PRESS RELEASE

Solar Heat Worldwide 2025 highlights top countries globally

In 2024, China led the global market for industrial solar heat, while the Netherlands recorded the highest increase in newly installed solar district heating capacity in Europe. Germany topped the charts for newly installed hybrid photovoltaic-thermal (PVT) collectors. The newly released *Solar Heat Worldwide 2025* report presents the latest data across key applications of solar heating and cooling, including residential water heating, district heating, process heat, solar cooling, and drying. The full report and accompanying infographics are available for free download at https://www.iea-shc.org/solar-heat-worldwide.

"*The 17.8 GW of new solar heat capacity installed last year once again demonstrates the broad appeal of this technology – serving building owners, agricultural businesses, hotels, and industrial users alike. Its versatility and adaptability underscore its vital role in advancing climate neutrality,*" noted Lucio Mesquita, Chair of the IEA Solar Heating and Cooling (IEA SHC) Programme that publishes Solar Heat Worldwide annually.

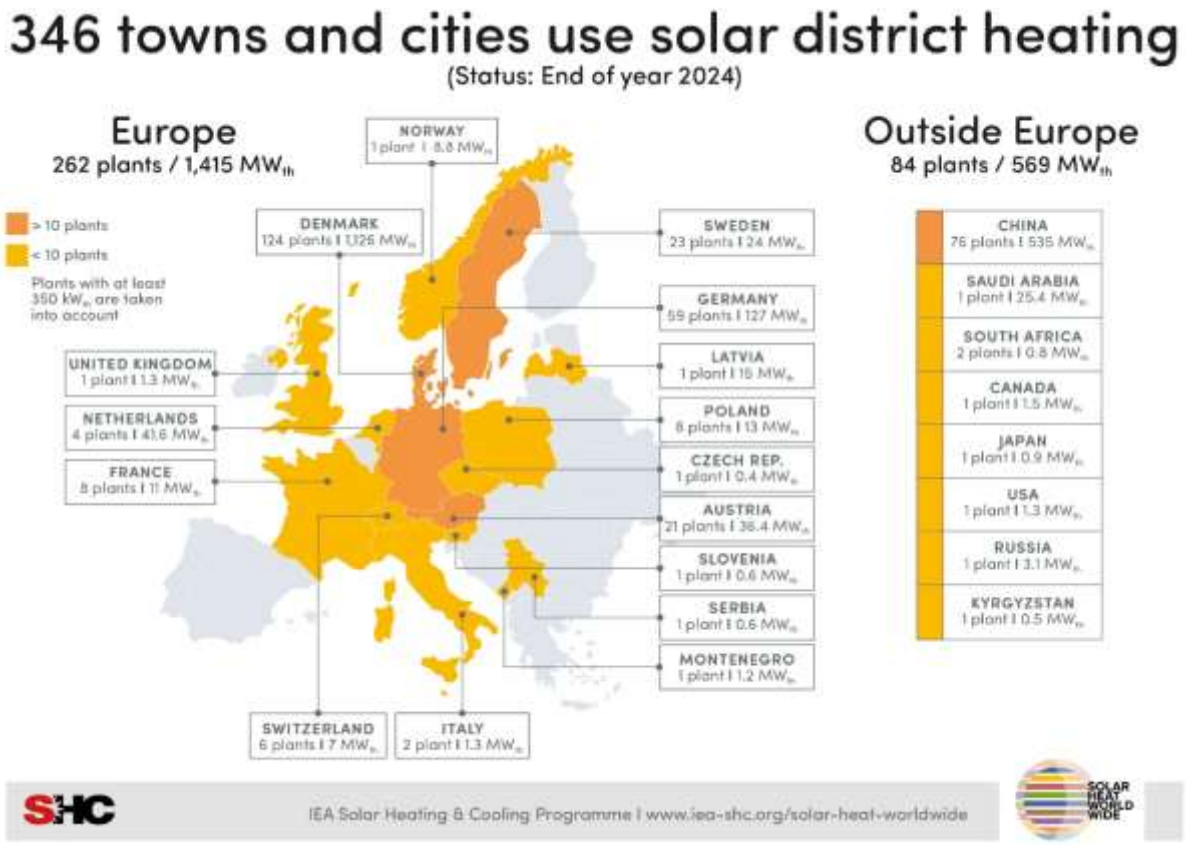
The author team from the Austrian Institute AEE INTEC has once again spared no effort in gathering market data from over 70 countries to provide a very comprehensive overview of developments on the global markets. The study has become a trusted source of solar thermal data and a go-to reference for international organizations such as REN21 and the International Renewable Energy Agency (IRENA).

Applications for solar hot water preparation and space heating in buildings are still the predominant application in most of the regions worldwide. However, this segment is under pressure from heat pumps and policies towards electrification. Consequently, the global solar heat market declined by 14 % in 2024. Against this trend annual sales grew at double-digit rates in several large solar thermal markets, including Mexico, Brazil and Türkiye. The reasons for the sales growth include a growing construction sector and intensified marketing strategies by the system suppliers.

Industrial and district heating companies worldwide are increasingly turning to CO_2-free solar heat solutions. Solar Heat Worldwide includes dedicated chapters on these two growing market segments. "*Despite a challenging market environment in the residential sector, we are seeing dynamic growth in large-scale applications such as industrial process heat and solar district heating. These trends underline solar thermal's vital contribution to a decarbonized future, especially in sectors where electrification alone is hard to realize*," said Christoph Brunner, CEO of AEE INTEC and one of the lead authors of the report. The IEA Solar Heating & Cooling Programme financed the study together with the Austrian Federal Ministry Innovation, Mobility and Infrastructure.

Positive solar industrial heat outlook

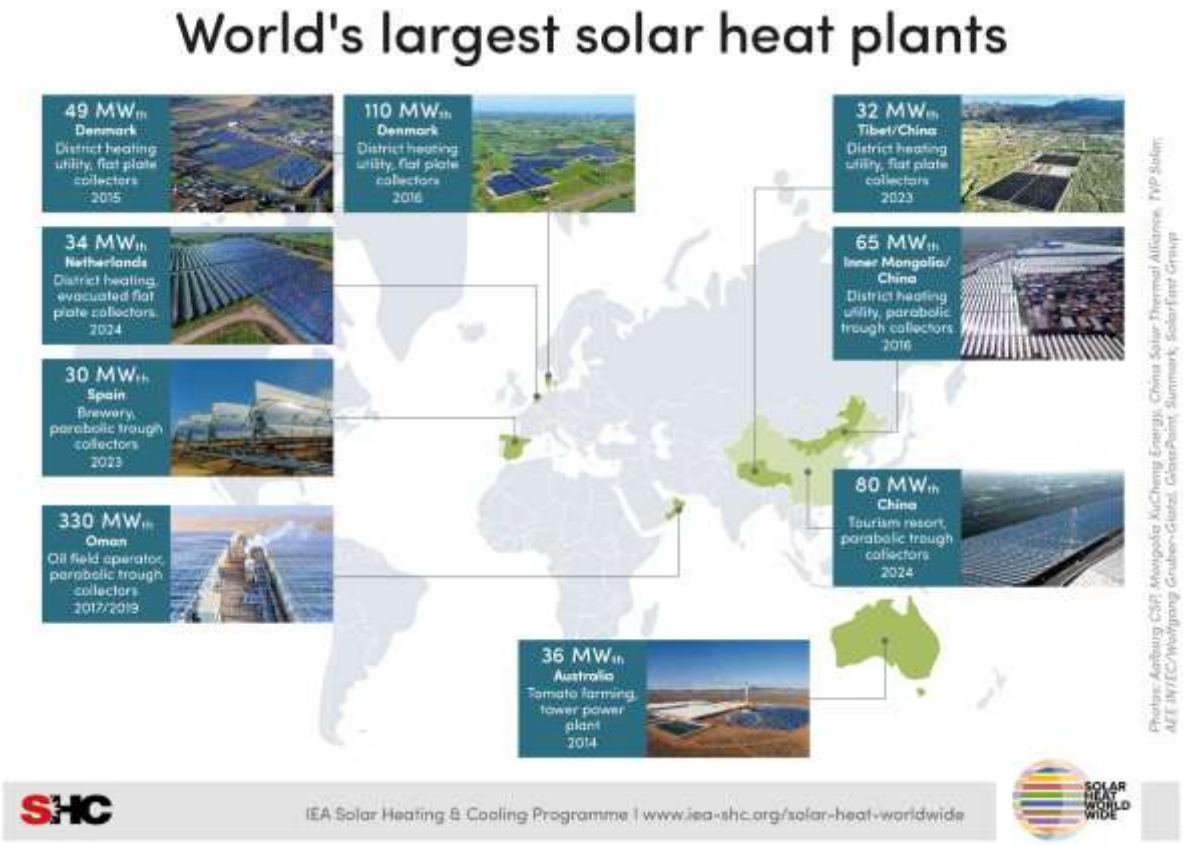
The year 2024 was bright for solar industrial heat. At least 106 solar industrial heat (SHIP) plants with a capacity of 120 MW have been commissioned worldwide, an increase of 28 % compared to the previous year. The outlook remains strong, with an additional 125 MWth of SHIP capacity under construction by the end of 2024. Notably, this includes three multi-megawatt installations being built for copper mines in Chile. In these projects, the Chilean energy provider Gasco plays a key role as the dedicated solar heat supplier.



The number of multi-MW solar district heating systems continuous to grow

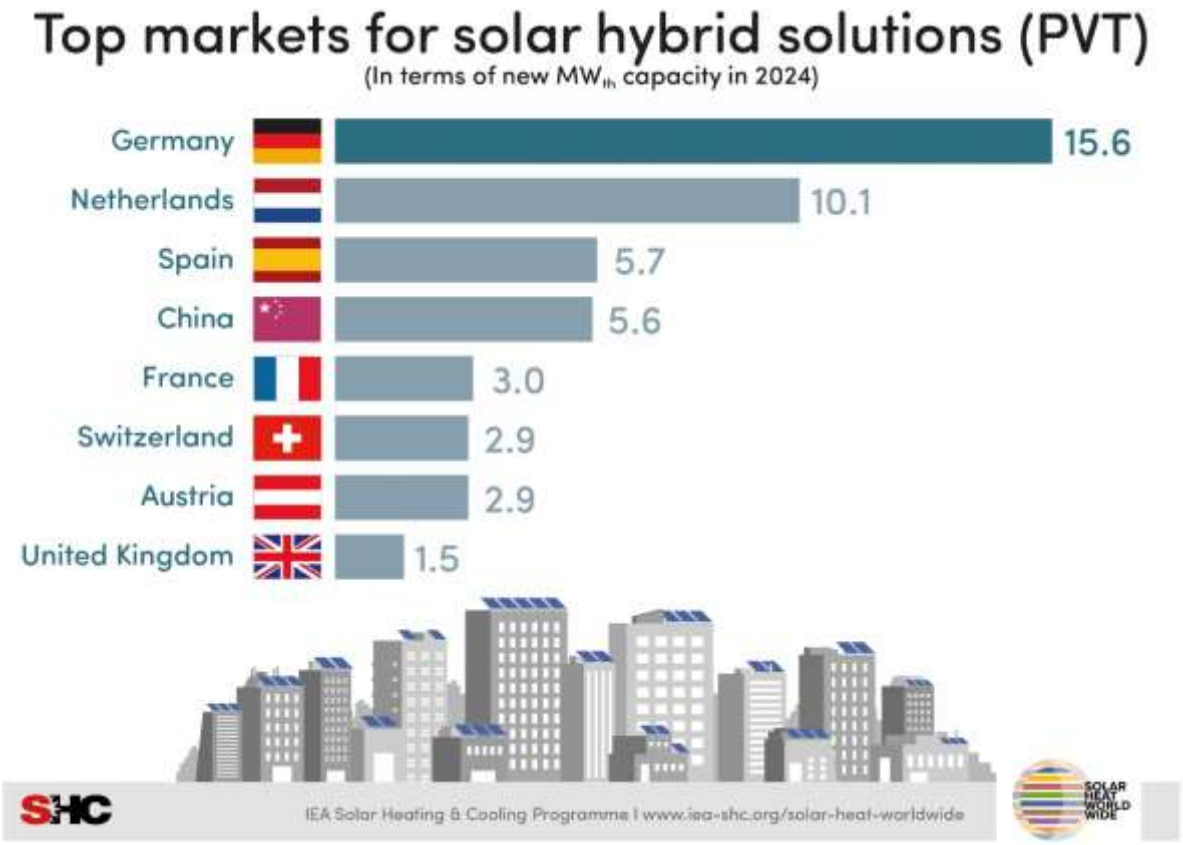
Today, 346 towns and cities around the world benefit from solar energy integrated into their district heating networks. In 2024 alone, ten new systems with a total capacity of 74 MW were commissioned. The global solar district heating market is steadily expanding into new regions. Among last year's highlights was the commissioning of one of the world's largest solar district heating plants – a 34 MW system in the Netherlands.

Momentum is also building in Southeast Europe. Two major projects are advancing in the Balkans: in Pristina, Kosovo, the pre-qualification tender for a 44 MW collector field with seasonal storage closed on April 11, 2025. Meanwhile, in Novi Sad, Serbia, plans are underway for a 27 MW solar collector field, also paired with seasonal thermal energy storage.



Two more new installations to add to the world largest solar heat plants

Solar Heat Worldwide also monitors the world's largest solar thermal installations used in district heating and industrial process heat. These flagship plants are located across all five continents, reflecting the global relevance and adaptability of solar thermal technology to meet diverse energy needs. They serve a wide range of customer groups, from municipal utilities to industrial facilities and even tourism resorts.



PVT collectors gain traction in building energy systems

Driven by the growing popularity of heat pumps, demand for photovoltaic-thermal (PVT) collectors – also known as hybrid collectors – rose noticeably in 2024. These systems combine a PV module with a thermal absorber underneath, enabling the simultaneous generation of electricity and heat. This dual-output functionality makes PVT collectors an ideal, flexible energy source for use in buildings, particularly for hot water supply or supporting heat pump systems.

The Solar Heat Worldwide authors observed a growing number of market entrants, with a record 46 manufacturers reporting sales in 2024. In total, 37.5 MW_{th} of thermal capacity and 18.6 MW_p of electrical capacity were installed – representing a 13% increase in thermal output over the previous year. Germany, along with Netherlands and Spain, led the global market in terms of new PVT installations.

Further information:
IEA SHC Solar Heating and Cooling Programme: https://www.iea-shc.org/
Solar Heat Worldwide Edition 2025: https://www.iea-shc.org/solar-heat-worldwide