

PRESS RELEASE



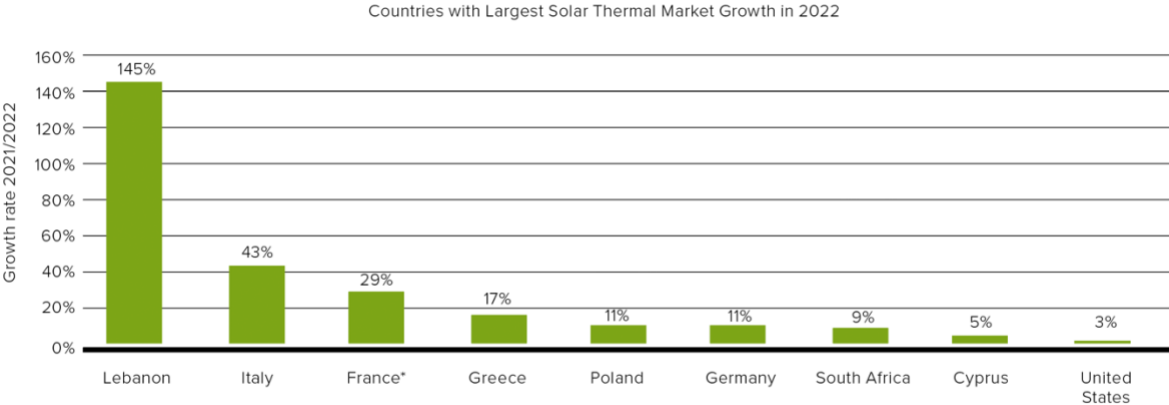
Mixed Solar Thermal Market Development in 2022

14 June 2023. The 2023 edition of the International Energy Agency's Solar Heating and Cooling Technology Collaboration Programme (IEA SHC) annual market report released today. *Solar Heat Worldwide 2023* finds mixed growth for solar thermal.

In 2022, 17 GW_{th} or 24 million square meters of collectors were installed. With a total capacity of 540 GW_{th}, solar thermal is providing green heat to 115 million customers globally. With a turnover of USD 19.1 billion, the sector employs around 389,000 people.

While solar thermal markets grew, particularly in Europe, the global market was overshadowed by declines in the two largest markets, China and India. As a result, the global solar thermal market contracted by 9.3% in 2022 compared to 2021.

Lebanon's incredible 145% market growth in 2022 compared to 2021 underscores the power of subsidies and timing. This growth, mainly driven by the removal of electricity subsidies, rise in fuel prices, and currency depreciation, motivated consumers to install solar water heaters as an affordable alternative to electric heating. In Europe, Italy, Greece, and Poland recorded positive market developments for the second year in a row. After a staggering market growth of 83% in 2021, Italy's solar thermal market maintained its strong market growing by 43% in 2022. Greece experienced similarly positive development, with 18% growth in 2021 and 17% in 2022. Poland also witnessed consecutive years of strong market expansion, with 17% and 11% growth rates in 2021 and 2022, respectively. Additional positive developments occurred in France (29%), Cyprus (5%), and South Africa (9%).



Reporting countries with the highest growth rates in 2022

* preliminary data based on Uniclma Report

Source: Solar Heat Worldwide

Solar Heat Worldwide 2023, based on data contributed by 71 countries, is the most comprehensive evaluation of global solar heating and cooling markets. Below are a few of the key findings from this year's report. The full report is available for free on the IEA SHC website (www.iea-shc.org/solar-heat-worldwide).

Tomas Olejniczak, Chair of the IEA SHC, notes the pivotal role of the solar thermal sector, stating, "*With 17 GW of new capacity installed in 2022, the solar thermal sector has again proven its significant impact in advancing climate neutrality, not only within European markets and the residential sector but also on a global scale and in industrial sectors.*"

No energy turnaround without a heat turnaround

Global final energy consumption for heating and cooling has remained virtually unchanged at around 50% for many years. According to the IEA Renewables 2022 report¹, industrial processes are responsible for 53% of the final energy consumed for heat, while another 44% is used in buildings for space and water heating. The remainder is used in agriculture, primarily for greenhouse heating.

Fossil fuels dominate the heating sector. Apart from traditional biomass, only 11% of global heating needs were met by modern renewables in 2021, underscoring the urgent requirement for sustainable heating solutions.

The IEA Renewables 2022 report projects global heat consumption – excluding ambient heat from heat pumps – to increase by almost 14 EJ (+6%) during 2022-2027. This demand will be met to a small extent by electrifying the heating sector. Meeting the majority of this demand, however, will necessitate the adoption of geothermal energy, modern use of biomass, and solar thermal energy.

Data indicates a significant rise in **demand for large-scale solar thermal systems in 2023**. Considering the extended lead time for developing large-scale system solar district heating and industrial process heat systems, coupled with the recent implementation of renewable heat policies, the solar thermal industry is poised for substantial growth in the coming years.

Clear upward trend in solar district heating in Europe

According to the German Steinbeis research institute Solites, in 2022, the total collector area for district heating in **Germany** grew by 30% compared to the previous year. This positive trend appears set to continue in 2023 and beyond. Nine systems representing a collector area of 28,000 m² (19.6 MW_{th}) are under construction or in an advanced planning stage. Another 66 systems with a collector area of 454,550 m² (318 MW_{th}) are under discussion. The construction of the largest solar district heating plant in Germany with a collector area of 65,000 m² (45.5 MW_{th} capacity) was announced by Stadtwerke Leipzig in April 2023, with plans for commissioning in 2025.

Things are also on the move in the **Netherlands**. A large-scale solar district heating system will be completed in the first quarter of 2023 in the city of Groningen. This plant has a collector area of 48,000 m² (33.6 MW_{th} capacity).

And the **Western Balkan** countries of Kosovo and Serbia are emerging as dynamic players in solar district heating. Advanced planning is underway for a solar plant in Pristina, the capital city of Kosovo, including a 58,000 m² collector area (40.6 MW_{th} capacity) and a 408,000 m³ seasonal, set to come online in 2024. And two district heating plants are planned for Serbia. The feasibility study for a 35,000 m² (24.5 MW_{th} capacity) plant in the city of Pancevo is completed, and plans are underway for a solar district heating plant in the range of 45 to 136 MW_{th} in combination with seasonal storage² for the city of Novi Sad.

A new dimension is opening up in China

In China, a groundbreaking solar plant with a 79.8 MW_{th} capacity is under construction, providing heat to the Handan Bay Water World resort. The impressive 114,000 m² parabolic trough collector system will supply the hotel's HVAC and hot water systems, indoor swimming pool, and ice and snowmaking facilities for an indoor ski slope. Completion and commissioning are scheduled for the second quarter of 2023.

¹ Renewables 2022: Renewable analysis and forecasts to 2027, IEA, January 2023

² www.ehp-magazine.com

Positive outlook for solar industrial heat plants

Another sector showing promising signs of growth in 2023 is solar heat for industrial processes (SHIP). According to solarthermalworld³, a significant increase in plants using solar process heat above 100 °C is expected. And the number of multi-MW plants to be commissioned in Europe in 2023 promises a sevenfold increase. These projects include a 2.5 MW_{th} chemical plant in Turnhout, **Belgium**, as well as two brewery systems in **Spain**, 28.5 MW_{th} and 4 MW_{th}, respectively. Additionally, a solar thermal heating plant, heat pumps, and a storage facility for a malting plant in **Croatia** are being implemented, with commissioning scheduled for the first quarter of 2024.

The first GW-scale solar heat plant for an industrial application

By far, the largest solar process heat plant is in the planning stage in **Saudi Arabia**⁴. Saudi Arabia's leading mining company signed an MOU in 2022 to facilitate a study to develop the first solar steam project in the kingdom to decarbonize an alumina refinery. When complete, the 1.5 GW_{th} solar steam plant will reduce carbon emissions by over 600,000 tons annually, more than a 50% reduction in the refinery's carbon footprint.

Solar Heat Worldwide

First published in 2005, this year's *Solar Heat Worldwide* provides market data on installed capacities and share of applications from 71 countries. This year's report includes a special focus on large-scale solar thermal plants under construction or in the advanced planning stage.

Solar Heat Worldwide has a solid reputation as a reference source for solar heating and cooling data among international organizations, including REN21 and International Renewable Energy Agency (IRENA). The report provides the primary data for the solar heating and cooling chapters of REN21's Renewable 2022 Global Status Report (GSR), a key policy advisor report on renewables. This year's report, once again written by Werner Weiss and Monika Spörk-Dür from the Austrian research institute AEE INTEC, is supported by the Federal Ministry for Climate Action of the Republic of Austria and solar heat experts worldwide.

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Report

Report and key findings, click [here](#).

Graphic

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About IEA SHC

The International Energy Agency, Solar Heating and Cooling Technology Collaboration Programme (IEA SHC) is an international research and information program on solar heating and cooling technologies. Over 200 experts from 19 countries, the European Commission, and eight international organizations conduct collaborative research on a wide range of topics among them solar cooling for sunbelt regions, solar energy buildings and the integration of solar heat into industrial water management.

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³ <https://solarthermalworld.org/news/high-level-of-dynamism-on-the-ship-world-market-in-2022/>

⁴ <https://www.glasspoint.com/maaden-press-release>