IEA SHC Task 57
Solar Standards and Certification

- Intro – including subtask B summary
- Some perspectives for solar standards and certification – position paper
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IEA SHC Task 57
Solar Standards and Certification

- 3 years: January 2016 – December 2018
- 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:
    - Speedcoll2 project: [https://www.speedcoll2.de/en.html](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
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)
Solar Standards and Certification

The task is supporting harmonized standardization and certification. The Global Solar Certification Network has been implemented and is now in operation. ISO standards have been promoted and new proposals for ISO standards have been developed. Guidelines for establishing certification schemes at different levels are given.

Global Solar Certification Network (GSCN)

The Global Solar Certification Network (GSCN) is now in operation. 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.

GSCN gives the framework for cooperation between solar certification bodies/schemes around the world. When a product has been certified by one of the participating certification bodies/schemes, the product can obtain certification from other participating certification schemes without re-testing of the product and without re-inspection of production facilities. By the end of 2019, certification schemes from USA, Europe and China are represented in the GSCN.

The GSCN is made up by industry representatives and participating certification bodies, test labs and inspection bodies + supporting members.

The concept of re-use of test and inspection reports in different certification schemes is now working. 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

Support to ISO standardization

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

http://gscn.solar/
Thank you for your attention

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