

Thin-film Solar Cell Market Projected to Hit \$25.3 billion by 2030, at a CAGR of 8.4%

Rise in demand for rooftop solar among residential & commercial application is the important factor of pushing the thin-film solar cell market growth.

PORTLAND, OREGON, UNITED STATES, March 25, 2022 /EINPresswire.com/ -- The [thin-film solar cell market](#) size was valued at \$11.3 billion in 2020, and is projected to reach \$25.3 billion by 2030, growing at a CAGR of 8.4% from 2021 to 2030. A thin-film solar cell is a second-generation solar cell that is

made by depositing one or more thin layers, or thin-film (TF) of photovoltaic material on a substrate, such as glass, plastic, or metal. Thin-film solar cells are commercially used in several technologies, including cadmium telluride (CdTe), copper indium gallium diselenide (CIGS), and amorphous thin-film silicon (a-Si, TF-Si). Thin-film solar cells are cost-effective and is an efficient way to transform sunlight into electricity. These films own the property of bandgap and requires 10 times lesser quantity of material to absorb light as compared to silicon. Thin-films are easier to work with and utilize low cost substrate that make them relatively cheaper compared to silicon. Moreover, several research activities resulted into the increased efficiency of thin-film solar cell, which beat multi-crystalline silicon cells.

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The factors that drive the market growth are increase in awareness toward green energy, rise in energy consumption across the globe, growth in installation flexibility, and cost & performance efficiency of thin-film solar cell. However, high initial manufacturing cost and technological complexity associated with the use of thin-film solar cells hamper the market growth. Conversely, rise in environmental concerns and increase in research activities in the field of thin-film solar cells provide a substantial growth opportunities to market.

For the purpose of analysis, the global thin-film solar cell industry is segmented on the basis of type, installation, end user, and region. Depending on type, the market is categorized into



cadmium telluride, amorphous thin-film silicon, copper indium gallium selenide, microcrystalline tandem cells, thin-film polycrystalline silicon, and others. According to installation, it is divided into on-grid and off-grid. As per the end user, it is classified into residential, commercial, and utility. Region wise, it is analyzed across North America, Europe, Asia-Pacific, and LAMEA.

The global [thin-film solar cell market analysis](#) covers in-depth information about the major industry participants. The key players operating and profiled in the report include Ascent Solar Technologies, Filsom AG, First Solar, Hanergy mobile energy, Kaneka corporation, Miasole, Mitsubishi Heavy Industries, Shunfeng International Clean Energy, SUNQ, and Trony Solar.

Key Findings Of The Study

Depending on type, cadmium telluride segment holds the largest thin-film solar cell market share in 2020.

According to installation, the on-grid segment accounted for the largest market share in 2020.

By end use, the utility segment accounted for the largest market share in 2020.

Region wise, the Asia-Pacific accounted for the largest market share in 2020.

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COVID-19 Impact on the Market

The manufacturing of thin-film solar cell was halted for a specific period due to high peak of COVID-19 situation, which significantly impacted the sales of thin-film solar cell.

Sales of thin-film solar cell are directly proportional to the demand for solar panels. Solar projects have been negatively impacted amid the lockdown imposed due to the COVID-19 outbreak and recorded a huge decline in sales of thin-film solar cell.

COVID-19 impacted almost all industries by hindering various industrial operations and disrupting the supply chain. Maximum companies halted their operation due to less workforce. However, there is a sluggish decline in the global thin-film solar cell market due to impact of COVID-19.

Furthermore, import and export activities were significantly impacted, which, in turn, adversely affected the industries using thin-film solar cell, thereby affecting the global thin-film solar cell market.

According to the UNIDO (United Nations Industrial Development Organization), 30.0%–70.0% of pre-COVID-19 workforce of various industries, such as chemical, petrochemical, oil & gas, HVACR, food & beverage, power generation, and other third-party vendors migrated to their hometowns, due to uncertainties and loss of income during the lockdown. This unavailability of workforce is expected to directly affect the production and manufacturing activities, thereby resulting in reduced demand for raw materials used in thin-film solar cell. This is expected to decline the thin-film solar cell market growth during the forecast period.

Construction plays a vital role in the development of solar industry. The COVID-19 pandemic severely impacted integrated construction industry across the globe. Factors include disruption

due to migration of workers and unavailability of material. However, decrease in construction activity significantly impacted the thin-film solar cell market.

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