

Perovskite Solar Cell Market by Type of Structure (Planar and Mesoporous), Product (Rigid and Flexible), Vertical (Aerospace & Defense, Residential, Commercial, Industrial, and Utility), Type, Application, Technology and Region – Global Forecast to 2028

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Abstracts

The perovskite solar cell market is projected to grow from USD 271 million in 2024 to USD 2,268 million by 2028; it is expected to register a CAGR of 70.1% during the forecast period.

BIPV segment to register the highest CAGR in the perovskite solar cell market during the forecast period

BIPV is the integration of perovskite solar cells-based PV modules with building envelopes. These PV modules are expected to perform the dual function of acting as a skin replacement in conventional building envelop materials and carrying out power generation. The incremental costs of PV modules and their lifecycle costs have declined with the elimination of conventional material costs. BIPV systems can be installed in residential and commercial buildings.

Flexible perovskite solar cell segment to record the highest CAGR during the forecast period

The flexible perovskite solar cell segment is expected to record the highest CAGR during the forecast period. Scientists are constantly working on the research and development of perovskite solar cells. They have developed flexible perovskite solar cells that use sunlight and generate electrons with an efficiency of 20.7%. The material used in these solar cells includes a porous planar electron transport layer that improves

the interaction between its electrodes and perovskite layer, increasing the solar cells' performance.

US to account for the largest share of the North American market during the forecast period

The growth of the US perovskite solar cell market is mainly driven by the state and federal policies and programs that have been adopted to encourage the adoption of PV modules and other renewable technologies. These regulations include legislative mandates (installing PV modules and other renewable energy sources) and financial incentives such as tax credits. Additionally, the research and development activities related to developing new technologies to improve the efficiency of perovskite solar cells are fueling the market's growth in the US.

In the process of determining and verifying the market size for several segments and subsegments gathered through secondary research, extensive primary interviews have been conducted with key officials in the perovskite solar cell market. Following is the breakup of the profiles of the primary participants for the report.

By Company Type: Tier 1 – 35 %, Tier 2 – 45%, and Tier 3 – 20%

By Designation: C-Level Executives – 35%, Directors – 25%, and Others – 40%

By Region: North America – 45%, Asia Pacific – 30%, Europe – 20%, and RoW – 5%

The report profiles key players in the perovskite solar cell market and analyzes their market shares. Players profiled in this report are Hanwha Q CELLS (South Korea), CubicPV (US), EneCoat Technologies (Japan), Microquanta Semiconductor (Chin), Greatcell Energy (Australia), Oxford PV (UK), P3C (India), PEROVSKIA SOLAR AG (Switzerland), Saule Technologies (Poland), Toshiba Corporation (Japan), Tandem PV (US), Swift Solar (US), FrontMaterials (Taiwan), Alfa Chemistry Materials (US), Avantama AG (Switzerland), Borun New Material Technology (China), Dyenamo (Sweden), Nanox (Canada), Ossila (UK), Caelux (US), Evolar (Sweden), Panasonic Corporation (Japan), and Array Technologies (US).

Research Coverage

The report segmented the market based on the type of structure, type, product, vertical, application, technology, and region. The report's scope also includes the drivers, restraints, opportunities, and challenges influencing the market growth, as well as the value chain analysis, ecosystem analysis, technological trends, patent analysis, standards and frameworks, key conferences and events, and case studies/use cases.

Reasons to Buy this Report

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

1. The report comprehensively segments the perovskite solar cell market 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 pertaining to the perovskite solar cell market.
3. The report will help stakeholders understand their competitors better and gain insights to improve their position in the perovskite solar cell market. The competitive landscape section describes the competitor ecosystem.

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14.2.1 TOSHIBA CORPORATION

14.2.2 TANDEM PV

14.2.3 SWIFT SOLAR

14.2.4 FRONTMATERIALS

14.2.5 ALFA CHEMISTRY MATERIALS

14.2.6 AVANTAMA AG

14.2.7 BORUN NEW MATERIAL TECHNOLOGY

14.2.8 DYENAMO AB

14.2.9 NANOX

14.2.10 OSSILA

14.2.11 CAELUX

14.2.12 EVOLAR

14.2.13 PANASONIC CORPORATION

14.2.14 ARRAY TECHNOLOGIES

*Details on Business Overview, Products Offered, Recent Developments, and MnM View (Key strengths/Right to Win, Strategic Choices Made, and Weaknesses and Competitive Threats) might not be captured in case of unlisted companies.

15 APPENDIX

15.1 DISCUSSION GUIDE

15.2 KNOWLEDGESTORE: MARKETSANDMARKETS' SUBSCRIPTION PORTAL

15.3 CUSTOMIZATION OPTIONS

15.4 RELATED REPORTS

15.5 AUTHOR DETAILS

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