

Solar Standards and Certification

As 2018 comes to an end so does our most recent Task on Solar Standards and Certification. SHC Task 57 built on the work of Task 43 on Solar Rating and Certification Procedures to develop, improve and promote ISO standards on test procedures and requirements for solar thermal products as well as to harmonize at the international level certification schemes. It is this harmonization work that sets this Task apart from our other work and the work begun carried out by other organizations. Task 57 participants leveraged the SHC platform of international collaboration to push a global certification initiative to improve the harmonization of certification schemes and avoid the need for re-testing and re-inspection of solar thermal products.

Introduction

There is a huge potential for saving resources for testing and certification if the same standards and certification procedures are used all over.

To highlight this potential, IEA SHC Task 57: Solar Standards and Certification gathered international experts within the field of testing, standardization and certification to work on harmonizing – at the international level - testing standards and certification schemes.

An important outcome of this work is the Global Solar Certification Network (GSCN), which is a network of industry, certification bodies, test labs and inspectors working together to ensure there is mutual acceptance of test and inspection reports from one certification scheme to another.

So far this concept of “re-using” test and inspection reports is in place for solar collectors, based on the newly updated collector test standard ISO 9806. And, plans are underway to expand it to include solar water heaters and other solar thermal systems and components. Task 57 experts have worked out new proposals for standards for compact solar water heaters, building integrated solar products and large collector fields. These will now be further processed and finalized in ISO/TC 180 – some of them for future use in GSCN.

To complement this work, guidelines for setting up certification schemes were produced and can be found at the Task website: <http://task57.iea-shc.org/>. These can be used in countries/regions where the market for solar water heaters is growing, and there are no or little quality assurance measures.

Key Accomplishments

The Global Solar Certification Network (GSCN) established and operating

It is now possible to re-use test and inspection reports from Solar Keymark certification in Europe to SRCC certification in the USA – and vice versa. The first manufacturers are in the process of bringing their existing test and inspection reports to the new certification body to receive a certificate for the new market. A Chinese certification body has been approved too for participating, so soon three continents will be covered.

The number of members of the GSCN is growing – as of November 2018 there were 20 members and 10 applicants. These members include some of the world’s leading collector manufacturers, some of the most active and important certification bodies and some of the most esteemed test labs. For updates on

Cost Savings

Using the Global Solar Certification Concept

To illustrate the tremendous potential in savings using the GSCN concept for re-use of test and inspection reports is one of many different scenarios

A manufacturer selling 8 certified collectors in 3 different regions:

- Traditional Process: Testing and inspecting 8 collectors for 3 markets for each certification scheme would be a first-time expense of approximately 300,000 € plus the time required for the manufacturer employees to manage the processes.
- GSCN Process: Testing and inspecting 8 collectors only once means almost 2/3 of the 300,000 € can be saved.

First year savings in this case around 200,000 €

The following years’ savings would be considerable too now that only 1 instead of 3 annual factory inspections are required.

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new members visit www.gscn.solar. On this website, you can also find the working rules and procedures for the GSCN, how to become a member, member fees and other information.

The ISO 9806 for collector testing updated

The recently updated ISO 9806 standard is widely accepted around the globe and is the basic testing standard for the Global Solar Certification Concept. To better understand this standard, Task 57 experts wrote a comprehensive guide to the standard that is available on the Task 57 website, <http://task57.iea-shc.org/>. This guide is a must-read for new (and existing) test labs as well as for manufacturers of solar collectors.

Four new proposals for ISO standards and new reports

Task 57 experts have prepared three final draft proposals to be proposed to ISO/TC 180:

- Test methods for mechanical load on support of **close-coupled solar water heating systems**
- Test methods for **close-coupled solar water heating systems** - Reliability and safety
- Test methods and requirements for **building integrated collectors and systems**

And, delivered a proposal for a new Work Item to ISO/TC 180

- Check of solar **collector field performance**

Other reports produced in Task 57 included:

- **Accelerated aging testing of collectors** that can be used as a basis for future standard test procedures for estimating collector lifetime.
- **Guidelines for implementing certification schemes** for solar systems and components in "new certification areas" that outlines the fundamentals of certification principles and proposes several levels of certification.

How to Ensure the Work Continues

The next step for the GSCN is to take what was learned from the experiences of testing and certifying solar collectors and add systems – maybe starting with compact solar water heaters.

Continue to work with standards organizations on requirements and testing of new product types (e.g., PVT) and to simplify and improve existing standards.

Assist in the implementation of certification schemes in emerging markets that do not have quality control mechanisms.

And looking a little farther down the road, explore the concept of a common Global Solar Collector Label.

More information

Global Solar Certification Network: www.gscn.solar

IEA SHC Task 57 "Solar Standards and Certification": <http://task57.iea-shc.org/>



Global Solar Certification Network

HOW IT WORKS FOR MANUFACTURERS

- Manufacturer is a member of GSCN.
- Manufacturer with a certification, e.g. Solar Keymark, applies directly to the new certification body (e.g., SRCC in the USA), shows his existing certificate and related test and inspection reports and other relevant documentation. Test lab and inspector used by the manufacturer are to be members of GSCN and recognized by both certification bodies.
- If no additional testing/inspection is required – or when such additional testing/inspection has been completed – the manufacturer is granted the license to mark his product with the "new" certificate too.
- Fees will apply for using the system:
 - Fee to test lab for re-use of test reports
 - Fee to inspection body for re-use of inspection reports
 - Annual GSCN membership fee for manufacturers: 250 €

Manufacturers can utilize the concept of "Global Solar Certification" to avoid re-testing and re-inspection in different certification regions. Industry members can save significant amounts of money and time this way.

HOW IT WORKS FOR "OPERATORS" (certification bodies/test labs and inspectors)

- Operator is a member of GSCN.
- Operators shall fulfill requirements given in the working rules of the GSCN. The primary requirement for operators is accreditation for the respective certification/testing/inspection.
- Participating certification bodies will recognize certification done by the other participating certification bodies if they both recognize involved test labs and inspection bodies.
- Annual GSCN membership fee for operators is 125 €

Operators participating in the Global Solar Certification Network will attract big international customers.

Members have the right to use the "Member of GSCN" logo on their company website and in other promotional material.

Become a member: <http://gscn.solar/members/Become%20member.html>