

Solar Thermal Market Opportunity, Growth Drivers, Industry Trend Analysis, and Forecast 2025 - 2034

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Abstracts

The Global Solar Thermal Market was valued at USD 16.1 billion in 2024 and is estimated to grow at a CAGR of 9% to reach USD 37.7 billion by 2034, driven by increasing environmental awareness, government policies aimed at reducing carbon footprints, and the adoption of solar incentives. Governments around the world are prioritizing decarbonization and renewable energy, creating favorable conditions for the expansion of solar thermal technologies. Additionally, the transition toward more sustainable building codes is fueling the adoption of solar thermal systems in both residential and commercial sectors. The ongoing push to reduce reliance on conventional heating sources and increase energy efficiency will further support the market. Integration of solar thermal solutions into district heating systems, along with advancements in hybrid and electro-thermal storage technologies, will also accelerate the market's growth.

Tariff policies from previous administrations, however, have affected the solar thermal sector by raising the costs of critical materials, such as photovoltaic cells and modules. These tariffs have resulted in delays and disruptions in supply chains, as manufacturers face increased procurement costs and limited component availability. Despite these challenges, the market remains resilient due to rising demand for low-emission, energy-efficient systems.

The thermosiphon solar heating systems segment is anticipated to grow at a CAGR of 7.5% from 2025 to 2034. These systems are particularly beneficial for residential applications, thanks to their easy installation and low maintenance needs. As thermosiphon systems do not rely on pumps for operation, they are perfect for off-grid and rural locations where energy access can be challenging. Their ability to function without the need for a central power source makes them an ideal solution for

decentralized, affordable renewable energy access, offering significant opportunities for energy independence, especially in areas where conventional grid connections are either unavailable or too costly.

The small-scale solar thermal systems segment, which held a share of 62.7% in 2024, continues to experience growth due to the rising demand for compact thermal storage solutions. These systems, optimized for residential use, have become increasingly popular because of their efficient space usage and cost-effective nature. Additionally, the increasing installation of plug-and-play solar thermal kits designed for homes is fueling this segment's expansion.

Europe Solar Thermal Market is projected to experience a robust growth rate of 10% from 2025 to 2034, driven by the region's emphasis on climate neutrality goals and a strong push towards renewable district heating systems. Several European nations are leading the way in integrating thermal energy storage into urban infrastructures, while energy-efficient building codes and regulations provide additional support for the adoption of solar thermal technologies. As governments continue to incentivize the use of renewable energy sources and implement supportive policies, the demand for solar thermal systems is expected to rise, further reinforcing the market's growth trajectory across the region.

Key players in the Global Solar Thermal Market include companies such as CONA Solar, G2 Energy, GREENoneTEC Solarindustrie, and Inventive Power. These players are actively innovating and expanding their product offerings to capture a larger market share. By focusing on developing high-efficiency systems, cost-effective solutions, and expanding their presence in emerging markets, these companies are strengthening their position in the growing solar thermal industry. In terms of strategies, companies like Modulo Solar and Linuo Ritter are investing in advanced thermal storage solutions to cater to both residential and commercial needs. Other players, such as Next Source and Ormat Technologies, are focusing on enhancing system integration with district heating networks and boosting the efficiency of solar thermal applications in urban settings.

Companies Mentioned

CONA Solar, G2 Energy, GREENoneTEC Solarindustrie, Inventive Power, Linuo Ritter, Modulo Solar, Next Source, Ormat Technologies, Photon Energy Systems Limited, Ritter XL Solar, Solareast Group, Shandong Linuo New Energy, Sunoptimo, T.E SOLAR, Vicot

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