

Perovskite Solar Cell Market Estimated to Experience a Hike in Growth By 2030

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

PORTLAND, OREGON, UNITED STATES, November 30, 2023 / EINPresswire.com/ -- Perovskite solar cell (PSC) includes the perovskitestructured material as an active layer based on the solution-processed by tin or halide. Perovskite materials offer excellent light absorption, chargecarrier mobilities, and lifetimes, resulting in high device efficiencies with opportunities to realize a low-cost,



industry-scalable technology. Perovskite solar cells (PSCs) are the most emerging area of research among different new-generation photovoltaic technologies due to their superpower conversion efficiency (PCE). The perovskite solar cells efficiency is high in devices using perovskite cells and has improved significantly over the period, due to continuous developments

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Increasing demand for flexible, lightweight perovskite solar cells, driven by diverse applications, environmental concerns. and alternative energy adoption, fuels market growth."

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in solar energy. The global <u>perovskite solar cell market</u> 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.

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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 <u>perovskite solar cell market trends</u> 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.

- 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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