

# IEA Solar Heating and Cooling Programme

## Task 48: Quality assurance and support measures for Solar Cooling

### Finding Solutions to Make Solar Thermal Driven Heating and Cooling Systems Time Efficient, Reliable and Cost Competitive

#### OBJECTIVE

To support the strong and sustainable market development of solar cooling systems, including any solar thermal cooling technology that can be used in heating mode.

#### AREAS OF WORK

##### Subtask A: Quality Procedure on Component Level

**Leader:** Marco Calderoni (POLIMI, Italy, [marco.calderoni@polimi.it](mailto:marco.calderoni@polimi.it))

Developing tools and other deliverables that show the level of quality of the most critical components of the solar cooling and heating system – the chiller, the heat rejection device, the pumps and the solar collectors.

##### Subtask B: Quality Procedure on System Level

**Leader:** Alexander Morgenstern (Fraunhofer ISE, Germany, [alexander.morgenstern@ise.fraunhofer.de](mailto:alexander.morgenstern@ise.fraunhofer.de))

Developing tools and deliverables that show the level of quality of the solar cooling and heating systems. To achieve this goal, the first step is to develop a procedure that extends the quality characteristics from a component level to a system level. The second step is to extend the procedure from single stationary states to a performance prediction over 1 year.

##### Subtask C: Market Support Measures

**Leader:** Stephen White (CSIRO, Australia, [stephen.d.white@csiro.au](mailto:stephen.d.white@csiro.au))

Creating a panel of measures to support the market. These measures will use the results of Subtasks A and B and will explore the possibilities to identify, rate and verify the quality and performance of solar cooling solutions. The resulting tools are intended to provide a framework for policy makers to craft suitable interventions (e.g., certificates, label and contracting, etc.) to support solar cooling on a level playing field with other renewable energy technologies.

##### Subtask D: Dissemination and Policy Advice

**Leader:** Uli Jakob (Green Chiller, Germany, [uli.jakob@greenchiller.de](mailto:uli.jakob@greenchiller.de))

Targeting promotion of Task results; producing dissemination materials; transferring knowledge to technical stakeholders; developing instruments for policy makers; and creating/promoting certification and standardization schemes.

#### OUTCOMES

- Tools & procedures for characterizing the main components of SAC systems.
- Creation of a practical and unified procedure, adapted to specific best technical configurations.
- Three quality requirement targets.
- Tools to promote solar thermal driven cooling and heating systems.

#### DURATION

October 2011 – March 2015

#### PARTICIPATING COUNTRIES

Australia	Germany
Austria	Italy
Canada	Singapore
China	United States
France	

#### Operating Agent / Contact

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Solar cooling installation for a wine cellar in the south of France (Source: TECSOL)



Fresnel collector field adapted for solar cooling (Source: Industrial Solar GmbH)



Solar cooling installation using DEC technology and air collectors in central Europe (Source: Fraunhofer ISE)



Solar cooling installation for a Tertiary building in Tropical climate (Source: TECSOL)

Task 48 

<http://task48.iea-shc.org/>

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