

Final report: EUDP 15-I, 64015-0079

1.1 Project details

Project title	Internationalt samarbejde om prøvning og certificering af solvarme produkter (IEA SHC Task 57 Solar standards and certification)
Project identification (program abbrev. and file)	EUDP 15-I, 64015-0079
Name of the programme which has funded the project	Energiteknologisk Udviklings- og Demonstrations Program (EUDP). Området: Solenergi
Project managing company/institution (name and address)	SolarKey Int., Aggerupvej 1, 4330 Hvalsø
Project partners	SolarKey Int.
CVR (central business register)	26 95 92 76
Date for submission	2018-09-07

Note: IEA SHC Task 57 began in January 2016 and will end December 2018. This EUDP project covers the initiation of the Task and the two first years of the Task. So, this is a report of the first two years of the task. The last year is supported by a new EUDP project: "EUDP17-II 64017-0561: IEA SHC Task 57 - Solar Standards and Certification (II)" - and will be reported after end of the Task.

1.2 Short description of project objective and results

English version

When manufacturers of solar thermal products – e.g. solar collectors – enter new markets, they often need to do re-testing of their products and to have re-inspection of their production facilities. This is needed for getting local certification and having access to these new markets.

To avoid this waste of time and money, international standards for testing are been developed and promoted - and a network of professionals has been established with the aim to harmonize certification requirements at a "global level".

Danish version

Når fabrikanten af solvarme produkter – f.eks. solfangere – går ind på nye markeder, bliver de ofte tvunget til at gen-teste deres produkter og til at have endnu en inspektør til at inspicere deres produktion. Dette er nødvendigt p.g.a. krav i lokale godkendelsesordninger.

For at undgå sådant spild af tid og penge, støtter projektet udvikling og promovering af internationale standarder – samt etableringen af et internationalt netværk af involverede parter der samarbejder om harmonisering godkendelseskrav.

1.3 Executive summary

Global Solar Certification Network



The Global Solar Certification Network (GSCN) has established itself with working rules, elected Board, annual meetings and website: <http://gscn.solar/>.

Four large global active solar collector manufacturers have formally joined the network, as well as two test labs, two inspection bodies and one certification body. See list of members at the [website](#).

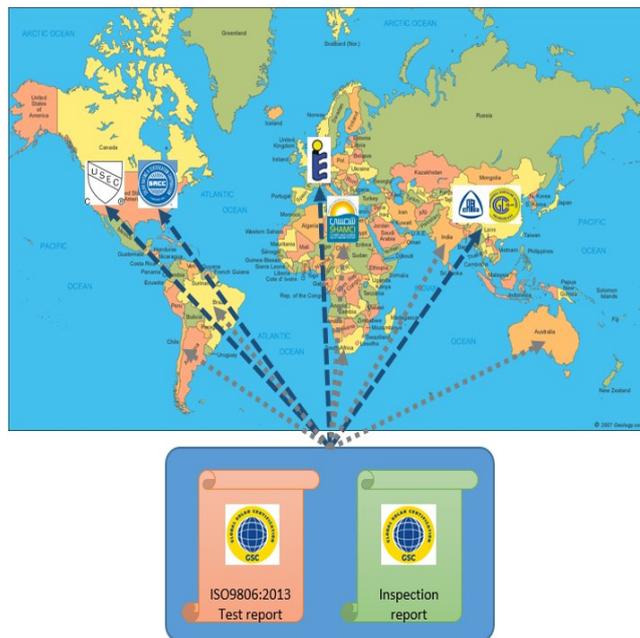
Most important is now to get more members and try out the concept of mutual recognition of test reports and inspection reports.

How it will work for manufacturers:

A manufacturer having already a certificate accepted by the GSCN, simply apply directly to a certification body issuing the next wanted certificate (also accepted within the GSCN), showing his existing certificate and related test and inspection reports and other relevant documentation.

The “new” certification body will then tell the manufacturer if any additional testing/inspection will be needed.

If no additional testing/inspection is required – or when such additional testing/inspection has completed – the manufacturer is granted the license to mark his product with the “new” certificate too. Fees will apply for using the system.



Support to ISO standardization

Four new standards are being drafted:

- 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
- Performance check of large collector fields / DK

It is expected that these proposals will be handed over to ISO in September 2018 for finalization and publication. A proposal for test procedures for accelerated ageing of collectors is being considered too.

Promotion of ISO standards and implementation of certification schemes

Final version of “GUIDE TO STANDARD ISO 9806:2017 - A Resource for Manufacturers, Testing, Laboratories, Certification Bodies and Regulatory Bodies” has been published – see [Task 57 website](#).

A “Guideline for Implementing Certification Schemes for Solar Heating and Cooling Products” is being drafted – to be published at the end of the task (end 2018).

A survey on ISO 9806 has been circulated – results to be analyzed during mid 2018.

1.4 Project objectives

The purpose and objectives of the task are to develop, improve and promote ISO standards on test procedures and requirements for solar thermal products - and to harmonize at international level certification schemes in order to increase in general the level of quality - and at the same time avoid the need for re-testing and re-inspection. The task is still running (until end 2018) – supported by a new EUDP project (64017-0561).

1.5 Project results and dissemination of results

IEA SHC Task 57 began in January 2016 and will end December 2018. This EUDP project covers the initiation of the Task and the two first years of the task. So this is a report of the first two years of the task. The last year is supported by a new EUDP project: "EUDP17-II: IEA SHC Task 57 - Solar Standards and Certification (II)" – and will be reported after end of the task.

The work is organized in three subtask:

Subtask A: Kick-off of operation of Global Solar Certification Network (GSCN)

is supporting the operation of the Global Solar Certification Network with the aim to harmonize certification schemes and have mutual accept of test and inspection reports.

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

is elaborating specific proposals for new and improved test procedures – and initiating new "ISO work items" for revisions of existing standards and for elaborating new standards.

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

The ISO standards for solar thermal products are becoming increasingly popular throughout the globe; but still some countries stick to old national standards or even make new national standards. Subtask C will work to convince stakeholders in such countries that the ISO standards are very well proven and useful – and give guidance for implementation.

Main Outcome

The purpose and objectives of the task are to develop, improve and promote ISO standards on test procedures and requirements for solar thermal products - and to harmonize at international level certification schemes in order to increase in general the level of quality - and at the same time avoid the need for re-testing and re-inspection.

MAIN RESULTS

Subtask A: Kick-off of operation of Global Solar Certification Network (GSCN)

The Global Solar Certification Network (GSCN) has established itself with working rules, elected Board, annual meetings and website: <http://gscn.solar/>.

Four large global active solar collector manufacturers have formally joined the network, as well as two test labs, two inspection bodies and one certification body. See list of members at the [website](#).

Most important is now to get more members and try out the concept of mutual recognition of test reports and inspection reports.

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

Draft proposals for new ISO standards have been worked out for the following topics:

- “close-coupled systems” mechanical load
- “close-coupled systems” reliability and safety
- building integrated collectors and systems
- performance check of large collector fields

Work on collector accelerated ageing testing ongoing. Considerations if draft proposal for standard could be elaborated in this field

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

A guideline how to use the new collector standard ISO 9806:2017 has been made: “Guideline on ISO 9806”

A draft guideline on state of the art of certification schemes for solar thermal product has been prepared: “Guideline for Implementing Certification Schemes for Solar Heating and Cooling Products”

A survey on the new ISO 9806 planned is being performed.

DISSEMINATION/PRESENTATIONS

Publications

- GUIDE TO STANDARD ISO 9806:2017, K. Kramer
- Revised GSCN working rules

Presentations given at:

- ESTIF general assembly, H Drück
- 2 x ESTIF* webinar, JE Nielsen
- 4 x Solar Keymark Network meetings, JE Nielsen
- 2 x CEN TC 312 meetings, JE Niesen
- 2 x ISO TC 180 meetings, JE Nielsen
- SHC Conference, JE Nielsen
- Asian Pacific Solar Research Conference, December, JE Nielsen
- Danish Technical University for Chinese delegation, JE Nielsen

Websites

- Web site for IEA SHC Task 57: <http://task57.iea-shc.org/>
- Web site for “Global Solar Certification”: WWW.GSCN.SOLAR

Other

Video interview with GSCN Manager Jan Erik Nielsen at SWC 2017 in Abu Dhabi:
<https://www.youtube.com/watch?v=zEe8NkeNt0U>

1.6 Utilization of project results

The project leads in general to easier access to solar markets worldwide, which will be utilized by the main Danish actors in the field.

The project is supporting Danish manufacturers of large collectors and systems for solar district heating by making international sales easier and by – in cooperation with these manufacturers - elaborating an international standard (ISO) for simple check of performance of large collector fields.

The project participant has expanded his network in the field of solar standards and certification and earned a good international reputation. This already lead to one new international projects plus good future opportunities.

1.7 Project conclusion and perspective

The aim of the Task 57 is to facilitate 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 concept of the "Global Solar Certification Network" is now being implemented for solar thermal collectors and is based on the test procedures given in the new ISO 9086. Other components as well as complete solar water heaters and solar heating/cooling systems could be included a later stage.

The "Global Solar Certification Network" is a cooperation between representatives of global acting solar manufacturers and solar certification bodies and test labs around the world. When a product has been certified by one of the participating certification bodies/schemes, the product can obtain certification from all other participating certification schemes without re-testing of the product and without re-inspection of production facilities.

New ISO standards are being prepared. Main impacts expected:

- Improvement of quality of small "Chinese systems"
- Consistent checking of performance of large solar collector fields

Promotion of use of ISO standards and state of the art certification scheme adapted to local conditions is ongoing.

Task 57 will be finalized with support of a new EUDP project: "EUDP17-II 64017-0561: IEA SHC Task 57 - Solar Standards and Certification (II)"

Annex

- Web site for IEA SHC Task 57: <http://task57.iea-shc.org/>
- Web site for "Global Solar Certification": WWW.GSCN.SOLAR