

# **Solar-Powered Heating Market Forecasts to 2032 – Global Analysis By Collector Type (Flat Plate Collectors, Evacuated Tube Collectors, Unglazed Water Collectors, Air Collectors and Concentrating Collectors), System Type, Technology Integration, Application and By Geography**

<https://marketpublishers.com/r/S60520D9DB05EN.html>

Date: September 2025

Pages: 200

Price: US\$ 4,150.00 (Single User License)

ID: S60520D9DB05EN

## **Abstracts**

According to Statistics MRC, the Global Solar-Powered Heating Market is accounted for \$2.29 billion in 2025 and is expected to reach \$3.73 billion by 2032 growing at a CAGR of 7.2% during the forecast period. Heating systems powered by solar energy utilize sunlight to generate warmth for homes and water, offering an eco-friendly alternative to conventional energy sources. Solar collectors capture and convert sunlight into heat, helping to cut energy costs and reduce greenhouse gas emissions. These systems are suitable for both homes and commercial spaces and can maintain warmth in cold weather when paired with heat storage solutions. While the upfront installation expenses may be significant, the long-term financial benefits and available incentives make them worthwhile. With ongoing technological improvements, solar heating is becoming more efficient, reliable, and widely adopted globally.

According to data from the International Energy Agency's Solar Heating and Cooling Programme (IEA SHC), by the end of 2023, global solar heat capacity reached 560 GWth, equivalent to 800 million m<sup>2</sup> of collector area. This marked a net increase of 18 GWth or 26 million m<sup>2</sup> in that year alone.

Market Dynamics:

Driver:

## Rising environmental awareness

Growing concern over climate change and environmental harm is boosting the demand for solar-powered heating. People and organizations are turning to renewable solutions to lower carbon emissions and reduce reliance on conventional fuels. Awareness campaigns, subsidies, and incentives from governments and NGOs encourage adoption. The recognition of solar heating's long-term benefits, including cost savings and ecological impact reduction, motivates consumers to shift away from traditional systems. Increasingly, choosing solar-powered heating is seen as a responsible step toward sustainability. As environmental consciousness rises globally, more households and businesses adopt solar solutions, making it a key factor driving market growth.

## Restraint:

### High initial investment

A major limitation of the solar-powered heating market is the substantial upfront cost of installation. Solar collectors, storage units, and supporting infrastructure require significant financial investment, which can discourage both households and businesses. Even though energy savings over time are considerable, the initial expense can deter adoption, especially among small businesses and low-income households. High setup costs also extend the payback period, reducing the system's appeal. Without financial aid or incentives, many potential users postpone or avoid installation. Thus, the considerable initial investment remains a key barrier, slowing widespread acceptance and adoption of solar-powered heating solutions across various regions.

## Opportunity:

### Growing demand for renewable energy

The increasing focus on renewable energy globally creates strong opportunities for solar-powered heating. As consumers, businesses, and governments prioritize sustainability, the need for clean heating solutions rises. Solar-powered systems provide an environmentally friendly alternative to traditional energy, helping meet carbon reduction and efficiency goals. Awareness of long-term cost savings and energy efficiency drives adoption in homes, offices, and industries. Rising energy prices and the emphasis on green practices further enhance market potential. Supportive policies, investments, and incentives strengthen this growth outlook. Overall, the transition to

renewable energy creates a favorable environment for solar heating, offering significant potential for innovation, market penetration, and long-term expansion.

Threat:

#### Competition from conventional heating systems

Solar-powered heating competes with established conventional heating solutions like natural gas, oil, and electricity-based systems. These traditional methods typically have lower initial costs, proven reliability, and widespread availability, making them a preferred choice for many consumers. Concerns about installation complexity, dependency on sunlight, and maintenance challenges discourage switching to solar heating. Additionally, fossil fuel subsidies in some regions enhance the attractiveness of conventional systems. The dominance of traditional heating methods creates a significant challenge for solar adoption, as consumers often favor familiar, predictable solutions. Despite the environmental benefits of solar heating, market growth is limited by the strong presence and appeal of conventional alternatives.

Covid-19 Impact:

The COVID-19 outbreak had both negative and positive effects on the solar-powered heating market. Lockdowns and social distancing slowed construction projects, disrupted supply chains, and delayed manufacturing of essential solar heating equipment, temporarily limiting growth. Workforce shortages and travel restrictions further impacted installations in residential and commercial sectors. On the other hand, the pandemic increased interest in energy-efficient and sustainable solutions as consumers and businesses aimed to reduce costs and environmental footprints. Post-pandemic, investments in renewable energy, supported by government green stimulus programs and incentives, helped revive the market. Overall, while COVID-19 created short-term obstacles, it also reinforced the importance of sustainable heating solutions, boosting long-term growth prospects.

The flat plate collectors segment is expected to be the largest during the forecast period

The flat plate collectors segment is expected to account for the largest market share during the forecast period. Their widespread use in residential water and space heating applications is attributed to their affordability, straightforward design, and effectiveness in moderate climates. These collectors are favored for their ease of installation and reliable performance. The segment's dominance is further supported by decreasing

installation costs, favorable government incentives, and a growing consumer focus on sustainability. These factors collectively contribute to the significant presence of flat plate collectors in the solar thermal market.

The solar combi systems segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the solar combi systems segment is predicted to witness the highest growth rate. These systems, which simultaneously provide space heating and domestic hot water, are becoming increasingly popular for their efficiency and multifunctionality. Their capacity to fulfill multiple energy requirements in both residential and commercial applications makes them a preferred choice for consumers aiming for energy-saving solutions. The surge in demand for energy-efficient technologies, along with favorable government incentives and heightened environmental consciousness, is propelling the adoption of solar combi systems. This momentum is anticipated to persist, establishing solar combi systems as a dominant segment in the solar-powered heating market.

Region with largest share:

During the forecast period, the Asia Pacific region is expected to hold the largest market share. This significant share is driven by China, which represented about 83% of the global installed capacity in 2023. Factors such as government-backed incentives, financial support, and a national emphasis on renewable energy have accelerated the adoption of solar thermal systems in China. Moreover, the rising energy needs and urban development in nations like India are further fueling the market's growth in the region. The APAC region's dedication to sustainable energy practices and favorable policies play a crucial role in its leading position in the solar-powered heating market.

Region with highest CAGR:

Over the forecast period, the North America region is anticipated to exhibit the highest CAGR, driven by factors such as favorable government policies, technological advancements, and increasing demand for renewable energy solutions. The Inflation Reduction Act has introduced significant incentives for solar energy initiatives, further boosting growth. Moreover, collaborations between public and private sectors, along with increased investments in research and development, are promoting innovation and wider adoption of solar thermal technologies throughout the region. These developments collectively drive a strong growth trend, establishing North America as a

major contributor and influential player in the global solar-powered heating market.

### Key players in the market

Some of the key players in Solar-Powered Heating Market include Bosch Thermotechnology, Stiebel Eltron, Ariston Thermo, Alfa Solar, Viessmann, Solarwatt, Honeywell, Rheem Manufacturing Company, A.O. Smith Corporation, Sunpro Solar Systems, Tata Power Solar Systems, Kavita Solar Energy Pvt. Ltd, Supreme Solar, Microtek Solar Solutions and Loom Solar Pvt. Ltd.

### Key Developments:

In April 2025, Honeywell and Argent LNG have signed an agreement to assess the use of Honeywell's innovative pretreatment solutions at a new Liquefied Natural Gas (LNG) export terminal to be constructed in Port Fourchon, Louisiana. The collaboration aims to enhance energy security around the globe and support the United States' position as a leader in the LNG industry.

In August 2024, Viessmann Group has agreed to acquire KPS Global LLC to further the expansion of its clean and cold room business in North America. Viessmann will acquire the company from New York-based D Cubed Group LLC, according to a statement reviewed by Bloomberg News. Terms of the transaction weren't disclosed.

In July 2023, Stiebel Eltron is planning to set up a stainless steel cylinder production facility for heat pump heating systems at Continental's location in Gifhorn. With this in mind, Continental and Stiebel Eltron have signed a letter of intent to take over production and functional areas. Negotiations on possible uses for the Gifhorn location are to begin immediately.

### Collector Types Covered:

Flat Plate Collectors

Evacuated Tube Collectors

Unglazed Water Collectors

Air Collectors

## Concentrating Collectors

### System Types Covered:

Thermosiphon Solar Heating Systems

Pumped Solar Heating Systems

Hybrid Systems

District Heating Systems (SDH)

### Technology Integrations Covered:

Photovoltaic-Thermal (PVT) Systems

Seasonal Thermal Energy Storage (STES)

Smart Thermal Networks

### Applications Covered:

Residential

Commercial

Industrial

Institutional

Solar Combi Systems

Space Heating

Solar Cooling

## Swimming Pool Heating

### Regions Covered:

#### North America

US

Canada

Mexico

#### Europe

Germany

UK

Italy

France

Spain

Rest of Europe

#### Asia Pacific

Japan

China

India

Australia

New Zealand

South Korea

Rest of Asia Pacific

South America

Argentina

Brazil

Chile

Rest of South America

Middle East & Africa

Saudi Arabia

UAE

Qatar

South Africa

Rest of Middle East & Africa

What our report offers:

- Market share assessments for the regional and country-level segments
- Strategic recommendations for the new entrants
- Covers Market data for the years 2024, 2025, 2026, 2028, and 2032
- Market Trends (Drivers, Constraints, Opportunities, Threats, Challenges, Investment Opportunities, and recommendations)
- Strategic recommendations in key business segments based on the market estimations
- Competitive landscaping mapping the key common trends
- Company profiling with detailed strategies, financials, and recent developments
- Supply chain trends mapping the latest technological advancements

## Free Customization Offerings:

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### Company Profiling

Comprehensive profiling of additional market players (up to 3)

SWOT Analysis of key players (up to 3)

### Regional Segmentation

Market estimations, Forecasts and CAGR of any prominent country as per the client's interest (Note: Depends on feasibility check)

### Competitive Benchmarking

Benchmarking of key players based on product portfolio, geographical presence, and strategic alliances

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