

PRESS RELEASE



IEA SHC recommends conversion factor 0.7 kW_{th}/m² for statistics on concentrating collectors

May 2023. The IEA Solar Heating and Cooling Programme (IEA SHC) recommends the factor of 0.7 kW_{th} per square meter of aperture collector area for the conversion of area to power for statistics on concentrating collectors. This is an essential step for international market statistics about new solar heat capacities. So far, the factor 0.7 kW_{th}/m² is only used for non-tracking collectors, following a recommendation published by IEA SHC in 2004. However, sales of concentrating collectors are growing worldwide and also need a conversion factor to account for this dynamically developing market segment in global market statistics. Scientists from IEA SHC Task 64 on Solar Process Heat outline the application of the factor for concentrating collectors in an 8-page Technical Note published on <https://task64.iea-shc.org/publications/>.

According to Dirk Krüger from the German Aerospace Centre and Peter Nitz from the Fraunhofer ISE, the two main authors of the Technical Note: "For some solar thermal systems, only the area and no power is specified. That's why this conversion factor is so important. We need the installed thermal power of all systems in kW or MW so that solar thermal energy is clearly visible in international statistics."

The Task 64 experts jointly recommend using 0.7 kW_{th}/m² "uniformly for the following concentrating collector types: single-axis tracking parabolic troughs and linear Fresnel collectors, as well as double-axis tracking systems such as parabolic dishes and Fresnel lens collectors. The conversion factor, however, is not meant to be applied to solar tower plants, as this technology was not checked and included in the assessment."

There is growing interest worldwide in solar heat solutions providing more than 100 °C. In 2022, already 16 % of the collectors installed for solar process heat were concentrating variants. The market will see strong growth in the coming years as more multi-MW plants come online, like the two new systems for Heineken breweries in Spain with 30 and 3.5 MW systems and the 77 MW system in China for a tourist resort.

As noted above, this conversion factor is for calculations for market statistics.

##

Organizations mentioned in this press release

IEA SHC: <https://www.iea-shc.org/>

IEA SHC Task 64: <https://task64.iea-shc.org/>

German Aerospace Centre: https://www.dlr.de/EN/Home/home_node.html

Graphics

Photo: Collector: Parabolic trough, Location: Mexico, Supplier: Inventive Power, Industry: Food and Beverage, Application: Water preheating. Photo, click [here](#)

Graphic: Solar Payback. Graphic, click [here](#)

About IEA SHC

The International Energy Agency's Solar Heating and Cooling Technology Collaboration Programme, built on over 40 years of experience, provides a platform for its member countries and international organizations to conduct international collaborative research, development, and demonstration (RD&D) work on solar thermal energy and solar buildings.

For more information: SHC Secretariat, secretariat@iea-shc.org