technologies (US), Oxford PV (UK), Kaneka Solar Energy (Japan), among others.

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Details on Business Overview, Products/Solutions/Services Offered, Recent Developments, MnM view (Key strengths/Right to win, Strategic choices made, Weakness/competitive threats) might not be captured in case of unlisted companies.

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