SOLAR HEATING & COOLING PROGRAMME
INTERNATIONAL ENERGY AGENCY

GLOBAL SOLAR CERTIFICATION NETWORK
GSCN

IEA SHC Task 57

Solar Standards and Certification

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IEA SHC – Solar Academy, December 2018

IEA SHC Task 57
Solar Standards and Certification

- **3 years: January 2016 – December 2018**
- Successor to Task 43 “Solar Rating and Certification” (2009 – 2015)
- **Website: http://task57.iea-shc.org/**

IEA SHC Task 57
Solar Standards and Certification

Operating agent: *Jan Erik Nielsen, SolarKey Int., Denmark*

- Subtask A: Kick-off of the operation of Global Solar Certification Network
  Harald Drück , IGTE, Germany

- Subtask B : Improvement of test procedures – support and input to ISO
  He Zenian, BSERI, China

- Subtask C : Promotion and capacity building with respect to ISO standards and state-of-the-art certification schemes
  Ashraf Kraidy, RCREEE, Egypt

Subtask A
Global Solar Certification Network (GSCN)

The GSCN facilitates cross-border trading for manufacturers and other suppliers of solar thermal products; **its objective is to minimize the need for re-testing and re-certification in each new country where products are to be marketed and sold**.

The GSCN is made up by industry representatives and participating certification bodies, test labs and inspection bodies + supporting members – from all over the world.

The GSCN concept of re-using test and inspection reports in different certification schemes is now working for solar collectors. It has already been used by the first manufacturers – saving them a significant amount of money and time.

More information at the GSCN website: **WWW.GSCN.SOLAR**

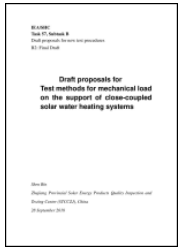
Subtask B
Improvement of test procedures – support and input to ISO

- **Three draft proposals from China for new ISO standards for solar thermal systems and components!**

  - **Test methods for mechanical load on support of close-coupled solar water heating systems**
    This is a final draft to be proposed to ISO/TC 180

  - **Test methods and requirements for building integrated collectors and systems**
    This is a final draft to be proposed to ISO/TC 180

  - **Test methods for close-coupled solar water heating systems - Reliability and safety**
    This is a final draft to be proposed to ISO/TC 180



Subtask B
Improvement of test procedures – support and input to ISO

- **One draft proposals from Denmark for new ISO standards for solar thermal systems and components!**
  - **Check of solar collector field performance**
    Has been delivered as proposal for new Work Item to ISO/TC 180

Scope

*This document specifies a procedure to **verify the performance of large collector fields**. The collectors in the fields can be glazed flat plate collectors, evacuated tube collectors and/or tracking, focusing collectors.*

The check is done on the thermal power output of the collector field – the document specifies how to compare a measured output with a calculated one.

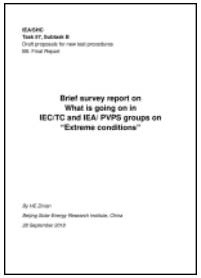
The document applies for all sizes of collector fields.

Subtask B
Improvement of test procedures – support and input to ISO

- **Work on accelerated ageing testing of collectors**
  - **Chinese project on evacuated tubular collectors:**
    - **Report: Development of Accelerated Ageing Tests for Evacuated Tube Collectors**
      - In some cases significant influence of ageing is seen on the heat loss coefficient
  - **German project on flat plate collectors:**
    - **Speedcoll project:** http://www.speedcoll.de/en/home.html
    - **Speedcoll2 project:** https://www.speedcoll2.de/en.html
      - In general little influence of ageing is seen

- **Survey on IEC/TC & IEA/PVPS work on**

  "Environmental extreme conditions"



Subtask C
Promotion and capacity building with respect to ISO standards and state-of-the-art certification schemes

- **Guidelines on ISO 9806**

  Comprehensive guideline for use of the new solar collector testing standard ISO 9806:2017

- **Guideline for establishing/implementing certification schemes**

  Guidelines targeting "new certification regions"

- **Questionnaire / analysis on use of ISO 9806**

  *Looks at the global implementation of ISO 9806 – **good uptake!***

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Solar Standards and Certification

Some perspectives for solar standards and certification – position paper

Solar Standards and Certification

Position Paper

Harmonizing - at international level - testing standards and certification schemes makes it possible to:

- **save very significant resources for product testing and certification**
- **increase product quality**

We have **international standards** for testing of solar thermal systems and components. The tasks/challenges are here:

- **continuous updating and adaption to new technology, products and requirements**
- **promoting use of the standards**

We have some well-established national/regional **certification schemes**. The tasks/challenges are here:

- **harmonizing existing certification schemes**
- **establish new certification schemes where needed**

Solar Standards and Certification

Position Paper

The barriers for developing/maintaining ISO standards are:

- lack of quality infrastructure in general in some countries
- lack of resources for participating in national standardization work groups
- lack of resources for participating in international standardization work
- lack of persons willing to take responsibility for convening international standardization work
- lack of industry participation in standardization work
- lack of interest in harmonizing standards and certification (protection of domestic industry)
- country specific requirements for test procedures due to local specific conditions (not considered in the international standard)

Solar Standards and Certification

Position Paper

The barriers for harmonizing certification schemes are:

- **lack of industry participation – harmonization only interesting for manufacturers operation on several national markets**
- **lack of interest in harmonizing certification schemes (protection of national certification bodies)**
- **country specific requirements in certification schemes due to local specific conditions**

Solar Standards and Certification

Position Paper

Actions are needed from several sides (I)

From industry side:

- **organize at multinational/global level**
- **participate** in ISO standardization
- **participate** in the Global Solar certification Network
- **put pressure** on test labs and certification bodies to use harmonized standards and certification schemes
- **put pressure** on national authorities to harmonize requirements

From national authority side:

- **harmonize** requirements (as far as possible) at international level
- **adopt** international standards
- **support** international standardization work
- **support** international harmonization of certification schemes

Solar Standards and Certification

Position Paper

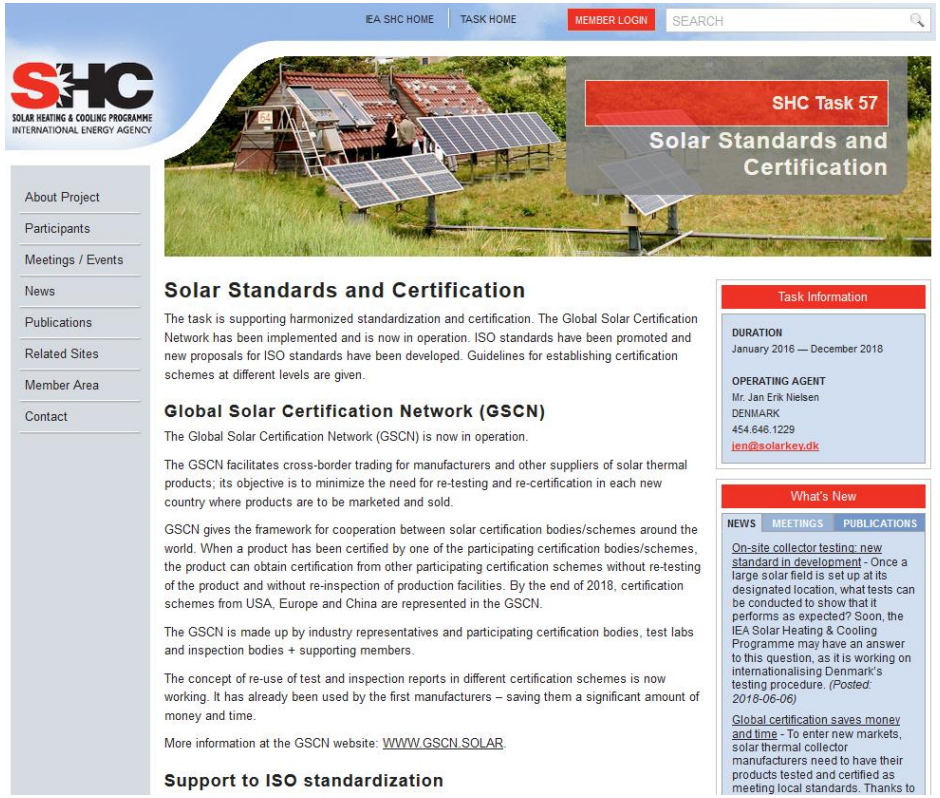
Actions are needed from several sides (II)

From test lab and certification body side:

- **use and accept** international standards
- **participate** in ISO standardization
- **participate** in the Global Solar certification Network
- **put pressure** on national authorities to harmonize requirements

From international funding side:

- **support** international standardization work
- **support** establishing standardisation and certification infrastructure in emerging markets
- **support** international harmonization of certification schemes (GSCN)



http://task57.iea-shc.org/

http://gscn.solar/

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Thank you for your attention

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