

TASK 43 “Solar Rating and Certification – Global Collector Certification”



STATUS REPORT FOR THE 76th EXCO MEETING (Beijing)

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1 Task Description

1.1 Short Description - Task Objectives and Scope

The Task 43 extension aims at facilitating cross-border trading of solar thermal quality products by reducing testing and certification efforts and costs through the harmonization of requirements for testing and certification.

The scope is test procedures and standardization for solar thermal systems and components - and certification of solar thermal collectors.

1.2 Subtasks and their Lead countries

The task is divided into three subtasks:

- Subtask A: Harmonization of standards for solar thermal products (AU)
- Subtask B: Harmonization of certification schemes for solar collectors (US)
- Subtask C: Organizational framework for global collector certification (DE)

1.3 Main Deliverables

- The main deliverables will be:
- Support to ISO standardisation
- Rules/requirements for global collector certification
- Establishment of a "Global Solar Certification Network"

1.4 Duration

The Task 43 extension is running 2 years, from the July 2013 until June 2015.

2 Progress Since Last ExCo Meeting

2.1 General Work

2.1.1 Meetings

2nd "Global Solar Certification Network" meeting held October 8th in Beijing, China - 30 participants from 11 countries

3rd expert meeting held October 9th in Beijing, China - 30 participants from 11 countries

2.1.2 Status of Participation (according to national participation letters)

- Australia
- China

- Denmark
- Germany
- Portugal
- Spain
- US

2.1.3 Information Dissemination

New website

- Global Solar Certification website: www.gsc-nw.org

Newsletter

Input to IEA-SHC newsletter concerning establishing the Global Solar Certification Network

International conferences

- Keynote on SHC 2014, Beijing, Les Nelson
- Presentation on SHC 2014, Beijing, Jan Erik Nielsen

Others

- Presentation on Solar Trade association meeting in connection with SHC 2014, Beijing, Jan Erik Nielsen
- Presentation on Solar Keymark Network meeting, October 2014
- Presentation on CEN TC 312 meeting, October 2014

2.2 Subtask Work

2.2.1 Subtask A Harmonization of standards

The general objectives of Subtask A is to give support to promotion of the new ISO/EN 9806 for collector testing and ISO TC 180 work on harmonizing standards for solar thermal systems and components on a global scale.

Work done / deliverables since ExCo 74th meeting in Singapore:

- EN ISO 9806 "Solar energy - Solar thermal collectors - Test methods" published November 2013.
- Questionnaire elaborated and sent around - to prepare for promotion of the collector testing standard in important market countries
- Answer received and analysed and reported on questionnaire above
- EN ISO 22975 "Solar Energy - Collector components and materials" Part 1 and 2 on evacuated tubes: Available as Draft International Standard (ISO/DIS)
- EN ISO 22975 "Solar Energy - Collector components and materials" Part 3 on absorber surface durability: Approved as EN ISO Standard.

- New work item initiated on insulation (in collectors)
- Review of international and national standards for performance testing/characterisation of solar hot water stores – with the perspective of harmonizing.
- Review of international and national standards for reliability/safety of solar systems – with the perspective of harmonizing.

2.2.2 Subtask B Harmonization of certification schemes

The objective of subtask B is to define the set of requirements national/regional certification schemes shall fulfil in order to be accepted under the global “umbrella” certification scheme for collectors.

Work done / deliverables since ExCo 75th meeting in Calgary:

- Final draft scheme rules prepared; but due to change in “concept” no last final version was prepared/approved.

2.2.3 Subtask C Organizational framework for global collector certification

The objective of subtask C is to set up rules for the organizational framework for the global certification of solar collectors. This includes defining the structure of framework/network, deciding who can/shall participate in the framework/network, defining voting rights, setting meeting frequencies, setting fees – and establishing the Global Solar Certification Network.

Since last report to ExCo the Board of the Global Solar Certification Network Work has proposed a significant change in concept for Global Solar Certification: Now it will be more like an alliance of certification bodies granting only their own mark; but accepting test and inspection reports behind other certificates under some conditions.

- “Internal Working Rules” adapted from “new concept” – and approved
- 2nd Global Solar Certification Network meeting organized
- Preparation for establishing a legal entity started
- 3rd MoU between Solar Keymark and Chinese certification scheme in progress
- Logo decided – see front page
- Expert meeting and Global Solar Certification meeting organised very successfully in connection with ISO TC 180 meeting in Beijing

3 Deliverables, Timelines and Milestones

3.1 Achieved Milestones, Not Achieved Milestones and Future Milestones

See section 5.2 “Milestones/deliverables”.

3.2 Future Meetings

Last Task 43 experts meeting and next Global Solar Certification meeting will be in:

- March 2015: Beijing (in connection with Solar Keymark Network meeting)

4 Issues for the Executive Committee

4.1 Issues only for ExCo members of interested/participating countries

Missing Participation letters

- Austria?
- Canada (on it's way?)

4.2 Issues for the entire ExCo

There is a very strong interest from the participants to continue work on standardisation and certification of solar thermal products within the framework of IEA-SHC. Proposal for new task could be presented at next ExCo meeting. In a brainstorm at the previous expert meeting the following topics was blowing under the title "**Global solar testing and certification**":

- *Collector functionality/reliability/durability testing (incl. accelerated aging test) – for flat plate collectors and evacuated tubes and maybe more collector types (based on "SpeedColl" project and others). Mechanical load testing on collector and collector supporting structure included.*
- *Worldwide environmental stress mapping (snow, wind, dust, radiation, UV, temperature, humidity, salt, ...)*
- *Testing of building integrated collectors (thermal performance, weather tightness, fire safety, structural safety (mechanical load, snow, wind, building component strength, ...)*
- *ISO TR on "Recommendations and guidelines for certification of solar collectors"*
- *Development of standardized methods for environmental and financial assessment of solar thermal systems and components (life cycle assessments)*
- *Development, improvements and scope extension of system performance test methods used ex. in ISO 9459-2&5. Scope extension to:*
 - *Systems with flooded tubes*
 - *Combined solar / HP systems*
 - *Indoor system testing*
 - *PV and PVT water heating and space heating systems*
 - *...*
- *Reliability and safety testing of systems.*
- *Functioning control / monitoring of small and large systems (long term and low cost) – during the whole system operating time*
- *Preparation of a global system certification scheme*
- *Promotion of ISO 9806 and other ISO standards*

5 Appendixes

5.1 List of Experts

List of official nominated national experts according to national participation letters as per 24th April 2014 (24 participants from 6 countries):

Country	Expert	Institution	e-mail	Role
Australia	Ken Guthrie	Sustainable Energy Transformation Pty Ltd / ISO TC 180	ken.guthrie@setransformation.com.au	Subtask A leader
Australia	Jeremy Osborne	Energy Analysis and Engineering	Jeremy.osborne@energyvae.com	National expert
Canada	Alfred Brunger	Exova	Alfred.Brunger@Exova.com	National expert
China	Sun Yuquan	SDQI/ Energy saving Product Quality Inspection	jinxichuan@gmail.com	National expert
China	Li YuWu	SDQI/ Energy saving Product Quality Inspection	yuwuli@gmail.com	National expert
China	Lai Hanxiang	Guangdong Vanward New Electric C., Ltd.	laihx@ms.giec.ac.cn	National expert
China	Ruicheng Zheng	China Academy of Building Research	zhengrc@vip.sina.com	National expert
China	Tong Xiaochao	China Academy of Building Research	xiaochao.tong@gmail.com	National expert
China	Wang Min	China Academy of Building Research	minwangbeijing@gmail.com	National expert
China	He Zinian	Beijing Solar Energy Research Institute	hezinian@sina.com	National expert
China	Zhou Xiaowen	Beijing Tsinghua Solar Ltd.	xwzhou2003@aliyun.com	National expert
China	Zhao Juan	Beijing Tsinghua Solar Ltd.	zhaojuan@thsolar.com	National expert
China	Jiao Qingtai	Jiangsu Sunrain Solar Energy Co., Ltd	jiaomt@sunrain.com	National expert
China	Tian Liangguang	Shandong Supervision and Inspection Institute for Product Quality	tianlg@12365.sd.cn	National expert
China	Kang Wei	China Quality Certification Centre	kangwei@cqc.com.cn	National expert
China	Joseph Huang	International Copper Association Asia	josephhuang@copper.org.cn	National expert
China	Ma Jie	Certification Center, China Academy of Building Research	majiejie2002@163.com	National expert
China	Na Mingliang	China General Certification	naml@cgc.org.cn	National expert
China	Bian Ji	CCQS UK LTD	Owen.bian@ccqs.co.uk	National expert
Denmark	Jan Erik Nielsen	SolarKey Int.	jen@solarkey.dk	OA
Germany	Harald Drueck	ITW, Stuttgart Unersvrsity	druock@itw.uni-stuttgart.de	Subtask C leader
Germany	Korbinian Kramer	Fraunhofer ISE	Korbinian.kramer@ise.fraunhofer.de	National expert
Portugal	Maria Joao Carvalho	LNEG	mjoao.carvalho@lneg.pt	National expert
RECREEE	Ashraf Kraidy	RECREEE	ashraf.kraidy@las.int	
Spain	Jaime Fernandez	AENAR	JAFERNANDEZ@aenor.es	Co Subtask B leader
US	Eileen Prado	SRCC	eprado@solar-rating.org	Subtask B leader
US	Jim Huggins	SRCC	jhuggins@solar-rating.org	National expert
US	Les Nelson	IAPMO	les.nelson@iapmo.org	National expert

5.2 Milestones/deliverables

Time Plan and Milestones - subtask A	2013			2014			2015			
A1: Finalizing the prEN ISO/DIS 9806 "Solar energy - Solar thermal collectors - Test methods" - and promotion of the final standard worldwide			R							
A2: Elaborating of ISO/AWI 22975 series on "Solar Energy - Collector components and materials"			D			D		R		
A4: Harmonization of the ISO 9459-4 with the EN 12977			Only very preparatory work will be done due to lack of funding							
A5: Inputs to first draft of ISO Standards for test methods for reliability/durability and safety of solar heating systems			Only very preparatory work will be done due to lack of funding							
A6: Revision of ISO/NP 9488 "Solar Energy - Vocabulary"			Work on hold, but expected to restart during 2015							
A7: New areas for international standardization								D	R	
Milestones: D: Draft report (or draft standard); R Final report of work done										

Time Plan and Milestones - subtask B	2013			2014			2015		
B1. First draft set of requirements			D m						
B2. Make 2 nd draft set of requirements				D					
B3. Make final draft set of requirements				D m					
B4. Make and approve final version of requirements				Concept changed, no approval needed					
Milestones: D: Draft reports(s); R: Final reports(s); m: meeting									

Time Plan and Milestones - subtask C	2013			2014			2015			
C1. First draft set of rules for the organizational framework			D m							
C2. Make 2 nd draft set of rules for the organizational framework				D						
C3. Make final draft set of rules for the organizational framework				m	D					
C4. Make and approve final version of rules for the organizational framework					R m					
C5. Operate the global collector certification for one year					Start of operation expected during 2015					
C6. Promote the global collector certification									R	
Milestones: D: Draft reports(s); R: Final reports(s); m: meeting										

5.3 Meeting participants – meeting 3 (of extended period)

First name	Last name	Company/organisation	Country
Abdelkrim	Chenak	CDER/IANOR	Algeria
Jeremy	Osborne	Energy Analysis and Engineering	Australia
Ken	Guthrie	SET	Australia
Bruce	Sibbitt	Natural Resources Canada	Canada
Zinian	He	Beijing Solar Energy Research Institute Group Ltd	China
Li	Xuguang	Beijing Tsinghua Solar Ltd.	China
Juan	Zhao	Beijing Tsinghua Solar Ltd.	China
Xiaowen	Zhou	Beijing Tsinghua Solar Ltd.	China
Zhigiang	Yin	Beijing Tsinghua University	China
Xiaochao	Tong	CABR certification center	China
Tao	He	China Academy of Building Research	China
Min	Wang	China Academy of Building Research	China
Ruicheng	Zheng	China Academy of Building Research	China
Qiang	Huang	Intertek	China
Qian	Liu	Intertek	China
Qingtai	Jiao	Jiansu Sunrain Solar Energy Co., Ltd	China
Peng	Li	Solar Energy China (Reporter)	China
Malte	Kottwitz	TUV Rheinland (Shanghai) Co.,Ltd.	China
Jan Erik	Nielsen	SolarKey Int.	Denmark
Hagos	Tesfay	Ethiopean Standards Agency	Ethiopia
Katharina	Meyer	DIN CERTCO	Germany
Korbinian	Kramer	ISE	Germany
Harald	Drueck	ITW/TZS Uni Stuttgart	Germany
Stephan	Fischer	ITW/TZS Uni Stuttgart	Germany
Karim	Bakari	IMANOR	Marocco
Susanne	Hansson	SP Technical Research Institute of Sweden	Sweden
Ghaieth	Masmoudi	INNORPI	Tunesia
Les	Nelson	IAPMO	USA
Jim	Huggins	SRCC	USA