SOLAR HEATING & COOLING PROGRAMME
INTERNATIONAL ENERGY AGENCY

2025 HIGHLIGHTS

Task 69 – SOLAR HOT WATER FOR 2030

THE ISSUE

Hot water demand is continuously growing globally, and many IEA SHC member countries have 2030 commitments/targets to achieve a higher solar fraction of their economies. At present, ~16% of residential energy consumption in IEA countries goes to water heating (according to 2018 IEA data). However, the 'solar share' of low temperature heating is still relatively low—only 2.1% of space and water heat demand was being met by solar thermal in 2018, and this mainly come from evacuated tube systems installed in China. This same report states, "to be in line with the Sustainable Development Scenario (SDS), the share of clean energy technologies needs to exceed 50% of new heating equipment sales by 2030." To investigate the best way to fill this gap for solar hot water, Task 69 is focusing on two technologies which are expected to play the biggest role in the solar hot water market in 2030: solar thermal thermosyphon and solar photovoltaic (PV) derived hot water heating systems.

OUR WORK

Task 69 is investigating the global market status, core technical issues, and the trainings/standards needed for these two cost-effective and reliable solar water heater technologies (thermosyphon and PV solar hot water heating systems). The Task relies on international knowledge among participants from the different IEA SHC member country regions to consider differences in economic development, solar resources, regulations, and other factors (i.e., GN SEC vs. Europe). A key part of the scope is to investigate 'smart' systems for thermosyphons and 'integrated' systems for PV-driven systems, including how to overcome barriers to further deployment in different climates and markets. As such, the Task has been working identify opportunities to improve the performance, cost, and reliability of solar water heaters, aiming to accelerate the rollout of best practices for these technologies.

Participating Countries

Australia
Austria
Canada
China
Denmark
Greece
Italy
Norway
Portugal
Switzerland
GN SEC (Zimbabwe
Botswana
Lesotho
Namibia
South Africa
Zimbabwe)
UK

Task Period 2022 – 2026
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TASK 69
Solar Hot Water For 2030

2025 KEY ACTIVITIES

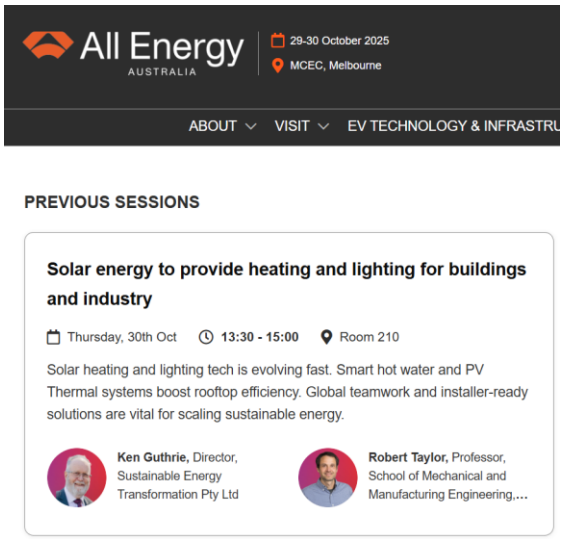
Joint IEA SHC Task 69 and SOLTRAIN+ Seminar, Namibia, 2025

A hydrid, joint seminar of Task 69 and the SOLTRIAN+ programme was held 23 - 26 September 2025 at the Namibia University of Science and Technology (NUST), in their Hotel School in Windhoek, Namibia. Approximately 35 experts from southern Africa, Australia, Austria, and Denmark attend in-person, with an added ~20 experts attending the Task meeting online on Zoom. The Task meeting included three site visits, solar cooked lunches (from a local solar start-up), and discussions on finalising the deliverables.

Australian Technical Conference Presentations

On 30 October, Task 69 presented (in-person) at the All-Energy Australia conference in Melbourne (https://www.all-energy.com.au), the Southern Hemisphere's largest clean energy event. The All Energy event was followed by an Australian SHC and PVPS participant dinner at a local vegetarian restaurant.

In addition, a "Task in Review" presented at the Australian Solar Research Conference in Brisbane, Australia, on 4 December, 2025. The presentations at both conferences were well-received with good discussion sessions from the Australian renewable energy community.



Solar Academy Webinar

Task 69 hosted a Solar Academy Webinar in October (see: https://youtu.be/UU7YpefWJGs) which had 190+ attendees across two sessions, from 30 different countries. The webinar provided details on new green house gas emissions reductions estimation tool which was developed to better gauge the impact of solar thermal hot water systems in China and an updated on global policy measures that are in place and needed for photovoltaic hot water systems. This marks the 3rd major international webinar for Task 69.