

Minutes

21 –A Solar Keymark Network Meeting

2016-12-20 WEB Meeting

Item 1: Opening of the meeting

Jaime Fernández, Chairman of the Solar Keymark Network (SKN), opened the meeting and welcomed the members, observers and guests. He thanked Jan Erik Nielsen, Manager of SKN for the excellent preparation of the meeting. He also thanked Pedro Dias, General Secretary of ESTIF, and Geoffroy Cazenave, Communications Officer of ESTIF for the excellent organization of the Web meeting, which was supported with Global GotoWebinar technology.

This meeting was taking place in an extraordinary time schedule and platform. On one hand, it was taking place to continue with the unfinished items of the meeting of Greece in October. The Chair explained that he had already apologized personally to the proposers of these unfinished items and that he would be presenting a set of corrective actions at the next SKN Meeting to avoid this from happening again. On the other hand, this meeting was acting as a trial for web meetings, since there had been a proposal in this last SKN meeting to have one physical and one web meeting each year. The decision for having complete SKN meetings using a web platform would be taken at the next 2017 March SKN meeting and based on this experience.

Some practical information regarding the decision making process and output of the agreements (Decisions and Resolutions) at SKN meetings was given to the participants.

Some practical information on the voting process using the web tool was also given. Geoffroy Cazenave had previously sent out a simple user guide to the participants and it was revised during the meeting.

All decisions and resolutions are written at the meeting and voted by the members with voting rights. In order to facilitate the process, the negatives votes and abstentions are asked for first. In the minutes that follow, in all cases in which there are 0 negative votes and 0 abstentions, the wording 'Unanimous decision' has been used as information on the voting.

Item 2: Introduction of participants

Although it is traditional at SKN meetings for participants to introduce themselves, in this case it was not done because in the previous experience of similar web meetings it takes a long time to mute and unmute each participant in order.

Therefore the Chair showed a list of the participants that had signed up for the meeting. At the start of the meeting the voting preconditions regarding the peer groups with voting rights (Certifiers, Testing Laboratories and Industrial Representatives) defined in section 4.2 of SKN_N102R.9 Solar Keymark Network Internal Regulations seemed to be fulfilled and the meeting started.

However it was pointed out that there were some missing participants with respect to the initial list that had been presented by the Chair. The meeting continued as the correct list was prepared and later on, in Item 36, it was properly checked and became clear that, although there were enough representatives of Industry, the obligatory members were not reaching 50% of participation that the Internal Regulations require for voting.



After a lengthy discussion on how to proceed, it was concluded that any votes taken during the meeting could only be considered as informative, and that any formal votes would need to be carried out online after the meeting. The participants expressed their strong unhappiness towards the rest of members of the SKN that were not participating. It was agreed to start a working group to prepare a Resolution to improve the rules on Section 4.2 of the Internal Regulations. The Chair would start this work and prepare Resolution for the next SKN meeting in March 2017.

The participants are listed in Annex A.

Item 3: Approval of the agenda

The agenda was approved with no changes.

Item 32 (4): Proposals concerning solar collectors: “No Solar Keymark requirements for solar collectors exceeding the scope of the solar collector standards EN12975-1 & EN/ISO9806”

The proposal in item 10 of the last SKN meeting of October to reactive the PVT Working Group to review Annex J did not receive support from its Chair, Ullrich Fritzsche. Since there was a proposal in item 32 by Andreas Bohren related precisely to reduce any requirements on collectors that are not explicitly found on the applicable standards, the discussion was postponed until reaching this Item.

The following explanation *had been* given by Andreas Bohren, in the agenda, and he presented it in the meeting:

The „Solar Keymark“ certification for collectors shall be limited to solar thermal aspects and shall cover only points listed in the EN12975/ISO9806. Additional requirements emerging from other standards are excluded and shall not be taken into account for the Solar Keymark certification.

One of the main concerns are PVT collectors. Every PVT collector falls under the (national) PV regulations as any PV module and therefore has to fulfil the applicable national requirements anyway. This is independent of whether an IEC certified PV module is modified for PVT OR whether a non-certified PV system is provided with some solar thermal properties. The device is a PV and falls under the PV regulations. It is basically not the duty and not within the scope of accreditation of a the Solar Keymark test labs and certifiers to assess the PV certificates. It is however the duty of the distributor/installer of the PVT to take care that his product fulfils the applicable national PV regulations which is usually the applicable IEC standard certification and/or IEC Retesting Guidelines.

For this reason PVT collectors shall be tested and certified as any other collector without additional requirements emerging from PV relevant regulations. If such regulations apply, it is not the duty and not in the scope of the Solar Keymark test labs and certification bodies to check these regulations.

In the same way the Solar Keymark does assess or certify for example pressure equipment directive relevant results, Solar Keymark does not (and cannot) care about other safety issues such as electrical safety, man safety, toxic materials, glass in buildings, etc. etc. No such requirement shall be included in the Solar Keymark Scheme Rules.



There was a lengthy debate focused on the withdrawal of Annex J of the Solar Keymark Scheme Rules. There were diverging opinions: J. Stephan Fischer was in favor of its withdrawal, whereas Ullrich Fritzsche, Korbinian Kramer and Soeren Scholz expressed their preference to improve the Annex J through its PVT Working Group.

The Chair expressed his preoccupation for setting a precedent in a case in which members of the SKN had spent their time working to improve the Scheme Rules and that this work would be deleted without a chance of improvement.

In order to optimize the voting procedure, the following Resolution was voted with this result:

Proposal for Resolution M21A.RX – To withdraw Annex J

SKN_N0213R0 is declared void.(Annex J) is withdrawn from the Scheme Rules

Information on vote: Votes against: 8, Abstentions:7, Votes in favor: 8

There was not a simple majority of the votes for this Resolution to go forward. Then the vote for reactivation of the PVT WG was taken with this result:

Proposal for Decision M21A-DX: Reactivate WG for PVT

Reactivate PVT WG and propose a resolution for the next SN meeting in March

Information on vote: Votes against: 1 Abstentions: 7 Positive votes: 15

During the vote, Stephan Fischer indicated that it was not possible to see what members were voting, and that knowing this was helpful for further discussion.

Note from Chair: At the moment of taking these two votes, it had not yet been detected that the voting conditions were not being fulfilled. Therefore the votes may only be considered as informative.

Item 35(5) Proposal for Resolution how to deal with discontinuous performance curve behavior within Scenocalc

Carsten Lampe made a presentation (See Annex B) aiming to open Solar KEYMARK data sheets for an alternative report of efficiency and annual output data of collectors that cannot be characterized by the given data sheet correctly. He presented a collector changing its optical properties at a certain temperature, and this leads to the necessity to characterize the collector's efficiency in two efficiency curves (or two sets of collector parameters), one valid for temperatures below and one for above this temperature. Sticking to the given ScenoCalc leads to a remarkable mismatch and discrimination of this collector type in medium temperatures.

During the discussion after the presentation, there were some comments in agreement with the proposal. It was indicated that Scenocalc would have to be adapted for this type of calculation. For the time being these would have to be done manually and remarks may be incorporated in the comments area of the data sheet.



The following Resolution was voted.

Proposal for Resolution M21A.RX – To add a new paragraph in Section 13.7 to deal with discontinuous performance curve behaviour within Scenocalc

Section 13.7 Calculation of “Collector Annual Output” (CAO)” of the Solar Keymark Scheme Rules will be complemented by the following text:

For solar thermal collectors operating not continuously differentiable performance curve with an efficiency depending on the absolute temperature (e.g. integrated high temperature cut off), Scenocalc may be calculated with two split curves. A clear switching point between the different curves shall be given in the test report and on the data sheet. The parameters describing the thermal performance below the switching point are η_0 , a_1 , a_2 , as usual, the parameters describing the thermal performance above the switching point shall be named with different letters, for example above s_0 , s_1 , s_2 (or η_0^ , a_1^* , a_2^*). The mathematical model for the description of the thermal performance shall be given in the test reports and in the remarks field of the data sheet.*

It has to be taken into account, that the switching point is usually depending on the absolute temperature and not on the relative temperature difference

Information on vote: Unanimous decision

Note from Chair: At the moment of taking this vote, it had not yet been detected that the voting conditions were not being fulfilled

Item 36(7) Collector data sheet & ScenoCalc

Patrik Ollas indicated that there were no major changes in the development of ScenoCalc. However there were some ongoing discussions and there could be an update of the software in the 2017 March SKN meeting. He suggested that any proposals for improvement could be sent to him (Patrik.Ollas@sp.se)

Ullrich Fritzsche declared that he had found some inconsistencies in the evaluation of PVT collectors.

There was an exchange of ideas regarding the possibility to have an ongoing document with proposed changes for Scenocalc. The idea was to optimize the flow of information and avoid more than one Testing Laboratory detecting and informing on the same need for improvement. Although it was not possible to take a formal decision, Pedro Dias offered to start a Discussion Board within the private area of the web page of the SKN website for improvement on Scenocalc.

Korbinian Kramer presented to the following problem: according to Scenocalc v5.01 the power output per collector unit of a steady state performance test does not consider the fraction of the diffuse irradiance, but it is calculated based on η_0, hem for a global hemispherical irradiance of 1000 W/m^2 .

There was a debate on which of these solutions proposed would be best for a proposal of Resolution:

-> Solution 1: Add K_d , as Input also for steady state method and calculate the correct power output (also the transformation from steady state to η_{0b} etc.)



-> Solution 2: Automatically calculate K_d from IAM values according to Peter Kovacs Tool then calculate η_{0b} etc, and determine the correct power output and K_d automatically out of IAM data.

The members that participated in the discussion showed their agreement on the first solution and there was also a vote showing this preference. However, since the next version of ISO 9806 is expected to solve this problem and there were not a lot of collectors affected, it was also agreed in the discussion to not take any more voting and wait for this new revision and future version of the testing standard.

Item 37(8) Update on AirCow

Korbinian Kramer presented the corresponding documents that were in the agenda [SKN_N0301R0_AirCow_Manual.pdf](#) and [SKN_N0302R0_AirCow_Program](#). For the pre-calculation of input data for closed loop SAHC it is necessary to choose an operation point in a fair and transparent way. The tool uses the result values according to EN ISO 9806 and processes them into one set of parameters @ specific mass flow rate, so they can easily be put into SEnOCalc. This is why the SKN decided 2015 to use a common and open source tool (AirCow provided by Fraunhofer ISE).

A new release has been worked out and it the proposal is to use it from January 2017 onwards.

It was agreed after the discussion that the following proposal would be voted online:

Proposal for Decision M21A.DX : Use of new version 3.0 for calculation for data sheets for air collectors

From January 2017 only the new version Air Cow program 3.0 shall be used to feed Solar Keymark data sheets.

Item 38(9) Proposal for decision concerning “change of glue”

Korbinian Kramer presented this item regarding the need for actions in case of a change in glue of a collector. He presented a case when a manufacturer changed the suppliers of his glue, which is used to fix the glass cover. The manufacturer now asks the question: Is this a technical change that has to be reported towards the certifier or is this just an equivalent component, were the manufacturer has to be clear in his specifications, but can exchange without notification?

There was a debate on the possibility of creating a list of equivalent materials for glues.

The members that participated were not in favor of creating new lists of documents and it was agreed by the participants in the discussion that this issue should be sent to the corresponding Certification Body for its assessment. If the CB considered that the assessment of the situation required more technical help, it should be handled by the CB WG.

Item 39(10) ESTIF LabelPackA+ project

Pedro Dias presented the status of the project LabelPackA+ Project (See Annex C)

Item 40(11) Update on use of Keymark logo on Solergy Label



Soeren Scholz informed that the reference to the Keymark database had been removed from the Solergy label. He indicated that the Solergy label was slowly growing in users and that there would soon be some contact with interested entities in the US.

Item 41(12): Update on “Fundamental new database that can also be used for the generation of data sheets”

Jan Erik made short presentation (see Annex D) on some ideas for the database that had been taken from the way of working of the heat pump sector. For the moment the project was ongoing and awaiting to coordinate with other SCF Projects.

Item 42(13): Update on other important information (usually presented in more detail at the last meeting):

Dirfferent issues were briefly presented:

- CE marking of collectors: Andreas Bohren informe that work on the elaboration of the new revision of EN 12975 as a harmonized standard was encountering some difficulties. In particular the adaptation to the requirements of the CPR was being difficult. A final version of the standard would be submitted to CEN in 2017. The work on this standard is being developed in WG1 of CEN TC312.
- Stephan Fischer, liaison officer for IEC/TC117, made a presentation (seen Annex E).
- Korbinian Kramer, liaison officer of IEC/TC128, indicated there was no substantial information.
- Jean-Marc, Suter, liason officer of TC164, made a presentation (see Annex F). The most important standard for drinking water, EN 806 is being revised and the moment is right to make comments. CEN/TC164/WG2 is collecting input from all interested bodies all over Europe until March 31st, 2017. Interested SKN members shall contact Jean-Marc Suter to get the table of contents of the draft standard, as all inputs have to be related to specific items of this table.
- Gerard Van Amerongen, liason officer for TC 228 and TC371, made a presentation with important information regarding the future publication of new versions of EPBD standards (See Annex G)
- Jaime Fernandez, in the name of Standing WGs for CBs and Inspectors informed that no meetings had taken place since the March SKN meeting.
- Vassiliki Drosou, liason officer for TC 312 was not present to give an update.
- Misuse of Solar Keymark: Soeren Scholz informed that Dincertco had detected misuse of the Keymark within some Chinese license holders and applied their internal quality procedures. There is a black list at the following web page: http://www.dincertco.de/en/dincertco/zertifikate_registrierungen/zeichenmissbraeuche/zeichenmissbraeuche.html

Item 43(14): Update on “Solar Keymark for absorber coatings

Jan Erik Nielsen informed that the Project was ongoing and developing work with some Testing Laboratories.

Item 44(15): Any other business

Several issues were discussed:

Thomas Schmidt made a presentation (seen Annex H): SCFW - Yield prediction tool for solar district heating systems based on ScenoCalc” (SCFW – ScenoCalc Fernwärme).



SCFW is a freely available open-source tool based on Microsoft Excel. It was developed within a German research project with the main idea to extend the scope of ScenoCalc to a system level approach and to allow for a solar yield prediction specifically for solar district heating systems. To show transparency all calculations are done in accessible formulas in hourly time steps. The calculation of the solar collector (field) output is based on ISO 9806 as in ScenoCalc. For additional system components like pipes, heat exchangers and thermal storage simplified models have been added. A comparison of yearly solar yield results with detailed dynamic system simulations in TRNSYS show good agreement for a wide range of system configurations. SCFW will be finalised and available early next year.

At the end of the presentation Thomas Schmidt asked if there is a copyright on the name Scenocalc since Solites is planning on using it. This question would be resent to SP for their answer.

The Chair communicated that at the next SKN meeting he would be presenting some proposals for improvement on the effectiveness of the meetings, being very unsatisfied with not finishing all of the items at the last SKN meeting. At the same time he asked members for any comments or areas of improvement after the first year of Chairmanship. Some comments were made and may still be sent by any members of the SKN (jafernandez@aenor.es)

Henry Rosik had proposed numbering the Working Groups to facilitate their naming in the minutes and in discussions. The participants agreed to this and proposed for the Chair and th Manager to give it some thought and implement in the next meetings.

Andreas Bohren informed that he is elaborating a proposal for “coloured glass families” and was asking for collaboration and input from interested SKN members. Stephan Fischer, Harald Porschning and Hanspeter Weiss expressed their intention of joining.

Item 45(16): End of meeting

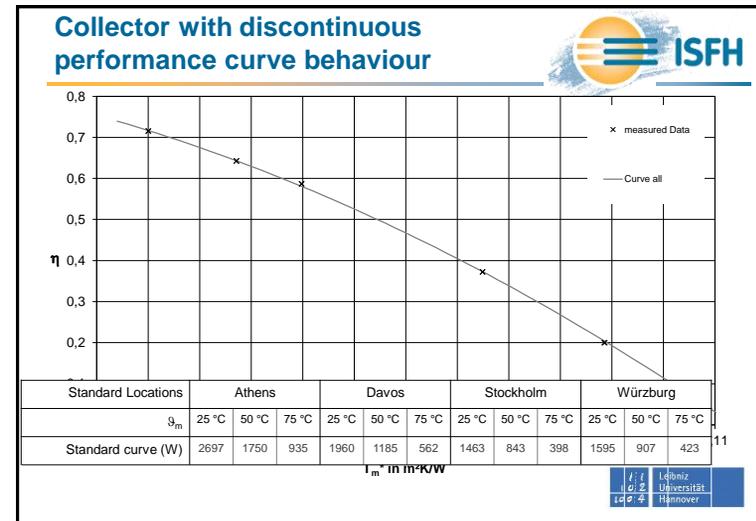
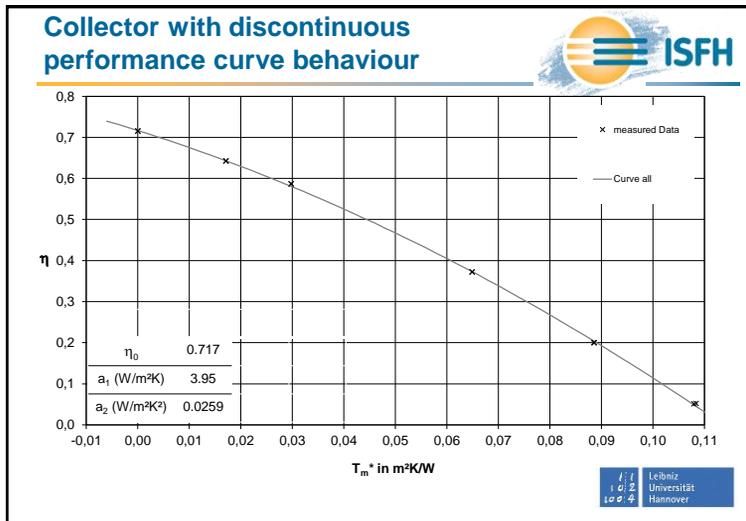
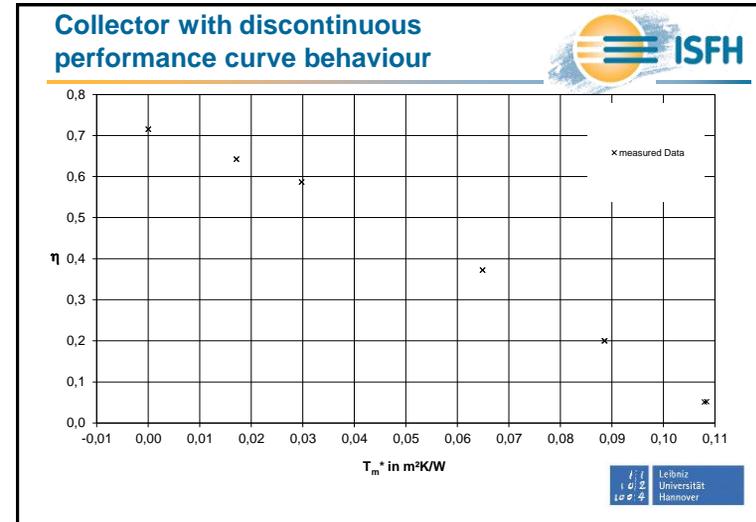
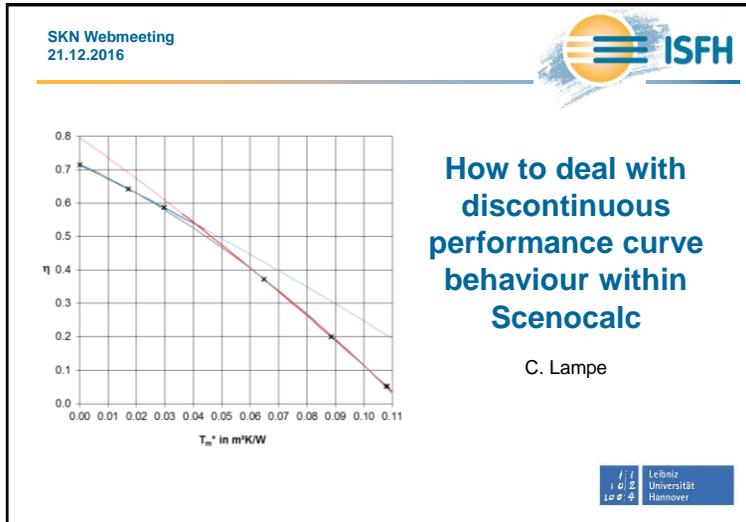
Jaime Fernández thanked all of the participants, the organizer of the web meeting ESTIF and Jan Erik Nielsen for an excellent meeting. Information for the next meeting to be held at Freiburg, Germany in the month of March was to be sent out shortly.

The minutes were prepared by Jaime Fernández. It is traditional to receive assistance for proof reading, but because of the time pressure the minutes were sent directly to the SKN for their comments within 1 month.

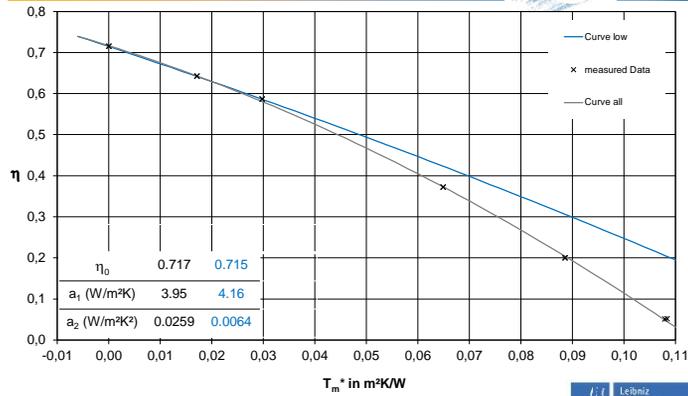
Annex A- List of Participants

Registration Report	GoToWebinar		
Generated			
Dec 20, 2016 10:16 AM CET			
General Information			
Webinar Name	Webinar ID		
Solar Keymark Network Web Meeting 21A, December 2016 (continuation of 21st meeting in October)			
Scheduled Start Date	Registered		
Dec 20, 2016	38		
Scheduled Start Time	Opened Invitation		
10:00 AM CET	0		
Scheduled Duration (minutes)	Clicked Registration Link		
180	49		
Registrants			
First Name	Last Name	Email	Registration Date
Korbinian	Kramer	Korbinian.Kramer@ise.fraunhofer.de	Dec 20, 2016 10:03 AM CET
Christian	Stadler	chs@arconsolar.com	Dec 20, 2016 9:05 AM CET
Harald	Drück	druock@itw.uni-stuttgart.de	Dec 20, 2016 9:05 AM CET
Thomas	Schmidt	schmidt@solites.de	Dec 19, 2016 1:03 PM CET
Jan Erik	Nielsen	jen@solarkey.dk	Dec 19, 2016 1:02 PM CET
Sharon	Wang	sharon.yx.wang@intertek.com	Dec 16, 2016 10:35 AM CET
Daniele	Bernacchioni	daniele.bernacchioni@icim.it	Dec 16, 2016 10:35 AM CET
Carsten	Lampe	c.lampe@isfh.de	Dec 16, 2016 10:34 AM CET
George	Roditis	gro.cie@cytanet.com.cy	Dec 16, 2016 10:33 AM CET
Katharina	Meyer	katharina.meyer@dincertco.de	Dec 16, 2016 10:33 AM CET
Pedro	Cardoso	pcardoso@ctcv.pt	Dec 16, 2016 10:33 AM CET
Jana	Levicka	jana.levicka@tsu.sk	Dec 16, 2016 10:32 AM CET
Markus	Barek	markus.barek@sunlumo.at	Dec 16, 2016 10:25 AM CET
Andreas	Bohren	andreas.bohren@spf.ch	Dec 16, 2016 10:24 AM CET
Magnus	Sturesson	magnus.sturesson@sp.se	Dec 16, 2016 10:24 AM CET
Ulrich	Fritzsche	ulrich.fritzsche@de.tuv.com	Dec 16, 2016 10:23 AM CET
Stamatios	Babalis	sbabalis@ipta.demokritos.gr	Dec 16, 2016 10:23 AM CET
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Stephan	Fischer	fischer@itw.uni-stuttgart.de	Dec 16, 2016 10:22 AM CET
Robert	Buchinger	robert.buchinger@sunlumo.at	Dec 16, 2016 10:22 AM CET
Hanspeter	Weiss	hanspeter.weiss@schweizer-metallbau.ch	Dec 16, 2016 10:22 AM CET
Jean-baptiste	Beysac	jean-baptiste.beysac@univ-perp.fr	Dec 16, 2016 10:21 AM CET
Jean-Marc	Suter	suter@suterconsulting.com	Dec 16, 2016 10:21 AM CET
Maria João	Carvalho	mjoao.carvalho@Ineg.pt	Dec 16, 2016 10:21 AM CET
Jaime	Fernandez	jafernandez@aenor.es	Dec 16, 2016 10:20 AM CET
Henry	Rosik	hrosik@itczlin.cz	Dec 16, 2016 10:19 AM CET
Gerard	van Amerongen	vaconsult@vaconsult.net	Dec 16, 2016 10:18 AM CET
Patrik	Ollas	patrik.ollas@sp.se	Dec 16, 2016 10:18 AM CET
Harald	Poscharnig	harald.poscharnig@greenonetec.com	Dec 16, 2016 10:17 AM CET
Pedro	Dias	pedro.dias@estif.org	Dec 16, 2016 10:16 AM CET
Geoffroy	Cazenave	geoffroy.cazenave@estif.org	Dec 16, 2016 10:11 AM CET

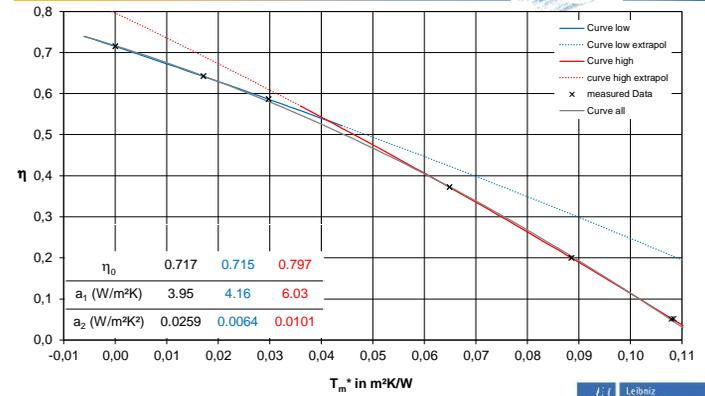
Annex B Proposal for Resolution how to deal with discontinuous performance curve behaviour within Scenocalc



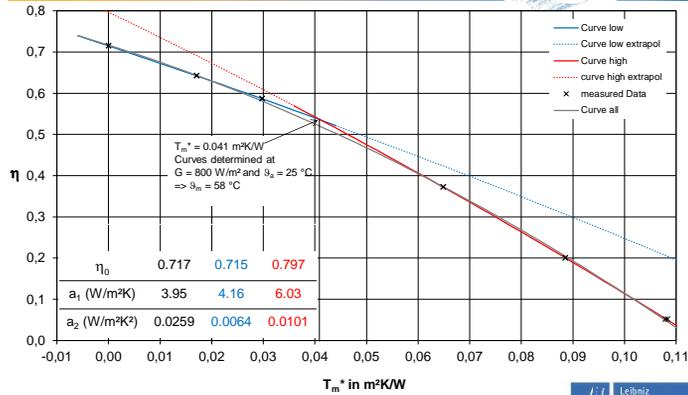
Collector with discontinuous performance curve behaviour



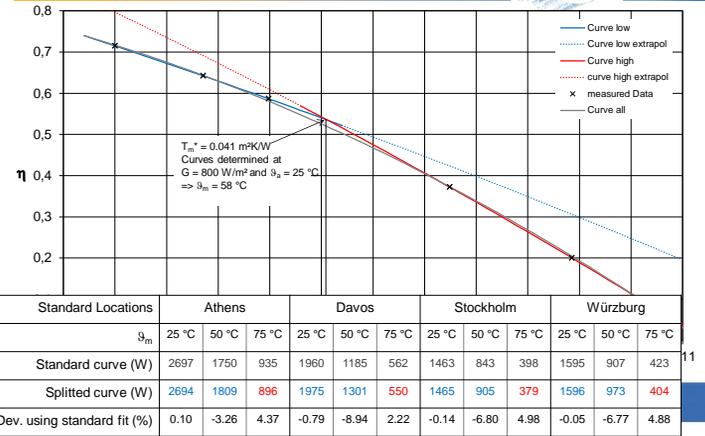
Collector with discontinuous performance curve behaviour



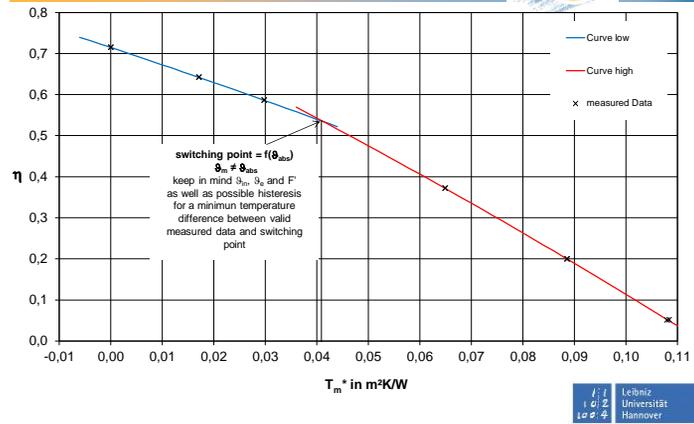
Collector with discontinuous performance curve behaviour



Collector with discontinuous performance curve behaviour



Collector with discontinuous performance curve behaviour



Proposal for Resolution M21A.RX - to add a new paragraph in sec. 13.7 to deal with discontinuous performance curve behaviour within Scenocalc



Section 13.7 Calculation of "Collector Annual Output (CAO)" of the Solar Keymark Scheme Rules will be complemented by the following text:

For solar thermal collectors operating not continuously differentiable performance curve with an efficiency depending on the absolute temperature (e.g. integrated high temperature cut off), Scenocalc may be calculated with two split curves. A clear switching point between the different curves shall be given in the test report and on the data sheet.

The parameters describing the thermal performance below the switching point are η_0 , a_1 , a_2 , as usual, the parameters describing the thermal performance above the switching point shall be named with different letters, for example above η_0^ , a_1^* , a_2^* . The mathematical model for the description of the thermal performance shall be given in the test reports and in the remarks field of the data sheet.*

It has to be taken into account, that the switching point is usually depending on the absolute temperature and not on the relative temperature difference.

Annex C Labelpack A+

The Solar Keymark
CEN Keymark Scheme

LabelPack A+

Update on Labelpack A+

21st SKN Meeting
Crete, 18 October 2016

www.labelpackplus.eu

LabelPack A+

STATUS OF LPA+ TOOL DEVELOPMENT

www.labelpackplus.eu

The Solar Keymark
CEN Keymark Scheme

LabelPack A+

```
graph TD; Datasets[Datasets] --> OnlineTool[Online Tool]; OnlineTool --> Calculation[Calculation]; OnlineTool --> Interface[Interface];
```

Co-funded by the Intelligent Energy Europe Programme of the European Union

www.labelpackplus.eu H2020-649905 - Labelpack A+

The Solar Keymark
CEN Keymark Scheme

LabelPack A+

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graph TD; Datasets[Datasets] --> OnlineTool[Online Tool]; OnlineTool --> Calculation[Calculation]; OnlineTool --> Interface[Interface];
```

Co-funded by the Intelligent Energy Europe Programme of the European Union

www.labelpackplus.eu H2020-649905 - Labelpack A+

Calculating Package Efficiency and Class

Water heater

Water heating energy efficiency of water heater (in %)

Declared load profile

M

Facebook

Sign In

Email

Password

Sign In

Forgot your password? Not registered? Sign up

© 2016 by ESTIF All rights reserved.

Calculating Package Efficiency and Class

What type of package would you like to calculate?

Water Heater Space Heaters Combination Heaters

My Package Components

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My Package Components

- Water Heaters
- Space Heaters
- Combination Heaters
- Other Components

My Solar Devices

Add new product

Identifier	Solar collector area (in m2)	Solar collector efficiency (in %)	Annual non-solar heat contribution (Qnpsol)(in kWh)	Auxiliary electricity consumption (Qaux)(in kWh)
MyWarmDevice	2	98	400	45

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Calculating Package Efficiency and Class

Water heater

Saved water heaters

OR Enter data directly for this water heater

Declared load profile

M

Solar device

Saved solar devices

OR Enter data directly for this solar device



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 646905



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www.labelpackplus.eu

Annex D SKN database

SKN_N0253R1



Proposal for New
Solar Keymark Database
for Collectors

22/12/2016 Jan Erik Nielsen 3

[How it could work on the output side](#)

SKN_N0276R0-SK-DB.zip

22/12/2016

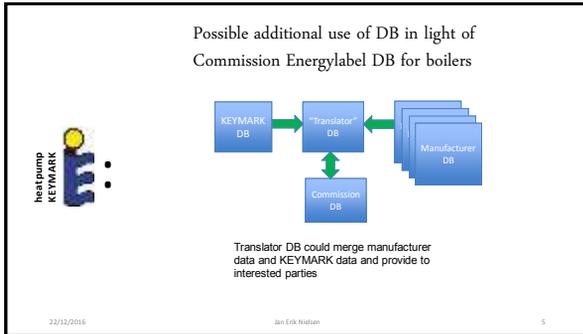
Ideas from the upcoming
Heat Pump Keymark Database:

22/12/2016



- **Manufacturer**
 - decides for HP KEYMARK
 - Enters all data necessary for application (Annex D1)
 - Checks data for correctness and submits
 - Sends all data for application to certification body
- **Certification body**
 - Executes request for certification
 - Checks DB for new data
 - Evaluates declared data against 3rd party tested
 - If necessary: asks for re-test ...
 - If all requirements are fulfilled: grants certificate

22/12/2016 Jan Erik Nielsen 4



The use of a QR-code will be integrated in the database and optional for the applicant

- Easy access to the database
- Validity check of certificate
- Easy access to declared performance

22/12/2016 Jan Erik Nilsson 6

Annex E Report on TC 117


Institute for Thermodynamics and Thermal Engineering
 Research and Testing Centre for Thermal Solar Systems (TZS)
 

**Report
 from IEC/TC 117
 Solar thermal electric plants**

Stephan Fischer
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 Research and Testing Centre for Thermal Solar Systems (TZS)
 University of Stuttgart
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 Internet: www.itw.uni-stuttgart.de

Stephan Fischer Liaison Report from IEC TC 117, 21st Solar Keymark network meeting, Chania, 17.-18.08.2016 + telcon 20.12.2016


Institute for Thermodynamics and Thermal Engineering
 Research and Testing Centre for Thermal Solar Systems (TZS)
 

SCOPE

To prepare international standards for systems of Solar Thermal Electric (STE) plants for the conversion of solar thermal energy into electrical energy and for all the elements (including all sub-systems and components) in the entire STE energy system.

The standards would cover all of the current different types of systems in the STE field, as follows:

- Parabolic trough
- Solar tower
- Linear Fresnel
- Dish
- Thermal storage

Stephan Fischer Liaison Report from IEC TC 117, 21st Solar Keymark network meeting, Chania, 17.-18.08.2016 + telcon 20.12.2016


Institute for Thermodynamics and Thermal Engineering
 Research and Testing Centre for Thermal Solar Systems (TZS)
 

Problem

The standardization work within IEC/TC 117 interferes with the standardization work being done in ISO/TC180 and CEN/TC312 respectively.

This leads to different test standards for same products e.g. parabolic trough collectors.

Stephan Fischer Liaison Report from IEC TC 117, 21st Solar Keymark network meeting, Chania, 17.-18.08.2016 + telcon 20.12.2016


Institute for Thermodynamics and Thermal Engineering
 Research and Testing Centre for Thermal Solar Systems (TZS)
 

TC 117 officers

Position	Name	Institution
Chairman	Mr Werner Platzer (GER)	Fraunhofer ISE
Secretary	Mr Eduardo García Iglesias (ES)	PROTERMO SOLAR
Assistant Secretary	Mrs Carmen Martín Marino (ES)	AENOR
Technical Officer	Mr Charles Jacquemart	IEC Central Office

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MEMBERSHIP STATUS

Participating countries: 14
Observing countries 11

<u>Participating countries:</u>		<u>Observing countries:</u>
- China	- Sweden	- Australia
- Egypt	- Switzerland	- Austria
- France	- USA	- Brazil
- Germany		- Canada
- Israel		- Czech Republic
- Italy		- Denmark
- Japan		- Iran
- Morocco		- Republic of Korea
- Portugal		- Mexico
- Russian Federation		- Poland
- Spain		- South Africa
		- United Kingdom

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LIAISONS

Internal IEC Liaison:
TC 120 — Electrical Energy Storage (EES) Systems

Liaison ISO:
TC 180 Solar energy
TC 192 Gas turbines

Liaison A:
IEA Solar PACES

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Work items

117/60/CD
 IEC/TS 62862-1-1 Ed.1.0: Solar Thermal Electric Plants – Terminology
 (CD available, closing date 30.12.2016, Fcst. Publ. Date 2017-04)
 Project leader: L. Ginzalez

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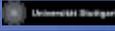
Work items

117/31/NP
 IEC 62862-3-2 Ed.1.0: Solar thermal electric plants - Part 3-2: Systems and components - General requirements and test methods for parabolic-trough collectors
 (CD 2016-12, Fcst. Publ. Date 2017-04)
 Project leader: F. Sallaberry

117/32/NP
 IEC 62862-3-3 Ed. 1.0: Solar thermal electric plants - Part 3-3: Systems and components - General requirements and test methods for solar receivers
 (CD 2016-12, Fcst. Publ. Date 2017-04)
 Project leader: T. Kueckelkorn-E. Pahl

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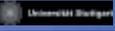
Work items

117/34/NP
 IEC/TS 62862-2-1 Ed.1.0: Thermal energy storage for concentrated solar - General characterization
 (currently no work done)
 Project leader: M. Gommel

117/41/NP
 IEC 62862-5-2 Ed.1.0: Solar thermal electric plants - Part 5-2: Systems and components - General requirements and test methods for linear Fresnel collectors
 (currently no work done)
 Project leader: C. Bacheillier-P.Pili

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Work items

117/53/NP
 PNW 117-53 Ed. 1.0: Solar thermal electric plants - Guidelines for design of parabolic trough solar thermal electric plants (status unknown)
 Project leader: W. Shi

117/54/CD
 IEC/TS 62862-2-1 Ed.1.0: Procedure for generating a representative solar year (CDM 2016-10, Fcst. Publ. Date 2017-04)
 Project leader: I. Salbidegoitia

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Work items

117/55/NP
 IEC/TS 62862-1-3 Ed. 1.0: Solar thermal electric plants - Part 1-3: Data format for meteorological data sets (CDM 2016-10, Fcst. Publ. Date 2017-04)
 Project leader: I. Salbidegoitia

117/60/CD
 IEC/TS 62862-1-1 Ed.1.0: Solar Thermal Electric Plants – Terminology (CD 2016-09, Fcst. Publ. Date 2017-04)
 Project leader: L. Gonzalez

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MEETINGS

Meetings:

Madrid, Spain, 7th – 8th March 2012 (participated)
 Tel Aviv, Israel, 30th October – 1st November 2012
 Northbrook, USA, 19th -20th November 2013
 Tokyo, Japan, 14th – 15th November 2014
 Madrid, Spain, 9th – 10th, 2015 (participated)
 Frankfurt, October 5th, 2016

Next meeting:

To be scheduled

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Current developments

- Eckard Lüpfer (DLR) joined CEN/TC 312 WG1 (5th, Oct. 2015) meeting to discuss joined work
- Elaboration if developed "Receiver" Standard (IEC 62862-3-3) can go into the ISO 22975 series
- Joint web meeting CEN TC312 WG1 and representatives from IEC TC 117 26th January 2016
- Collector Model in ISO 9806 was extended by the $a_g(\vartheta_m - \vartheta_a)^4$ to match requirements of IEC TC 117
- "Parabolic trough" Standard (IEC 62862-3-2) will refer to ISO 9806 for thermal performance testing

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Thank you ...



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Annex F Liason TC 164



CEN/TC312's Liaison to CEN/TC164

*Short Update*as of October 10th, 2016

Dr. Jean-Marc Suter

physicist SIA, Suter Consulting, Berne

suter@suterconsulting.com

Solar standardisation meetings in Chania (GR)

1

General about CEN/TC164

- CEN/TC164 *"Water supply"* (cold and hot water systems in buildings, from the entry into the premises)
- CEN/TC 164/WG 2 *"Internal systems and components"*
Continuation of the active liaison initiated by my predecessors (Gerard van Amerongen, Jan Erik Nielsen)
Latest meeting in Cologne on October 6th, 2016
- CEN/TC164/WG10 *"Hot water and cold water storage within dwellings"*
New contact suggested by CEN/TC164/WG2
Important in what regards EN 12977-3 and -4

Solar standardisation meetings in Chania (GR)

2

My position / Swiss standards

- Registered Liaison Officer of CEN/TC312 to CEN/TC164
- Official Swiss expert in CEN/TC164/WG2 delegated by SNV on behalf of the Swiss Society of Engineers and Architects (SIA)
- Since 2005: Secretary of the Swiss Technical Committee SIA 385 in charge of standards for domestic hot water systems
- As a registered expert I have a stronger position than only as a liaison officer.
- Swiss standards for domestic hot water systems:
SIA 385/1 (General and requirements) and
SIA 385/2 (Design procedures) for hot water systems
Hygiene, energy efficiency and users' comfort altogether

Solar standardisation meetings in Chania (GR)

3

Main news from the WG2 meeting

- EN 806 is being revised. New structure, new contents.
This is **THE** standard for all drinking water systems (cold and hot) in buildings, i.e. **very important** for solar thermal too.
- Topics included: drinking water distribution, drinking water storage and drinking water heating (all energy sources); hygiene, energy efficiency, user's comfort
- New: the following 4 parts:
 - General
 - Design
 - Installation
 - Operation and maintenance

Solar standardisation meetings in Chania (GR)

4

Main news from the WG2 meeting

- Current status of the revision: new structure and table of contents have been defined (will be circulated soon)
- Next step until **March 31st, 2017**: **CEN/TC164/WG2 collects inputs from all interested bodies all over Europe**. It will then make the synthesis of contents relevant for whole Europe.
- Contact your professional national associations (also the non solar ones!) and submit – via your national standardization institute – coordinated English-written inputs over single items of the new EN 806 table of contents. In this way you may also activate countries that are not yet participating to CEN/TC164/WG2 work.
- Coordinated inputs from CEN/TC312 Working Groups are also possible. Submit them to me (Liaison Officer).

Solar standardisation meetings in Chania (GR)

5

Don't miss this opportunity!

This is a unique opportunity for the solar thermal community to enter its requirements and reinforce its relation to the non-solar professional world of the drinking water systems' sector.

This could boost the market at mid-term!

Solar standardisation meetings in Chania (GR)

6

vA Consult
 Consultancy for renewable energy in the built environment



Update on TC 371, 228

SKN 17.10.2016 Crete

Gerard van Amerongen
vAConsult



1

vA Consult

TC371 & TC228

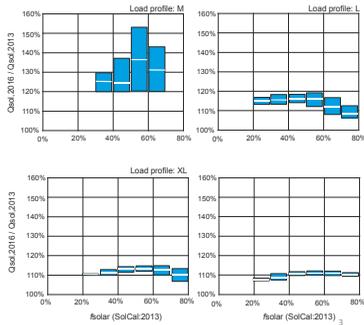
- TC371:
 - ISO/prFDIS 52000-1 Overarching EPBD
 - Forwarded for formal vote
- TC228: current
 - Revised EPBD standards for formal vote
 - Expected in November 2016
 - Solar thermal relevancy:
 - prEN15316-4-3 solar thermal systems in buildings
 - Including annex ZA-ZC for ErP harmonization
 - New and improved implementation of SOLCAL!

2

vA Consult

Solcal:2013 versus 2016

- Load profile: M
 - Up 20% - 30%
- Other load profiles:
 - Up ~15%



3

vA Consult

TC228 -> ErP

- New SOLCAL can be used
- vAConsult calculation tool available in November

www.vaconsult.net

With nice gadget:



TC 228



- TC228: Future work
 - EU voluntary certification scheme non-residential buildings
 - More then installation !
 - Link Ecodesign
 - To be worked on
 - Tools for EPBD
 - Challenge is to get calculation tools
 - SCF 6C14.1 Other model is what we do
 - We could do more: see work of AP legal and markets
 - Validation of methods
 - Much work to do

Annex H SCFW

Research Project
 "SCFW - Yield prediction tool for solar district heating systems based on ScenoCalc" (SCFW – ScenoCalc Fernwärme)

Execution by:
 (coordination) and 

20.12.2016

Steinbeis Research Institute for Solar and Sustainable Thermal Energy Systems
 Meitnerstr. 8
 D-70563 Stuttgart
 www.solites.de

Supported by:

 Federal Ministry for Economic Affairs and Energy
 on the basis of a decision by the German Bundestag



SCFW | Aims and Target Group

AIMS

- Development of a freely available **open-source tool** for the yield prediction of solar district heating (SDH) **systems**
 - basis: Solar Keymark "ScenoCalc" / ISO 9806
 - platform: MS Excel
 - calculations via accessible spreadsheet-formulas
- Good acceptance aspired by
 - reference to well-known and acknowledged ScenoCalc tool
 - transparency / open-source approach

TARGET GROUP

- Solar thermal professionals
- SDH customers (heat suppliers, communities, industry...)

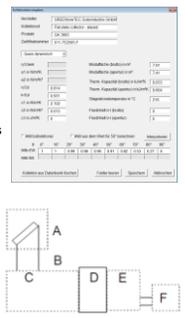
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SCFW | main developments

- STEP 1: solar collector field level**
 - collector database for DH* collectors
 - consideration of solar collector field
 - project archive
 - optional: hourly temperature profiles for collectors
- STEP 2: system level**
 - optional: consideration of pipes, thermal storage, heat exchangers, set temperature control
 - simplified but tested calculation procedure for system components
 - hourly load conditions possible
 - hourly results available

* DH: district heating



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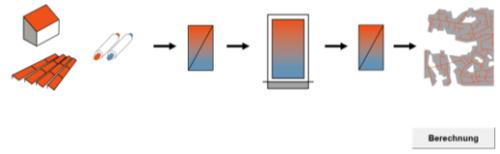
SCFW | GUI

ScenoCalc Fernwärme 2.0

Projektname:

Standort und Belichtungswinkel anpassen

Systemkonzept: Rohrleitungen Wärmeübertrager Solar Speicher Wärmeübertrager Netz Wärmenetz



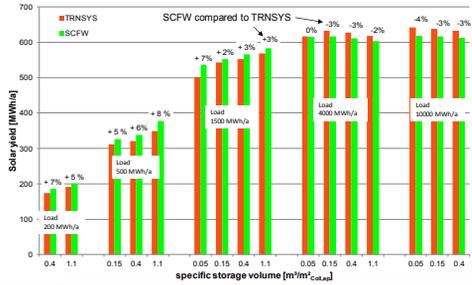
Berechnung

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SCFW | verification of results with dynamic TRNSYS simulations

Exemplary results for 1000 m² solar collector (aperture) area, solar heat exchanger, thermal storage and specific hourly load file



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SCFW | Outlook and Contact

OUTLOOK

- Final SCFW tool will be available beginning of 2017

CONTACT

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- Thomas Schmidt

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- Rolf Meißner

r.meissner@ritter-xl-solar.com

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