Concentrated Solar Power Market to Reach US$ 15.0 Billion by 2033 at 7.9% CAGR | Persistence Market Research

Global concentrated solar power market driven by renewable energy demand, thermal storage innovation, and utility-scale solar projects.

Concentrated Solar Power Market Share and Trends Analysi s2026

BRENTFORD, LONDON, UNITED KINGDOM, May 19, 2026 /EINPresswire.com/ -- The global concentrated solar power market is experiencing strong growth due to rising investments in renewable energy infrastructure and increasing demand for sustainable electricity generation technologies. According to Persistence Market Research, the global concentrated solar power market size is anticipated to reach US$ 8.8 billion in 2026 and US$ 15.0 billion by 2033, growing at a CAGR of 7.9% between 2026 and 2033. Governments and energy providers worldwide are actively supporting clean energy adoption to reduce dependence on fossil fuels and lower carbon emissions. Concentrated solar power systems are gaining popularity because they offer large-scale electricity generation with thermal energy storage capabilities, making them suitable for utility-scale renewable energy projects.

Growing focus on energy security, grid stability, and low-carbon power generation is driving the adoption of concentrated solar power technologies across multiple regions. Utility-scale projects remain the leading segment due to rising investments in renewable energy plants and long-term electricity generation capacity expansion. Asia Pacific is emerging as a leading regional market because of increasing renewable energy installations, supportive government policies, and expanding energy demand from industrial and urban sectors. Technological advancements in solar thermal systems and storage technologies are also strengthening market development globally.

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Key Highlights from the Report

 The concentrated solar power market is projected to grow from US$ 8.8 billion in 2026 to US$ 15.0 billion by 2033 at a CAGR of 7.9%.
 Rising investments in renewable energy infrastructure are accelerating concentrated solar power deployment globally.
 Utility-scale concentrated solar power plants continue to dominate market demand worldwide.
 Thermal energy storage integration is improving efficiency and power generation reliability.
 Asia Pacific remains a key growth region due to rapid industrialization and renewable energy adoption.
 Increasing focus on carbon emission reduction is supporting long-term concentrated solar power market expansion.

Market Segmentation

By Technology

- Parabolic Trough Systems
- Power Tower / Central Receiver Systems
- Linear Fresnel Reflector Systems
- Dish Stirling Systems

By Capacity

- Below 50 MW
- 50-150 MW
- Above 150 MW

By Application

- Utility-Scale Power Generation
- Industrial Process Heat
- Desalination
- Enhanced Oil Recovery
- Others

By Region

- North America
- Europe
- East Asia
- South Asia & Oceania
- Latin America

- Middle East & Africa

Report Highlights

- Market Forecast and Trends
- Competitive Intelligence & Share Analysis
- Growth Factors and Challenges
- Strategic Growth Initiatives
- Pricing Analysis & Technology Roadmap
- Future Opportunities and Revenue Pockets
- Market Analysis Tools

Regional Insights

North America Concentrated Solar Power Market

North America continues to represent a significant market for concentrated solar power technologies due to rising investments in clean energy infrastructure and grid modernization projects. The region is witnessing increased adoption of renewable power systems to support carbon reduction targets and energy diversification strategies. Utility-scale solar thermal projects are contributing to steady market expansion across the region.

Europe Concentrated Solar Power Market

Europe remains an important market for concentrated solar power because of strict environmental regulations and strong renewable energy policies. Governments across the region are supporting low-carbon electricity generation through sustainability initiatives and energy transition programs. Technological innovation and increased focus on energy storage integration are also strengthening market growth in Europe.

Asia Pacific Concentrated Solar Power Market

Asia Pacific is expected to witness strong market growth due to rapid industrialization, urbanization, and growing electricity demand. Countries across the region are investing heavily in renewable energy infrastructure to improve energy security and reduce fossil fuel dependence. Expanding utility-scale solar projects and supportive government incentives are driving concentrated solar power adoption throughout Asia Pacific.

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Market Drivers

One of the primary drivers of the concentrated solar power market is the growing global demand for renewable and sustainable electricity generation technologies. Governments and energy companies are increasingly focusing on reducing greenhouse gas emissions and achieving clean energy targets. Concentrated solar power systems offer the advantage of thermal energy storage, enabling electricity generation even during non-sunlight hours. This capability improves grid stability and enhances renewable energy reliability. Increasing investments in utility-scale renewable projects are also supporting market growth worldwide.

Market Restraints

Despite strong growth potential, the concentrated solar power market faces challenges related to high installation and infrastructure costs. Large-scale concentrated solar power plants require significant land area, advanced engineering systems, and substantial capital investment. These factors may limit project development in certain regions. The market also faces competition from rapidly expanding photovoltaic solar technologies, which are often considered more cost-effective for smaller renewable energy projects.

Market Opportunities

The market presents significant opportunities through advancements in thermal energy storage technologies and hybrid renewable energy systems. Increasing focus on long-duration energy storage and efficient power generation is creating demand for advanced concentrated solar power solutions. Industrial applications, including process heating and energy-intensive manufacturing operations, are also opening new growth opportunities. Expanding renewable energy investments across developing economies are expected to support long-term market expansion during the forecast period.

Company Insights

- Abengoa Solar S.A.
- ACWA Power
- BrightSource Energy
- Sener Group
- SolarPACES/DLR
- Siemens Energy AG
- General Electric (GE Vernova)
- Enel Green Power
- TSK Group
- Aalborg CSP
- WorleyParsons (Worley)
- Cobra Group (ACS Group)
- SunCan (China Datang Corporation)
- Themax Limited, Vast Solar

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Recent Developments

• January 2026: Concentrated solar power developers increased investments in thermal energy storage technologies for utility-scale renewable projects.
• March 2026: Renewable energy companies expanded focus on hybrid solar power systems to improve electricity generation efficiency and grid reliability.

Future Opportunities and Growth Prospects

The concentrated solar power market is expected to witness strong future growth due to increasing renewable energy investments, technological advancements, and rising global focus on sustainability. Expansion of thermal storage capabilities, hybrid renewable systems, and industrial solar heating applications will continue creating new opportunities for market participants through 2033.

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