

## Perovskite Solar Cell Market Analysis over Business Prominent Players – Dyesol, Solaronix SA, Saule Technologies, etc.

Perovskite Solar Cell Market Expected To Reach \$6.6 Billion by 2030

WILMINGTON, DELAWARE, UNITED STATES, February 21, 2024 /EINPresswire.com/ -- The market for perovskite solar cells is being driven by the fastest-advancing solar technology, low-cost and high optical absorption, and the use of perovskite compounds in the conversion of solar energy to electricity, which has resulted in a considerable improvement in power conversion efficiency. However,



hysteresis in the photocurrent density-voltage measurement, instability of perovskite, the toxicity of lead in perovskite materials, complex device structure, cheaper perovskite solar cells with a shorter lifespan and higher cost are the challenges of perovskite solar cell market. The global perovskite solar cell market size was valued at \$0.4 billion in 2020 and is projected to reach \$6.6

billion by 2030, growing at a CAGR of 32.4% from 2021 to 2030.



Perovskite solar cell market is set to surge with increased demand for flexible, lightweight cells across industries, driven by environmental concerns and alternative energy adoption."

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The goal of the perovskite solar cell is to boost cell efficiency while lowering solar energy costs. Solar cells made on perovskite may emit light in a wide variety of wavelengths. They can convert more solar energy into electricity as a result of this. One of the most significant

benefits of perovskite solar cells over other solar technologies is their ability to store energy. These solar cells also have characteristics including flexibility, semitransparency, and lightness.

These properties of perovskite solar cells are expected to open up new possibilities for a variety of solar cell applications. Gold is now the most popular electrode material in perovskite solar cells. As a result, perovskite solar cells are more expensive than other commercially available solar cells. This is projected to hinder the perovskite solar cell market during the projected period. These are some of the perovskite solar cell market trends observed globally.

The global Perovskite solar cell market is segmented on the basis of structure, product, method, end-use, and region. Based on the structure, the global Perovskite solar cell market is segmented into planar perovskite solar cells and mesoporous perovskite solar cells. The planar perovskite solar cells segment accounted for the largest share in 2020, while the mesoporous perovskite solar cells segment is projected to witness growth at the highest CAGR of 32.8%.

Based on the Product, the global Perovskite solar cell market is segmented into rigid perovskite solar cells and flexible perovskite solar cells. The flexible perovskite solar cells segment accounted for the largest share in 2020, while the rigid perovskite solar cells segment is projected to witness growth at the highest CAGR of 32.7%.

On the basis of the method, the global perovskite solar cell market is segmented into solution method, vapor-deposition method, and vapor-assisted solution method. The vapor-deposition method segment accounted for the largest share in 2020, while the vapor-assisted solution Method segment is projected to grow at the highest CAGR of 32.9%.

The end use of Perovskite solar cells includes aerospace, industrial automation, consumer electronics, energy, and others. The energy segment accounted for the largest share of the perovskite solar cell market in 2020.

Region-wise, the perovskite solar cell market is studied across North America, Europe, Asia-Pacific, and LAMEA. Europe accounted for the largest share of the market in 2020, while Asia-Pacific was the fastest-growing region. Asia-Pacific has a well-established and growing demand potential for pharmaceutical and cosmetic products.

The global perovskite solar cell industry is consolidated in nature with a few players, such as Oxford Photovoltaics, FrontMaterials Co. Ltd., Solaronix SA, Xiamen Weihua Solar Co. Ltd., Fraunhofer ISE, Dyesol, Saule Technologies, FlexLink Systems Inc., Polyera Corporation, and New Energy Technologies Inc., which hold significant share of the market. These players have been adopting various strategies to gain higher share or to retain leading positions in the market.

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- On the basis of structure, the Planar Perovskite Solar Cells segment emerged as the global leader by acquiring more than 68% of the market share in 2020 and is anticipated to continue this trend during the forecast period.
- On the basis of product, the Flexible Perovskite Solar Cells segment emerged as the global leader by acquiring more than 56% of the market share in 2020 and is anticipated to continue this trend during the forecast period.
- On the basis of method, the Vapor-Deposition Method segment emerged as the global leader by acquiring more than 45% of the market share in 2020 and is anticipated to continue this trend during the forecast period.
- On the basis of end-use, the Energy segment accounted for 39% of the global perovskite solar cell market share in FY2020.
- On the basis of region, Europe is the major consumer of pervoskite solar cell among other regions. It accounted for around 49% of the global perovskite solar cell market share in 2020.

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