Concentrated Solar Power Market Forecasted to Surge US$ 15.0 Bn by 2033, Expanding at a CAGR of 7.9% from 2026 to 2033

Global Concentrated Solar Power Industry Witnesses Strong Momentum Driven by Clean Energy Investments and Technological Advancements

Concentrated Solar Power Market

LONDON, ENGLAND, UNITED KINGDOM, June 25, 2026 /EINPresswire.com/ -- According to the latest study by Persistence Market Research, the global Concentrated Solar Power (CSP) Market is projected to grow significantly from US$ 8.8 billion in 2026 to US$ 15.0 billion by 2033, registering a robust CAGR of 7.9% during the forecast period. The market is experiencing accelerated growth as governments, utilities, and industrial sectors increasingly invest in renewable energy technologies capable of delivering reliable and sustainable power generation.

Concentrated solar power technology utilizes mirrors or lenses to focus sunlight onto a receiver, generating thermal energy that can be converted into electricity or used directly for industrial applications. The growing emphasis on decarbonization, energy security, and grid stability is positioning CSP as a crucial component of the global renewable energy landscape.

Get Your FREE Sample Report Instantly – Click Now:
https://www.persistencemarketresearch.com/samples/36741

Rising Demand for Utility-Scale Renewable Energy Projects

One of the primary factors driving market growth is the increasing deployment of utility-scale renewable energy projects across developed and emerging economies. CSP plants offer the advantage of large-scale power generation while enabling thermal energy storage, allowing electricity production even when sunlight is unavailable. This capability is strengthening CSP's role in supporting grid reliability and meeting growing energy demand worldwide.

Thermal Energy Storage Enhancing Market Potential

The integration of advanced thermal energy storage systems is emerging as a major trend in the concentrated solar power market. Unlike conventional solar photovoltaic systems, CSP facilities can store heat for extended periods and generate electricity during peak demand hours. This feature is attracting investments from governments and utilities seeking dependable renewable energy solutions that can complement intermittent power sources.

Growing Government Support and Renewable Energy Policies

Supportive government policies and ambitious renewable energy targets continue to create favorable conditions for market expansion. Countries across North America, Europe, Asia-Pacific, and the Middle East are introducing incentives, funding programs, and regulatory frameworks aimed at accelerating clean energy adoption. These initiatives are encouraging the development of large-scale CSP projects and strengthening investor confidence in the sector.

Technological Innovations Improving Efficiency

Continuous technological advancements are significantly enhancing the efficiency and performance of CSP systems. Innovations in receiver technologies, heat transfer fluids, thermal storage materials, and solar tracking systems are helping improve energy conversion rates while reducing operational costs. These developments are making CSP increasingly competitive within the broader renewable energy market.

Expansion of Industrial Process Heat Applications

Beyond electricity generation, CSP technology is gaining traction in industrial process heat applications. Industries such as mining, chemicals, food processing, and manufacturing are increasingly utilizing concentrated solar power systems to reduce dependence on fossil fuels and lower carbon emissions. This diversification of applications is opening new revenue streams for market participants and driving broader adoption.

Increasing Adoption in Desalination Projects

The growing global demand for freshwater resources is creating opportunities for CSP-powered desalination facilities. Regions facing water scarcity, particularly in the Middle East and North Africa, are exploring solar-powered desalination technologies to improve water security while minimizing environmental impact. The ability of CSP systems to provide both energy and heat makes them well-suited for desalination operations.

Enhanced Oil Recovery Driving New Opportunities

Concentrated solar power is increasingly being deployed in enhanced oil recovery operations. Solar-generated steam can be used in oil extraction processes, helping reduce the consumption of conventional fuels and lower greenhouse gas emissions. This emerging application is contributing to market growth, particularly in energy-producing regions seeking sustainable operational practices.

Emerging Investments in Hybrid Renewable Energy Systems

A notable trend shaping the market is the integration of CSP with other renewable energy technologies. Hybrid systems combining concentrated solar power, solar photovoltaics, and battery storage are being developed to maximize energy output and improve system flexibility. Such projects are expected to play a critical role in advancing renewable energy infrastructure over the coming years.

Regional Outlook Highlights Strong Growth Prospects

North America and Europe continue to witness steady investments in renewable energy infrastructure, supporting CSP deployment. Meanwhile, East Asia and South Asia & Oceania are emerging as attractive markets due to rising electricity demand and government-backed sustainability initiatives. The Middle East & Africa region remains a significant growth hub owing to abundant solar resources, large-scale energy projects, and increasing interest in sustainable water and power solutions. Latin America is also expected to contribute to market expansion through renewable energy diversification strategies.

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

For In-Depth Competitive Analysis, Buy Now:
https://www.persistencemarketresearch.com/checkout/36741

Company Insights

Leading companies operating in the concentrated solar power market are focusing on technological innovation, strategic partnerships, capacity expansion, and project development to strengthen their market positions and capitalize on emerging growth opportunities.

 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

Future Outlook

The global concentrated solar power market is poised for sustained growth through 2033 as countries intensify efforts to transition toward low-carbon energy systems. Increasing investments in energy storage technologies, expanding industrial applications, supportive policy frameworks, and rising demand for reliable renewable power generation are expected to create significant opportunities across the value chain. As technological innovations continue to

improve efficiency and cost-effectiveness, concentrated solar power is anticipated to play an increasingly important role in achieving global sustainability and energy security objectives.

Explore the Latest Trending Research Reports:

- DC Circuit Breaker Market
- High Voltage Protective Relay Market

Ajaykumar Patil
Persistence Market Research
+1 6468786329
email us here
Visit us on social media:
LinkedIn
Instagram
Facebook
YouTube
X
