

Solar thermal power generation sector



Overview

Solar-thermal power can replace fossil fuels in a wide variety of industrial applications, including petroleum refining, chemical production, iron and steel, cement, and the food and beverage industries, which account for 15% of the U. the economy's total carbon dioxide (CO₂) emissions. Heat is. This is the 2025 update of the Clean Energy Technology Observatory report on trends in the development of solar thermal energy, including concentrated solar power (CSP) and solar heat for buildings, district heating, and industrial processes. Operational CSP plants now account for 7.6 GW of. created by the International Energy Agency (IEA). This is considerably lower than the share of renewables in electricity generation, which stood at roughly 30 percent in that same year. Solar thermal energy, which uses solar radiation to heat a fluid. The global solar thermal market size was valued at USD 17. The market is projected to grow from USD 19.56 billion by 2034, exhibiting a CAGR of 10.21% during the forecast period.



Article Content

Latest Power Generation News and Insights

Power generation industry updates, news, and insights including gas, renewables, coal, nuclear, energy storage, hydrogen, and more.

Detailed Market Figures 2023 SOLAR HEAT WORLD WIDE

Country Data Contributors who provide updated solar thermal market 73 countries around the globe every year. All these contributors are listed in the Appendix of this report.

Bharat Heavy Electricals Limited (BHEL) | Ministry of

Name of the CPSE: Bharat Heavy Electricals Limited Scope: The Company is engaged in the design, engineering, manufacturing, construction, erection,

5 Best Renewable Energy Stocks for 2026 and How to Invest

As global demand for energy grows, so does the world's reliance on alternative, renewable energy sources. Learn how to

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This is the 2025 update of the Clean Energy Technology Observatory report on trends in the development of solar thermal energy, including concentrated solar power (CSP) and solar heat for

Solar thermal energy

Solar thermal energy, which uses solar radiation to heat a fluid, produces direct heat for domestic and industrial applications and plays an important role in the decarbonization of heat...

Hydroelectricity

Geothermal power Hydroelectricity Run-of-the-river Hydropower Micro hydro Pico hydro Small hydro Marine current power Marine energy Ocean thermal Osmotic

Solar-Thermal Power and Industrial Processes Basics

Solar-thermal power can replace fossil fuels in a wide variety of industrial applications, including petroleum refining, chemical production, iron

Power and Energy

Explore our power and energy services, from renewable energy to low-carbon solutions. Drive sustainability, reduce emissions and secure reliable energy supply.

Review Solar thermal energy technologies and its applications for ...

Furthermore, the present work includes an economic analysis of the solar thermal energy systems for process heating applications and explored the various challenges involved in the

IRENA – International Renewable Energy Agency

The International Renewable Energy Agency (IRENA) is an intergovernmental organisation supporting countries in their transition to a sustainable energy future.

Generation classification of solar thermal technologies

This study introduces a comprehensive four-generation classification framework (STT-G1 to STT-G4) that maps the technological evolution of solar thermal systems using operational

Solar Thermal Energy: Technology, Applications, Policy ...

Therefore, this chapter thoroughly analyzes solar thermal energy systems, exploring their viability as a renewable energy source and applicability in the heat-demanding sectors.

Solar Energy

Solar energy is the fastest growing and most affordable source of new electricity in America. As the cost of solar energy

Renewable energy

Our unequal earth Solar energy helps US farms stay afloat – but Republicans' bill could change that May 29 2026 11.00 EDT

Solar thermal energy

Solar thermal energy (STE) is a form of energy and a technology for harnessing solar energy to generate thermal energy for use in industry, and in the residential and commercial sectors.

Solar Thermal Energy in the European Union 2 0 2 4

Clean Energy Technology Status, Value Chains and Market: covering advanced biofuels, batteries, bioenergy, carbon capture utilisation and storage, concentrated solar power and heat, geothermal

Solar Thermal Market Size, Share & Trends | Growth

The global solar thermal market size was valued at USD 17.74 billion in 2025. The market is projected to grow from USD 19.56 billion in 2026 to USD 42.56 billion by 2034, exhibiting a

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Solar PV Power Solar Thermal Power Thermal Wind Power Power Projects Power Transmission Retail Duty Free Retail Electricals and Electronics General Retail

Solar Thermal Market Size, Global Trends 2025-2034

The solar thermal market size crossed USD 16.1 billion in 2024 and is estimated to grow at a CAGR of 9% from 2025 to 2034, driven by rising environmental awareness and government efforts to reduce

Net Zero by 2050 - Analysis

Renewables Renewable energy technologies like solar and wind are the key to reducing emissions in the electricity sector, which is today the single

STEO Data Browser

Includes hydropower, solar, wind, geothermal, biomass and ethanol. Uranium fuel, nuclear reactors, generation, spent fuel. Comprehensive data summaries, comparisons, analysis, and

Solar power in Spain

Solar thermal power plants designed for solar-only generation are well matched to summer noon peak loads in prosperous areas with significant cooling demands,

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