QUALITY ASSURANCE & SUPPORT MEASURES FOR SOLAR COOLING WITH IEA SHC TASK 48:
OVERVIEW AND FIRST RESULTS

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Operating Agent IEA SHC Task 48

Australian Solar Cooling Conference
North Ryde, 12th April 2013

Introduction on Solar Cooling Evolution

From World exhibition in Paris: First ice block through solar energy (1878)
Source: Olynthue Verlag

To Banyuls sur Mer ... (1991)
Europe
52 kW – 130 m²
Still running nominally
Source: TECSOL

To UWCSEA in Singapore ... (2011)
Asia
1500 kW – 4 000 m²
Source: SOLID
Task 48 Short description

2 main & critical challenges for Solar (Heating &) Cooling

Task 48 Goals

(1) to develop and provide various measures which lead to highly reliable, durable, efficient and robust solar cooling (and heating) systems

QUALITY

(2) to contribute to further cost reduction on all levels of the chain and identify most promising market areas in terms of cost competitiveness.

PRICE
Structure of the Task

Subtask A
Quality procedure on component level

Subtask B
Quality procedure on system level

Subtask C
Market support measures

Subtask D
Dissemination and policy advices

4 Subtasks & 27 activities

Time Schedule: 3.5 years
From October 2011 to March 2015

Task planning

Day 2 – Solar Cooling Conference - 12/04/2013
Venue: CSIRO, North Ryde, Sydney
Task 48 participation

Participants
- Australia: CSIRO, SOLEM consulting
- Austria
- Canada
- France
- Germany
- Italy
- Singapore: NTU, SERIS
- China:
  - SHANGHAI JIAO TONG UNIVERSITY
  - Shandong Vicot Air Conditioning
- US

Observers
- Germany: Vaillant, Industrial Solar, Fischer Gr.
- Japan: Kawasaki (2nd meeting as observer)
- Austria: Pink, Güssing Energy Technologies GmbH
- China: Shuangliang, Himin
- US: Ergsol, AZTEC
Day 2 – Solar Cooling Conference - 12/04/2013
Venue: CSIRO, North Ryde, Sydney

A Task 48 Website

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

Task 48 Communication & activities

* Solar cooling at the next OTTI conference

www.solaircon.com

Nearly 60 abstracts submitted
Nearly 30 oral presentations selected
A large proposition of IEA SHC Task 48 inputs

Day 2 – Solar Cooling Conference - 12/04/2013
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Task 48 Communication & activities

* Solar cooling at the next OTTI conference

Task 48 Communication & activities

* Solar cooling at the next SHC Conference

Abstract submission until 26/04!
Day 2 – Solar Cooling Conference - 12/04/2013
Venue: CSIRO, North Ryde, Sydney

Australian Solar Cooling Interest Group (ausSCIG) Conference 2013
www.ausSCIG.org

Task 48 developments & progress

Subtask A: Quality procedure on component level (A1 : chiller characterization)

List of market available chillers

Day 2 – Solar Cooling Conference - 12/04/2013
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Subtask A: Quality procedure on component level  

Global Energy Requirement comparison  
(A2/B3 : Life cycle analysis)

32 collectors

Start extensive market overview on Concentrating collectors  
(A6 : State of the art on new collectors)
Subtask B: Quality procedure on system level

### Task 48

#### 72th IEA SHC ExCo Meeting November 27-29/11/2012 Belgium

Subtask B:

- Quality procedure on system level

30 analysed systems

**Technological survey and update on the good practice systems of Desiccant Cooling Systems**

(B2: Good practice for DEC design & installation)

**Identified SDEC systems per country** (Source: AIT, 2012)

**Technological survey and update on the good practice systems of Desiccant Cooling Systems**

(B2: Good practice for DEC design & installation)
Subtask B: Quality procedure on system level

Overview on different criteria approach
(MEGAPICS, T38, ROCOCO)

Method to collect criteria to qualify quality & costs competitiveness of SAC

(B7 : Collection of criteria to qualify the quality and cost competitiveness of solar cooling systems)

Subtask C: Market support measures

60 support schemes (from USA, France, Australia, Italy, Austria)

Review of relevant international standards rating and incentive schemes

(C1 : Review of relevant international standards rating and incentive schemes)
Subtask C: Market support measures

Draft of Measurement and Verification Procedures
(C4: Measurement and Verification Procedures)

Subtask C: Market support measures

Principal heating delivery contracting (HDC) scheme

Status on existing work on contracting models
(C6: Contracting models for solar cooling)
Subtask D: Dissemination & policy advice

Nearly 30 websites Listed and partially described

Presentation of existing Websites regarding solar cooling
(D1 : Website)

* 6 roadmaps listed
  (Europe, IEA, France, Germany, Austria, Australia)

* 7 studies (ESTIF, ESTTP, IEA SHC, EECCAC, Austria)

Existing Roadmaps
(D4 : Guidelines for Roadmaps on Solar cooling)
Subtask D: Dissemination & policy advice

Existing training materials:
- SolarCoolingOpt project
- TECSOL
- CSIRO
- SOLAIR project
- Fraunhofer Umsicht
- Fraunhofer ISE / UiBK

Training course for decision makers

Existing training material
(D5 : Training activity)

Thanks for your attention!

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