

# Solar Keymark Network

Experience exchange circle of manufacturers, test labs, certifiers and inspectors working according to the Solar Keymark scheme rules

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## Final Minutes

### 18. Solar Keymark Network Meeting March 10<sup>th</sup> –11<sup>th</sup>, 2015; Rome, Italy

#### Item 1: Opening of the meeting

Harald Drück, chairman of the Solar Keymark Network (SKN), opened the meeting and welcomed the participants as well as the numerous guests. He thanked Dr. Vinod Kumar Sharma from ENEA for hosting the meeting and Jan Erik Nielsen as the Secretary of the Solar Keymark Network, for the excellent preparation of the meeting.

Harald Drück gave a short explanation about the Solar Keymark Network (SKN). The main task of the SKN is to agree on uniform procedures between the different actors (accredited solar thermal test labs, certifiers, inspectors and manufacturers) working according to the Solar Keymark scheme rules as well as the further development of Solar Keymark certification in particular and certification of solar thermal products in general.

The working rules of the SKN are described in the “Solar Keymark Network Internal Regulations” (Document SKN\_N0102)

Harald Drück mentioned the **concept related to resolutions and decisions**:

**Resolutions** directly influence the Solar Keymark specific scheme rules (document SKN\_N0106) and the Solar Keymark Network Internal Regulations (document SKN\_N0102) and hence shall be implemented in the next version of them.

**Decisions** are other important agreements achieved on the meeting that have to be included in the latest version of the Solar Keymark decision list (document SKN\_N0100).

The meeting took place from Tuesday, March 10<sup>th</sup>, 2014, 13:45 hrs till Wednesday March 11<sup>th</sup>, 2015, 13:32 hrs at the premises of ENEA (Italian National Agency for New Technologies) in Rome, Italy.

The first invitation including the first draft agenda (Document SKN\_N0256R0) of the meeting was sent out by email from Jan Erik Nielsen dated January 28<sup>th</sup>, 2015.

## Item 2: Introduction of participants

The participants attending the meeting physically introduced themselves and mentioned their nominating organisation or institution respectively.

Since this meeting was also additionally transmitted via internet Harald Drück asked the persons following the meeting via Internet to send an email with their name and their institution to Jan Erik Nielsen and to him to confirm their virtual presence.

The list of participants that attended the meeting physically and electronically is attached as Annex A.

As a result of the introduction of participants Harald Drück stated that only Christian Stadler is present as industry representative. Hence, he concluded that according to the clause 4.2 of the Solar Keymark Network internal regulations (Document SKN\_N0102R9) voting will not be possible as the voting preconditions are not fulfilled with regard to the aspect of requiring a minimum of 3 industrial representatives.

Hence, he asked Christian Stadler if he can organise a mandate from two other industry representatives in order to perform the meeting in an ordinary and effective way.

Christian Stadler left the room in order to perform some phone calls and the meeting was continued with the first 4 topics on the agenda.

After approximately 15 min Christian Stadler came back with the information that the two industry representatives Pedro Dias and Gerhard von Amerongen will arrive quite soon. Both persons arrived at around 14:15 hrs. Hence, from that time onwards the preconditions for voting according to the clause 4.2 of the Solar Keymark Network internal regulations (Document SKN\_N0102R9) were fulfilled.

## Item 3: Approval of the agenda

Following the first draft agenda (Document SKN\_N0256R0) send out on January 28<sup>th</sup>, 2015, in the last weeks, updated versions of draft agenda as well as documents related to the items mentioned on the agenda were send out and were also available via the Solar Keymark Internet site. The latest version of the agenda was named “18<sup>th</sup> Solar Keymark Network meeting – revised final draft agenda (R4)” document SKN\_N0256R4 dated 2015-03-06 and send out on March 6<sup>th</sup>, 2015.

This version of the agenda was presented and the following modification were proposed:

Harald Drück proposed to delete item 22 as the document SKN\_N0106\_AnnexE\_R1 does not reflect any more the latest version of this document. Hence the corresponding discussion and resolution can be made at item 23, dealing with SKN\_N0106\_AnnexE\_R2 as the latest version of the corresponding document.

Furthermore it was agreed to deal with item 18 (collector energy output label) on the second day as requested by Stefan Abrecht since he will not be present on the first day.

It was agreed that the final agenda resulting from these changes would be the basis for the 18<sup>th</sup> Solar Keymark Network meeting. This final agenda is, as document SKN\_N0256R5, available via [www.solarkeymark.org](http://www.solarkeymark.org).

#### **Item 4: Comments and final approval of the minutes of the 17. SKN meeting**

Harald Drück mentioned that the minutes of the 17<sup>th</sup> Solar Keymark Network meeting (File: SKN\_N0254R0.pdf) were elaborated by him, checked by Jan Erik Nielsen and proof read by Maria João Carvalho. He thanked both of them for their work.

Jan Erik Nielsen informed the participants of the SKN by email dated October 4<sup>th</sup>, 2014 about the availability of the minutes of the 17<sup>th</sup> Solar Keymark Network meeting on the Solar Keymark website.

Within the 30 days following this email no comments were received by Jan Erik Nielsen and Harald Drück.

Hence, the present version of the document SKN\_N0254 is approved unanimously as the final minutes of the 17<sup>th</sup> Solar Keymark Network meeting, leading to document SKN\_N0254R1, since the word “final” was included in the heading.

Note: The final version of the minutes will be made available by Jan Erik Nielsen in the coming days.

#### **Item 5: Date & place of next Solar Keymark Network (SKN) meetings**

The **19<sup>th</sup> SKN meeting** (autumn 2015 meeting) is scheduled for

**October 6<sup>th</sup>, 13:00 hrs to October 7<sup>th</sup>, 14:00 hrs, 2015** (end of day one at 19:00 hrs) and will take place in Paris, France based on an invitation of François-Xavier Ball from Eurovent CERTITA

The **20<sup>th</sup> SKN meeting** (spring 2016 meeting) is scheduled for

**March 8<sup>th</sup>, 13:00 hrs to March 9<sup>th</sup>, 14:00 hrs, 2016** (end of day one at 19:00 hrs) and will take place in Berlin based on an invitation of Sören Scholz from DIN CERTCO

The **21<sup>th</sup> SKN meeting** (autumn 2016 meeting) is scheduled for

**October 11<sup>th</sup>, 13:00 hrs to October 12<sup>th</sup>, 14:00 hrs, 2016** (end of day one at 19:00 hrs) and will take place in Freiburg based on an invitation of Korbinian Kramer from Fraunhofer ISE

#### **Item 6: Review of decision list**

As agreed at the 16<sup>th</sup> Solar Keymark Network meeting Jan Erik Nielsen reviewed the latest version of the decision list (document SKN\_N0100R15.pdf) in order to identify topics where further action is needed. However, no such topics were identified.

**Item 7: New Absorber coatings to be considered as equivalent**

No new absorber coatings to be considered as equivalent were presented for this meeting.

Note: The latest version of the relevant document is SKN\_N0137R11 that lists, as a result of decision M17.D1 made at the 17<sup>th</sup> SKN-Meeting, mean values for the absorptivity and emissivity of the different types of selective coatings.

The document and the aspects of considering absorber coatings as equivalent was discussed and finally the following decision was made.

**Decision M18.D1 – Absorber coatings to be considered as equivalent – revision of document SKN\_N0137R11**

Since Blutec etaplus CU and Blutec etaplus\_al are not available on the market any more they should be marked with a corresponding note. Furthermore the use of values for absorptivity and emissivity specified by the manufacturer and measured by some labs is not consistent. This is also influencing the mean values listed in the tables.

The document should be revised under the lead of Jan Erik Nielsen.

*This decision was taken with 0 negative votes and 0 abstentions.*

**Item 8: New Glazing to be considered as equivalent**

No new glazings to be considered as equivalent were presented for this meeting.

**Item 9: SCF budget allocation for standardisation related activities**

Harald Drück as the chairman of the Solar Certification Fund (SCF) steering group (SG) reported about a discussion that took place during the last meeting of the SCF SG on February 10<sup>th</sup>, 2015 at Brussels. As a result of this discussion the following decision is proposed to the Solar Keymark Network:

**Decision M18.D2 – SCF budget allocation for standardisation related activities**

A minor part of the annual SCF funding should be allocated to convenors, liaison officers and secretaries in relevant standardisation committees. This part should not exceed 20% of the total SCF budget.

*This decision was taken with 0 negative votes and 1 abstention.*

### **Item 10: Presentation of Labelpack A+**

Pedro Dias presented a new European project named Labelpack A+ coordinated by ESTIF by means of the presentation attached as Annex B.

Harald Drück thanked Pedro Dias for the presentation and mentioned the importance of the project, both with regard to the solar thermal industry in general and with regard to the Solar Keymark Network as it will be involved in a minor role in the Labelpack A+ project.

After the presentation of Pedro Dias some questions were asked and answered, and a short discussion took place. In this context it was also agreed that Pedro should inform the SKN during its meetings about the progress related to Labelpack A+

### **Item 11: Funding of SCF project applications from the 6<sup>th</sup> call**

Jan Erik Nielsen and Harald Drück reported about the evaluation of the proposals handed in based on the 6<sup>th</sup> Call and the meeting related to their evaluation that took place February 10<sup>th</sup>, 2015 in Brussels. In this context Harald Drück also thanked all proposers, the evaluators and the members of the SCF steering group, ESTIF and the SKN secretary Jan Erik Nielsen for their work and efforts related to the 6<sup>th</sup> SCF call.

The results of this evaluation including a proposal of projects recommended for funding are listed in document SKN\_N0258R0 based on the agreements of the SCF steering group meeting in Brussels.

In this context Harald Drück also mentioned that this document contains more detailed information related to not accept projects proposals as it was this case in previous years. The inclusion of more detailed comments related to projects not recommended for funding is a result of the corresponding wish expressed by some participants at the 16<sup>th</sup> Solar Keymark Network meeting.

### **Decision M18.D3 – Funding of proposals from the 6<sup>th</sup> SCF call**

The proposals recommend by the Solar Certification Fund Steering Group for funding as described in document SKN\_N0258R0 are accepted and the corresponding activities will be funded.

*This decision was taken with 0 negative votes and 1 abstention.*

### **Item 12: Re-introducing aperture area in collector testing**

Andreas Bohren proposed to re-introduce the aperture area in collector testing based on the justification given in document SKN\_N0257R0.

The proposal of re-introducing the aperture area was discussed and during the discussion it became obvious that Solar Keymark Network is still in favour of the gross area.

With regard to the problems that might occur from using the gross area instead of the aperture area in the context of the “solar collector family concept” it was decided to solve this aspect within CEN TC312 WG1.

### **Item 13: Public / Confidential Status of Solar Keymark Network documents**

Andreas Bohren mentioned that it is difficult to decide to whom which information and/or documents related to activities of the Solar Keymark Network can be made available. In order to overcome this problem he proposed to make in general all SKN documents public.

The topic was discussed and finally the following resolution (and not decision as it changed the Solar Keymark Internal Regulations (Document SKN\_N0102R9) was made:

#### **Resolution M18.R1 – Public / Confidential Status of Solar Keymark Network documents**

Chapter 6 (Confidentiality) of the Solar Keymark Internal Regulations (Document SKN\_N0102R9) shall be modified as follows:

##### **Confidentiality**

All parties involved in the SKN shall maintain confidentiality of the information obtained in the course of conformity assessment procedures unless written consent is given by the manufacturer and by the empowered certification bodies involved.

All official Solar Keymark Network documents and final results of SCF projects are by default public. Upon request and by decision of the SKN a document can be rated confidential and is then available only to a well-defined group of persons. This group of persons has to be defined together with the request for confidentiality. In this case the document shall be marked as confidential and the group of persons allowed to have access to the document shall be mentioned on the document.

Note 1: Official Solar Keymark Network documents are the ones that have a Solar Keymark Document number.

Note 2: This approach requires that drafts and working documents are indicated as such in order to avoid confusion.

Note 3: This implies that all official SKN documents made so far will now become public.

*This decision was taken with 0 negative votes and 0 abstentions.*

### **Item 14: Handling complaints related to Testing Laboratories and Inspectors**

Katharina Meyer presented the document SKN\_N0250R1 entitled “Proposal for including instructions for handling complaints related to Testing Laboratories and Inspectors and adding a link to the template for the complaint procedure on the Solar Keymark web-site” as extended version of the document SKN\_N0250R0 entitled “Proposal for handling complaints related to testing laboratories and inspectors” presented by Katharina Meyer at the last SKN meeting.

Furthermore she presented document SKN\_N0106\_AnnexI\_R0.docx entitled “Annex I to Solar Keymark specific scheme rules: Complaints Related to Solar Keymark Testing Laboratories and Inspectors”

The documents were discussed and the original proposal for a resolution as stated in SKN\_N0250R1 was modified and finally the following resolution was made:

**Resolution M18.R2 – Handling complaints related to Testing Laboratories and Inspectors**

The following section should be included in the latest version of the Solar Keymark Scheme rules (Document SKN\_N0106R24) as a new section in chapter 2.

New section.2.2 in Solar Keymark scheme rules.

Handling complaints

In order:

- To have a harmonized procedure for handling complaints,
- To solve complaints in an appropriate time and way,
- To maintain the high reputation of Solar Keymark,
- To ensure a fair competition between the testing laboratories, inspectors, and certification bodies,

the following procedure for complaints is applied:

- The complainant will inform the respective certification body (CB) by using the form for complaints given in the Annex I of the Solar Keymark scheme rules.
- The CB will forward the complain to the specific party and ask for clarification and appropriate corrective actions within a defined due time.
- The clarification and corrective action will be sent to CB for assessment.
- The CB will assess this report and decide if a special audit at the respective party or a witness audit for the inspector is required. Especially with respect to testing laboratories, the CB should involve one of the other recognized and well experienced testing laboratories for technical support during the special audit.
- If the CB decides by itself or with recommendation of SKN certification working group that a special audit is required, the party has to pay for the audit as defined in the agreement between certification body and sub-contractors.
- If the CB agrees to the provided corrective actions and the complaint is solved, the CB will inform the complainant about the result by sending back the form.
- If the complainant is still not satisfied with the provided reply he can contact to convener of the SKN certification working group for discussion within the certification bodies working group.
- The SKN certification bodies working group will prepare a summary of all complaints and send to the SKN for presentation at next SKN meeting.

Note: This procedure how to handle complaints should be extended in the near future to other parties such as certification bodies and manufacturers.

*This resolution was taken with 0 negative votes and 4 abstentions.*

### **Item 15: Finalizing Annex F - Freeze resistance test of evacuated tube collectors with heat pipes**

Ulrich Fritzsche mentioned that he has revised the document as requested at the 17<sup>th</sup> SKN Meeting under item 19. The revised version is available as document SKN\_N0106\_AnnexF\_R3.

The document was shortly discussed and the following resolution was made:

#### **Resolution M18.R3 – SKN Scheme Rules Annex F (Freeze resistance test of evacuated tube collectors with heat pipes)**

The document SKN\_N0106\_AnnexF\_R3 will become an official annex of the Solar Keymark Scheme rules. For that purpose document SKN\_N0106R25 as new version of the SKN scheme rules will be elaborated by Jan Erik Nielsen.

*This resolution was taken with 0 negative votes and 0 abstentions.*

There was a consensus that the procedures described in SKN\_N0106\_AnnexF\_R3 should also be included in a revised version of ISO 9806 or ISO 22975-2.

### **Item 16: Transition from old EN 12975-1&2 to new EN 12975-1 and new EN ISO 9806:2013; Validity of SK certificates issued based on EN 12975-2**

Harald Drück reported in his role as chairman of the “Experience Exchange Circle of the German speaking Test Laboratories for Solar Thermal Systems and Components (EK-TSuB – Prüflaboratorien)” about the fact that according to the SKN representatives of the EK-TSuB the document SKN\_N0106\_AnnexH\_R1.pdf does not completely reflect the results of the discussion that took place at the 17<sup>th</sup> Solar Keymark Network meeting at Brussels on 30.09. and 01.10.2014.

The main concern is that the transition period mentioned in it is not correct. Hence the resolution below is proposed. The aspects behind this resolution were discussed again intensively and finally the following resolution was made:

#### **Resolution M18.R4 – Transition from old EN 12975-1&2 to new EN 12975-1 and new EN ISO 9806:2013 – correction of validity date related to SK certificates issued based on EN 12975-2**

In the document SKN\_N0106\_AnnexH\_R1 the sentence “The due date for transition all certificates to the new standard is 2020-12-31” shall be changed to

“The due date for transition of all certificates to ISO 9806 is 2025-12-31”.

The document will be revised accordingly and made available as document SKN\_N0106\_AnnexH\_R2 by Jan Erik Nielsen.

*This resolution was taken with 1 negative vote and 3 abstentions.*



## **Item 17: Performance test of systems with non-opaque collectors**

Harald Drück presented in his role as chairman of the “Experience Exchange Circle of the German speaking Test Laboratories for Solar Thermal Systems and Components (EK-TSuB – Prüflaboratorien)” the following proposal for a resolution related to a precision of the test conditions for performance testing of systems with non-opaque collectors.

### **Resolution M18.R5 – Performance testing of systems with non- opaque collectors**

The performance of systems with collectors being non-opaque from the backside shall be tested outdoors under the conditions as specified in ISO9806:2013, clause 21.6.

**Note:** In ISO9806:2013, clause 21.6 is – among others – the following stated:

The solar reflectance of the background used during the performance test of collectors being non-opaque from the back shall not exceed 20 %. The solar reflectance of the background used shall be reported in the test report.

The text of this resolution will be included in SKN\_N0106\_AnnexH\_R2 – last part of section H.1 by Jan Erik Nielsen.

*This resolution was taken with 0 negative votes and 0 abstention.*

## **Item 18: Voluntary collector energy output label**

Stefan Abrecht presented the idea of a voluntary collector energy output label by means of the presentation attached as Annex C and an article published by Sun & Wind-Energy that was sent out to the SKN prior to the meeting.

He also mentioned that if ESTIF/SKN will go for a label according to his design and according to his method, they will receive the rights to use the idea and the design for free, as he has no financial interests but only the interest to promote solar thermal energy to get the necessary importance in the heating supply of the future.

The idea of a voluntary collector output label was discussed and the following decision was made:

### **Decision M18.D4 – Voluntary collector energy output label**

The Solar Keymark Network considers the idea of a voluntary collector energy output label as an interesting idea that should be further investigated, especially also with regard to legal, technical and marketing aspects. Based on the results of these investigations, the topic will be discussed again at the next Solar Keymark Network meeting.

Provided the outcome of these investigations is positive, the collector energy output label can be included in the Solar Keymark scheme rules as a voluntary possibility for marking solar collectors.

In principle it is also interesting to extend the idea of a voluntary solar energy output label to thermo-siphon systems.

*This decision was taken with 0 negative votes and 0 abstentions.*

## Item 19: New collector data sheets

Patrik Ollas presented the new version of ScenoCalc including the new collector data sheet. The activity was performed in the context of the SCF project 5C1.5.

The presentation is included as Annex D.

The topic was discussed and finally the flowing decision was made.

### Decision M18.D5 – New collector data sheet

It was decided that a modified version of ScenoCalc including the new collector data sheet will be prepared by Patrik Ollas taking into account the comments listed in the agenda of the 18<sup>th</sup> SKN Meeting (document SKN\_N0256R4) and the aspects mentioned by Gerhard van Amerongen during the meeting with regard to Energy Labelling and EPBD. Furthermore in this context a validation of the modified version of ScenoCalc shall be made available to the Solar Keymark network.

Additionally a procedure how to deal with test results from tests performed according to EN 12975-2 shall be elaborated. The test standard used for testing shall be listed on the data sheet as well.

A vote on the new version by correspondence will take place approx. in May 2015.

Provided the result of the vote is positive, Annex B of the Solar Keymark Scheme rules named “Harmonised format for collector data sheet” is revised according to new version of ScenoCalc including the new collector data sheet

*This resolution was taken with 0 negative votes and 0 abstentions.*

## Item 20: Funding of SKN working group convenor(s)

Based on resolution M17.R4 “Funding of SKN working group convenors” Jaime Fernandez Gonzalez-Granda asked on behalf of AENOR for funding of his activities as convenor of the working group that elaborated the document SKN\_N0106\_Annex\_H\_R1.

### Decision M18.D6 – Funding of AENOR on behalf of Jaime Fernandez Gonzalez-Granda as working group convenor for the elaboration of SKN\_N0106\_AnnexH\_R1

A funding of 500 € for AENOR on behalf of Jaime Fernandez Gonzalez-Granda, the convenor of the working group that elaborated the document for Resolution M17.R5 – Transition from EN 12975-1&2 to EN 12975-1 and EN ISO 9806:2013 is granted.

This document was finally approved as SKN\_N0106\_AnnexH\_R2.

*This resolution was taken with 0 negative votes and 1 abstention.*

**Item 21: Election of the SKN chairman**

By a mistake from the Solar Keymark Network Chairman and the Solar Keymark Network Secretary it was missed to put this point on an early version of the agenda for this meeting. When Jaime Fernandez Gonzalez-Granda send an email to the Solar Keymark Secretary related to this topic it was already too late to launch a call for candidates and to perform an election at this meeting.

Hence the following decision was proposed and made:

**Decision M18.D7 – Election of the SKN chairman at the 19. SKN meeting**

The election of the SKN chairman will be performed at the 19. SKN meeting in October 2015 in Paris in order to prepare the election in a proper way.

*This decision was taken with 0 negative votes and 1 abstention.*

Furthermore it was discussed if the Solar Keymark Network internal regulations should be changed in such a way that the chairman can be re-elected more than one time.

As a result of this discussion it was agreed that, if considered as sense-full, a proposal for a corresponding resolution can be handed in for the next meeting.

The voting on this resolution will then be performed prior to the election of the chairman.

**Item 22: SK Scheme rules, Annex E\_R1: Factory production control**

This item was deleted since the document SKN\_N0106\_AnnexE\_R1 is already replaced by a new version (document SKN\_N0106\_AnnexE\_R2); see also item 23.

**Item 23: SK Scheme rules, Annex E\_R2: Factory production control**

The document SKN\_N0106\_AnnexE\_R2 was presented and explained by Jaime Fernandez Gonzalez-Granda.

After a short discussion the following resolution was made:

**Resolution M18.R6 – SKN Scheme Rules Annex E (Factory production control)**

The document SKN\_N0106\_AnnexE\_R2 will become an official annex of the Solar Keymark Scheme rules.

In addition to the document as it is available now, a line dealing with the aspect of the heat transfer plates for vacuum tube collectors will be added in the corresponding table based on a request of Malte Kottwitz.

For that purpose, document SKN\_N0106R25, as new version of the SKN scheme rules will be elaborated by Jan Erik Nielsen.

*This resolution was taken with 0 negative votes and 3 abstentions.*

## **Item 24: SK Scheme rules, Annex E: Factory production control and Annex A: Inspection report**

The document SKN\_N0106\_AnnexA1b\_R0 was presented and explained by Jaime Fernandez Gonzalez-Granda. The document is a kind of “mirror” of Annex E.

After a short discussion the following resolution was made:

### **Resolution M18.R7 – SKN Scheme Rules AnnexA1b\_R0 (Inspection report)**

The document SKN\_N0106\_AnnexA1b\_R0 (Inspection Report) will become an official annex of the Solar Keymark Scheme rules and can be used for reporting alternative to Annex A1 and A2.

Note: For the next meeting a revised version of the document SKN\_N0106\_AnnexA1b\_R0 consisting of a combination of Annex A1b and A replacing this both annexes should be prepared as a basis for a resolution

*This resolution was taken with 2 negative votes and 1 abstention.*

## **Item 25: Information on status of new versions of scheme rules Annex A and Annex E / Jaime Fernandez**

According to Jaime Fernandez Gonzalez-Granda this topic needs not to be discussed any more since the relevant issues were already dealt within item 23 and 24.

## **Item 26: AirCow CAO calculation for solar air heating collectors**

Korbinian Kramer informed by means of the presentation attached as annex E about the possibilities to calculate the collector annual output (CAO) for solar air heating collectors by using the information delivered by a new software tool named AirCow. This software tool delivers the parameters that are necessary to be introduced in SCEnOCalc for the calculation of Collector Annual Output.

The approach was discussed and in general appreciated by the Solar Keymark Network.

Korbinian Kramer mentioned that he will circulate the Excel-based AirCow calculation tool as well as some additional information related to it. Furthermore information about a validation of the tool will be provided.

Based on this information a corresponding resolution concerning the future use of the AirCow CAO calculation tool will be made at the next meeting.

## **Item 27: Inclusion of performance test results of unglazed collectors in Solar Keymark data sheets**

This item was already dealt in the context of item 19.

## Item 28: Validation of SCEnOCalc

This activity is related to the project SCF-5C1.5 and was already dealt in the context of item 19.

## Item 29: SKN fee income 2015

Jan Erik Nielsen reported about the Solar Keymark Network fees expected for 2015 by means of the slide shown below.

Solar Keymark Network fees as per 1/1 2015									
Version	ok			of		13/02/2015			
ien				50		230			
	Total SKN €	Product	Main types	á € 50	Subtypes	á € 230	Total		
AENOR	15 010	collector	10	500	56	12 880	13 380	66	77
		system	5	250	6	1 380	1 630	11	
CERTIF	14 020	collector	20	1 000	33	7 590	8 590	53	86
		system	12	600	21	4 830	5 430	33	
CERTITA	740	collector	0	-	0	-	-	0	4
		system	1	50	3	690	740	4	
DINCERTCO	190 020	collector	467	23 350	663	152 490	175 840	1130	1230
		system	49	2 450	51	11 730	14 180	100	
DQS	8 640	collector	14	700	16	3 680	4 380	30	54
		system	7	350	17	3 910	4 260	24	
ICIM	4 950	collector	20	1 000	10	2 300	3 300	30	45
		system	10	500	5	1 150	1 650	15	
IMQ	-	collector	0	-	0	-	-	0	0
		system	0	-	0	-	-	0	
ITC	-	collector	0	-	0	-	-	0	0
		system	0	-	0	-	-	0	
KIWA	2 240	collector	8	400	8	1 840	2 240	16	16
		system	0	-	0	-	-	0	
MIRTEC	380	collector	3	150	1	230	380	4	4
		system	0	-	0	-	-	0	
SP	8 800	collector	55	2 750	21	4 830	7 580	76	86
		system	6	300	4	920	1 220	10	
TSU	3 260	collector	10	500	12	2 760	3 260	22	22
		system	0	-	0	-	-	0	
TÜV CYPRUS	-	collector	0	-	0	-	-	0	0
		system	0	-	0	-	-	0	
Total	248 060	collector	607	30350	820	188600	218950	1427	1624
		system	90	4500	107	24610	29110	197	
						<b>248 060</b>		<b>5/3 2015: 1702</b>	

1/1 2014: 269 340

The expected income of nearly 250 k€ is approx. 20 k€ lower than in the previous year which is due to the relative bad market developments in some European countries.

## Item 30: Global solar certification

Note: This activity is related to the projects SCF-4C01 and SCF-4C03

Jan Erik Nielsen gave a short presentation about the current status and the latest developments related to global certification by means of the presentation attached as Annex F.

The most important aspect is that the global solar certification concept was changed from having one global solar certification scheme and one global mark to the use of the already existing certification schemes and marks for solar thermal collectors.

Furthermore he mentioned that there will be a meeting of the Global Solar Certification Board this afternoon and a meeting of the Global Solar Certification Network tomorrow here in Rome.

### Item 31: Update on “Fundamental new data base that can also be used for the generation of data sheets



Note: This activity is related to the project SCF-4C07 and SCF-5C6.1

Jan Erik Nielsen mentioned that regrettably no work was done in this project since last meeting.

### Item 32: Update on CE marking of Collectors

Note: This activity is related to the project SCF-5C5.1

Andreas Bohren as convenor of TC 312 WG1 reported about the latest status of the new EN 12975-1 and ISO9806 by showing the following slides:

Status		Status	
EN12975-1 Working Item for Revision is activated		ISO9806 Ballot about CEN Lead. Positive decision a few days ago only Status of new WI not clear at the moment	
Include	CE-Mark /CPR Ecodesign/Energylabelling PED / LVD / REACH etc? Family Concept Properly Link to ISO9806		
	Annex ZA ZB ZC/ZD/..	Include	Family Concept Discussions about PVT Climate Classes Prepare for EN12975
NA-Consultants are not available again.			
Timing:	To be discussed today. I expect it in 2nd half of 2016	Timing:	To be discussed today I expect it in 2nd half of 2016 (together with EN12975-1)
 HSR <small>INSTITUT FÜR SOLARTECHNIK</small> <small>Dr. Andreas Bohren, SKN Rome 2015</small>		 HSR <small>INSTITUT FÜR SOLARTECHNIK</small> <small>Dr. Andreas Bohren, SKN Rome 2015</small>	

Andreas Bohren reported about the fact that the CEN consultant responsible for EN 12975-1 is not assigned yet.

Furthermore Andreas Bohren mentioned that a meeting of CEN TC 312 WG 1 will take place this afternoon. During this meeting the revision of EN 12975-1 and ISO9806:2013 will be discussed.

### Item 33: Information on Energy Labelling

Note: This activity is related to the project SCF-4C16a with regard to the manual on Lot 1 and Lot 2 on solar thermal products and the project SCF-5C2.1 concerning the standards harmonisation with regard to the CEN mandate 495

Gerard van Amerongen showed the presentation attached as Annex G.

In this context he also reported about his activities as liaison officer to TC 164 and TC 371. During and after the presentation some questions were raised by some of the participants and answered by Gerard van Amerongen.

### **Item 34: Updates from Liaison officers**

Liaison officer to IEC/TC117, (related to project SCF 5C4.1)

Liaison officer to CEN TC164, (related to project SCF 5C4.2): already dealt with under item 33

Liaison officer to CEN TC228, (related to project SCF 5C4.3)

Liaison officer to CEN TC 371, (related to project SCF 4C12c / SCF 5C4.4): already dealt with under item 33

#### **Liaison officer to IEC/TC117, (related to project SCF 5C4.1)**

Stephan Fischer informed about IEC/TC117 and his activities as liaison officer related to this TC by means of the presentation attached as annex H

The most important development in the last few months is the letter from ISO TC 180 to IEC/TC 117 mentioned on slide 16. Up to now no official response was received from IEC/TC 117.

Furthermore Stephan Fischer mentioned the idea of inviting representatives from IEC/TC 117 to the next ISO TC 180 meeting planned for the beginning of December 2015 in Turkey. Harald Drück appreciated this as a very good idea.

#### **Liaison officer to CEN TC128, (related to project SCF 5C4.3)**

Korbinian Kramer informed about the activities of CEN TC128 and his activities as liaison officer related to this TC by means of the presentation attached as annex I.

### **Item 35: Report from the Solar Keymark Certification Bodies / Solar Keymark Inspection Working Group**

Jaime Fernandez Gonzalez-Granda reported about the meeting of the **Inspectors Working Group** that took place on the morning of March 10<sup>th</sup>, 2015 directly prior to the Solar Keymark Network meeting in Rome.

Various inspectors presented the ways how they perform their inspections. Furthermore the new version of Annex E of the Solar Keymark Scheme rules was discussed and modified. The minutes of the inspectors working group and the presentations of the various inspectors will be made available to the SKN.

During the meeting of the inspectors working group it was also discussed how to proceed with manufacturers that have a certification for a specific product but are not producing this product for a certain time.

There was a consensus within Solar Keymark network that this is an important and relevant issue. Hence the inspectors working group was asked to prepare a proposal how to deal with this matter as a basis for a decision or resolution to be made at the next Solar Keymark network meeting.

With regard to the **Certification Bodies Working Group** Sören Scholz informed about the fact that since the last SKN meeting no meetings took place and hence there is nothing to be reported.

## Item 36: Information from CEN TC 312

Vassiliki Drosou being the secretary of TC 312 informed about the structure and the current status of the standards in the responsibility of TC 312 by showing the following four slides:

<p>SKN meeting March 2015</p> <p>Chairperson: <b>P. Konstantinidis</b> (end of app. 2016-10-17, acc. to Dec. 16/2013)</p> <p>Secretary: <b>V. Drosou</b> – ELOT (Greece) (with EBHE/GSIA financial support for 3 years; 2014-2016)</p> <p><b>WG1</b> – Solar Collectors – Convenor <b>A. Bohren</b> – SNV (Switzerland)</p> <p><b>WG2</b> – Factory made systems – Convenor <b>V. Sharma</b> – UNI (Italy)</p> <p><b>WG3</b> – Custom built systems – Convenor <b>S. Laipple</b> – DIN (Germany)</p> <p><b>WG4</b> – Marking and Labelling – Convenor <b>J.E.Nielsen</b> – DS (Denmark)</p>	<p>SKN meeting March 2015</p> <p><b>Published standards</b></p> <ul style="list-style-type: none"> <li>• EN ISO 9488:1999 Solar energy – Vocabulary (ISO 9488:1999)</li> <li>• EN12975-1:2006+A1:2010 Thermal solar systems and components – Solar collectors – Part 1: General requirements</li> <li>• EN ISO 9806:2013 Solar energy–Solar thermal collectors –Test methods (VA/CEN Lead)</li> <li>• EN ISO 22975-3:2014 Solar energy – Collector components and materials – Part 3: Absorber surface durability (VA/CEN Lead)</li> <li>• EN12976-1:2006 Thermal solar systems and components – Factory made systems – Part 1: General requirements</li> <li>• EN12976-2:2006 Thermal solar systems and components – Factory made systems – Part 2: Test methods</li> <li>• EN12977-1:2012 Thermal solar systems and components – Custom built systems – Part 1: General requirements for solar water heaters and combisystems</li> <li>• EN12977-2:2012 Thermal solar systems and components – Custom built systems – Part 2: Test methods for solar water heaters and combisystems</li> <li>• EN12977-3:2012 Thermal solar systems and components – Custom built systems – Part 3: Performance test methods for solar water heater stores</li> <li>• EN12977-4:2012 Thermal solar systems and components – Custom built systems – Part 4: Performance test methods for solar combistores</li> <li>• EN12977-5:2012 Thermal solar systems and components – Custom built systems – Part 5: Performance test methods for control equipment</li> </ul>
<p>SKN meeting March 2015</p> <p><b>Standards under development</b></p> <ul style="list-style-type: none"> <li>• WI 00312033 prEN ISO 22975-1 Solar Energy – Collector components and materials, Part 1: Evacuated tubes – Durability and Performance. (WG1 – ISO lead) – closure of //ENQ 2015-04-03</li> <li>• WI 00312034 prEN ISO 22975-2 Solar Energy – Collector components and materials, Part 2: Heat pipes for evacuated tubes – Durability and Performance. (WG1-ISO lead)</li> <li>• WI 00312035 prEN12976-2 rev Thermal solar systems and components – Factory made systems – Part 2: Test methods. (WG2) – dispatch FV draft to CMC by 2015-09-28</li> <li>• WI 00312036 prEN12976-1 rev Thermal solar systems and components – Factory made systems – Part 1: General requirements. (WG2)</li> <li>• WI 00312037 (TR) Thermal solar systems and components – Code of practice – Minimizing the risk of Legionella in solar assisted hot water systems. (WG4) - dispatch TCA to CMC by 2015-04-15</li> <li>• WI 00312038 prEN ISO 9806 rev Solar energy – Solar thermal collectors – Test methods (WG1 – CEN lead) dispatch ENQ draft to CMC by 2015-11-14</li> <li>• WI 00312039 prEN 12975-1 rev Thermal solar systems and components – Solar collectors – Part 1: General requirements (WG1) dispatch ENQ draft to CMC by 2015-12-23</li> <li>• EN12977-1, rev (ENQ/FV)</li> <li>• EN12977-2, rev (UAP)</li> <li>• EN12977-3, rev (?)</li> <li>• EN12977-4, rev (UAP)</li> <li>• EN12977-5, rev (UAP)</li> </ul>	<p>SKN meeting March 2015</p> <p>CEN TC312 18<sup>th</sup> plenary meeting :</p> <p>2015-10-08, Paris (France)</p>

During and after the presentation some questions were asked by the participants and answered by Vassiliki Drosou.

## Item 37: Information from CEN CCB

Sören Scholz informed about the process of outsourcing the Keymark Management from CEN and about the fact that DIN CERTCO has won the call for tender.

At present the contract between DIN CERTCO and CEN is being elaborated. This contract will provide the basis for the work performed by DIN CERTCO. In this context it is especially important to define the rights of DIN CERTCO, e.g. concerning the empowerment of certification bodies, accepting specific Keymark scheme rules and setting and collecting fees.

The new approach of outsourcing the Keymark Management to DIN CERTCO was in general appreciated by the Solar Keymark Network.



### **Item 38: Solar Certification Fund Projects – General status report**

By means of the presentation attached as Annex J, Pedro Dias gave a general overview of the number of projects, as well as on their status, supported by the Solar Certification Fund (SCF) in the different calls, as well as the corresponding budget allocated to the different calls.

After and during the presentation some questions were asked by some participants and answered by Pedro Dias.

Harald Drück thanked Pedro Dias for the huge amount of work he and his colleagues at ESTIF are performing in a highly professional way.

### **Item 39: Problems related to the transition from old EN 12975-1&2 to new EN 12975-1 and new ISO 9806**

#### **Item 39.1: Mechanical load test**

João Santos added the aspect mentioned in the following email from Maria Joao Carvalho:

A situation has been brought up to CERTIF which may require an interpretation from SKN regarding the specified conditions to be applied when performing the Mechanical Load Test (§ 16 of ISO 9806).

Regarding test conditions, clause 16.3 defines that the test pressure shall be 2400 Pa or as specified by the manufacturer. So, should 2400 Pa be interpreted as a minimum test value or if the manufacturer specifies a lower value can it be accepted and SK granted in case the test is successful?

A short discussion within the Solar Keymark Network showed that there is a consensus that no requirements related to the minimum mechanical load are specified by the Solar Keymark Network. Hence in principle all values can be used that are specified by the manufacturer or test lab.

However, from some participants the wish to re-introduce\* again a minimum value for the mechanical load a collector should withstand was expressed. There was an agreement to discuss this topic during the meeting of CEN TC 312 WG1 this afternoon.

\*Note: The term “re-introduce” is used here since such a value did already exist in the old EN 12975-2.

#### **Item 39.2: Collector reference area**

Gerhard van Amerongen proposed to prepare an official statement from the Solar Keymark Network showing clearly that the same collector power and energy output is achieved independent of relating the collector efficiency parameters to the aperture or gross area of the collector.

Stefan Abrecht proposed to prepare such a statement also with regard to the system family definition in the context of EN 12976. This was seen critical by Harald Drück since a validation concerning the area-independent application of the system family calculation procedures is missing whereas the area-independency is obvious for the power and energy output of collectors, provided that the corresponding collector efficiency parameters are used.

It was agreed that Gerhard van Amerongen should prepare a first draft of such a statement and send it to Jan Erik Nielsen and Harald Drück for further elaboration. After his is done, Jan Erik Nielsen will then send out the document to the Solar Keymark Network for commenting.

**Item 40: Pressure Equipment Directive (PED) and systems**

Ioannis Alexiou reported about the fact, that in the past we had done an investigation about the PED directive for collectors. He proposed to perform such an investigation also for the different types of hot water stores related to the directives for pressure equipment 97/23/EC, 87/404/EOK, 90/488/EOK, 93/68/EOK etc.

This proposal was in general appreciated by the Solar Keymark Network and it was agreed that the convenors of CEN TC 312 WG 2 and WG 3 should be asked to perform this investigations.

Note: A corresponding email was send by Harald Drück on March 11<sup>th</sup>, 2015 to Vinod Kumar Sharma as convener of CEN TC 312 WG 2 and to Sebastian Laipple as convener of CEN TC 312 WG 3 with the request to send the results of their investigations to Jan Erik Nielsen at latest by the middle of August 2015 so that they can be presented at the next Solar Keymark Network meeting in October 2015.

**Item 41: Update on Solar Keymark brochure**

Ioannis Alexiou proposed that the Solar Keymark brochure should be revised and updated.

It was mentioned by Jan Erik Nielsen and Pedro Dias that this will be the case since there is a SCF project from the 5<sup>th</sup> SCF call related to this.

**Item 42: Experience with the misuse of the Solar Keymark**

Harald Drück reported about a letter that was send from Brado Schettini Gherardini, the director of legal affairs from CEN, in October 2014 to Jan Erik Nielsen as the secretary of the Solar Keymark Network an in which CEN complained about the unauthorised use of the Keymark trademark and about engaging the Keymark into mutual recognition/acceptance programs. In particular this letter addressed the MoUs with SRCC and IAPMO.

In this context Harald Drück also express his astonishment about the fact that such an official letter was send by CEN without any prior information or hints from the CEN representative Hoang Liauw who did receive all the minutes of the Solar Keymark Network meetings and who did also attend some of the meetings personally.

However, Harald Drück and Jan Erik Nielsen also reported about a meeting they had with Brado Schettini Gherardini and Hoang Liauw from CEN in December 2014. During this meeting the subject was discussed in a very constructive way and it was agreed that CEN will propose a modified version of the MoU's being acceptable for CEN. This modified versions were sent from Hoang Liauw to Harald Drück and Jan Erik Nielsen in February 2015.

**Item 43: Any other business**

No topics were mentioned.

**Item 44: Important national developments**

No topics were mentioned.

***Copy of Item 5: Date and place of next meetings – since next meetings are usually stated at the end of the minutes***

The **19<sup>th</sup> SKN meeting** (autumn 2015 meeting) is scheduled for

**October 6<sup>th</sup>, 13:00 hrs to October 7<sup>th</sup>, 14:00 hrs, 2015** (end of day one at 19:00 hrs)  
and will take place in Paris, France based on an invitation of François-Xavier Ball from Eurovent CERTITA

The **20<sup>th</sup> SKN meeting** (spring 2016 meeting) is scheduled for

**March 8<sup>th</sup>, 13:00 hrs to March 9<sup>th</sup>, 14:00 hrs, 2016** (end of day one at 19:00 hrs)  
and will take place in Berlin based on an invitation of Sören Scholz from DIN CERTCO

The **21<sup>th</sup> SKN meeting** (autumn 2016 meeting) is scheduled for

**October 11<sup>th</sup>, 13:00 hrs to October 12<sup>th</sup>, 14:00 hrs, 2016** (end of day one at 19:00 hrs)  
and will take place in Freiburg based on an invitation of Korbinian Kramer from Fraunhofer ISE

**Item 45: End of meeting**

Harald Drück thanked the participants for attending the meeting and for their constructive discussions. He also thanked Jan Erik Nielsen for the excellent preparation of the meeting and the work he is doing as Solar Keymark Network Secretary in a highly professional way. Furthermore he thanked Vinod Kumar Sharma from ENEA for hosting the meeting.

The participants thanked Harald Drück for his very effective and constructive conduction of the meeting.

The meeting ended at 13:32 hrs.

The minutes were prepared by Harald Drück (Chairman of the Solar Keymark Network) in assistance with Jan Erik Nielsen (SKN Secretariat) and Maria João Carvalho (proof reading)

Stuttgart, Mach 17<sup>th</sup>, 2015

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## Annex A: List of participants


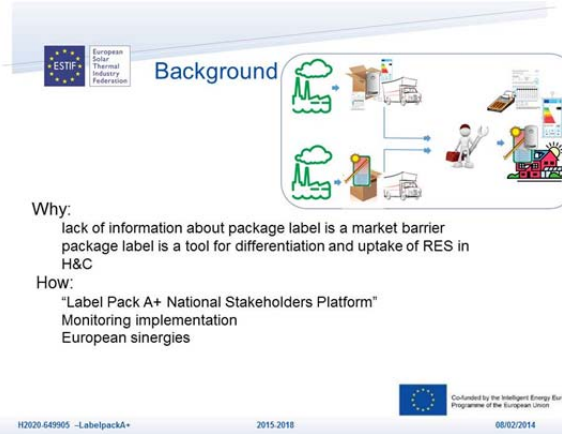
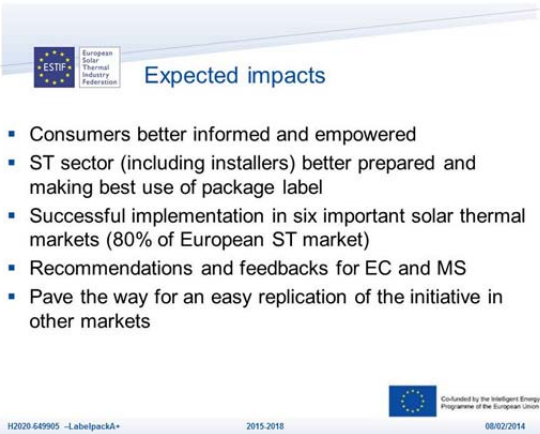
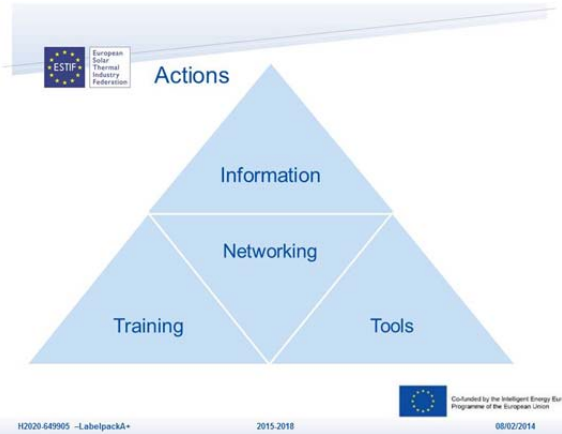
18<sup>th</sup> Meeting, Rome, March 10<sup>th</sup> – 1<sup>th</sup>, 2015

NAME	ORGANISATION
<b>Participants physically present</b>	
Alberto García de Jalón	CENER
Andreas Bohren	SPF Solartechnik
Daniele Bernacchioni	ICIM S.p.A.
Franck Cheutin	CSTB
Harald Drück	ITW/TZS
Jaime Fernandez Gonzalez-Granda	AENOR
João Santos	CERTIF
Korbinian Kramer	Fraunhofer ISE
Maria João Carvalho	LNEG
Pedro Dias	ESTIF
Stephan Fischer	ITW/TZS
Ulrich Fritzsche	TÜV Rheinland Energie und Umwelt GmbH
Vinod Kumar Sharma	ENEA
Christian Stadler	ARCON Solarwärme GmbH
Emmanuel Leger	Laboratoire BELENOS
Sophie Bocquillon	EUROVENT CERTITA Certification
Matteo Sartori	Kiwa Cermet Italia SpA
Luis González-Monroy	Termicol Energía Solar, S.L.
Richard Unwin	ANTL
Richard Horton	Rheem Australia Pty LTD
Paul Lampersberger	AIT Austrian Institute of Technology GmbH
Malte Kottwitz	TÜV Rheinland (Shanghai)
Henry Rosik	ITC (CZ)
Jan Erik Nielsen	SolarKey Int.
Katharina Meyer	DIN CERTCO GmbH
Sören Scholz	DIN CERTCO GmbH
Vassiliki Drosou	CRES EBHE ELOT
Ioannis Alexiou	DQS HELLAS
Pedro Cardoso	CTCV Solar
Susanne Hansson	SP Technical Research Institute of Sweden
Gerard van Amerongen	Holland Solar vAConsult

Ken Guthrie	Sustainable Energy Transformation
Alfred Brunger	1427795 Ontario Inc.
Jiwen Jiao	Beijing Tsinghua Solar Ltd.
Xuguang Li	Beijing Tsinghua Solar Ltd.
George Roditis	Applied Energy Laboratory
Arnoux Gabriel	CESP
Jean-Baptiste Beyssac	CESP/UPVD
Stamatious Babalis	NCSR “DEMOKRITOS”
Alessia Carta	Albarubens SRL
Paolo Ricci	Istituto Giordano
Luca Votta	Kiwa Cermet Italia SpA
Karim Bakari	Imanor
Jana Levicka	TSU Priestany
Jose Jamon Hernandez	AENOR/PRYSMA
Jesus Narbona	INTA
Patrik Ollas	SP Technical Research Institute of Sweden
Ben Chaabement Mohamed Anouar	CTMCCV
Christopher Karpurk	TÜV Rheinland PTL
Les Nelson	IAPMO
Eileen Prado	SRCC
Zinian He	Beijing Solar Energy Research Institute Group Co. Ltd.
Ruicheng Zheng	China Academy of Building Research
Qingtai Jiao	Jiangsu Sunrain Solar Energy Co., Ltd.
Giacobbe Braccio	ENEA
Vincenzo Sabatelli	ENEA
Ashraf Kraidy	LAS / RCREEE
<b>Participants electronically present</b>	
Daniel Eggert	ISFH (only on March 10, 2015)
<i>No participants were attending the meeting electronically on March 11, since the web-transmission did, according to an email from Carsten Lampe, ISFH (Germany), not work.</i>	

## Annex B

### Presentation of LabelpackA+

 <p><b>LabelPack A+</b> <b>Solar Keymark Meeting</b> <i>Rome – 10 March 2015</i></p> <p>Co-funded by the Intelligent Energy Europe Programme of the European Union</p>	 <p><b>Package label</b> Water, space combi heating</p> <p><b>Heater</b> Gas, Heating oil, HP, Cogen</p> <p><b>2nd Heater</b></p> <p>H2020-649905 -LabelpackA+ 2015-2018 08/02/2014</p>
 <p><b>Project Summary</b></p> <ul style="list-style-type: none"> <li>What:             <ul style="list-style-type: none"> <li>support the implementation of the energy labelling of heating appliances</li> <li>boosting its impact on solar thermal products using the "package label"</li> </ul> </li> <li>Whom:             <ul style="list-style-type: none"> <li>those managing and issuing the label: manufacturers / distributors / installers</li> <li>end consumers</li> </ul> </li> </ul> <p>H2020-649905 -LabelpackA+ 2015-2018 08/02/2014</p>	 <p><b>Background</b></p> <p>Why: lack of information about package label is a market barrier package label is a tool for differentiation and uptake of RES in H&amp;C</p> <p>How: "Label Pack A+ National Stakeholders Platform" Monitoring implementation European synergies</p> <p>H2020-649905 -LabelpackA+ 2015-2018 08/02/2014</p>
 <p><b>Expected impacts</b></p> <ul style="list-style-type: none"> <li>Consumers better informed and empowered</li> <li>ST sector (including installers) better prepared and making best use of package label</li> <li>Successful implementation in six important solar thermal markets (80% of European ST market)</li> <li>Recommendations and feedbacks for EC and MS</li> <li>Pave the way for an easy replication of the initiative in other markets</li> </ul> <p>H2020-649905 -LabelpackA+ 2015-2018 08/02/2014</p>	 <p><b>Actions</b></p> <p>Information Networking Training Tools</p> <p>H2020-649905 -LabelpackA+ 2015-2018 08/02/2014</p>

### Actions

- Provide guidelines, as well as standardized answers to clarify the responsibility of each actor in the supply chain and help them comply with the requirements.
- Facilitate the exchange of product fiches and a calculation tool for all actors in the supply chain in the form of an online application
- Support market surveillance activities
- Assist installers and SMEs face specific implementation challenges.
- Provide tailor-made information for end consumers

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### Partners

- European Solar Thermal Industry Federation
- National solar thermal associations
  - Bundesverband Solar Wirtschaft – BSW (DE)
  - Syndicat des professionnels de l'énergie solaire – ENERPLAN (FR)
  - Associazione Italiana Solare Termico – ASSOLTERM (IT)
  - Associação Portuguesa da Indústria Solar – APISOLAR (PT)
  - Solar Trade Association – STA (UK)
  - Austria Solar (AT)
- Experts
  - Agência para a Energia – ADENE
  - eclareon GmbH
  - DECO – Assoc. Portuguesa Defesa do Consumidor
  - Legambiente ONLUS - Legambiente
- Other partners
  - Solar Keymark Network

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### Work structure

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

### Timeline

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

### Timeline – National Pilot Projects

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

### National Pilot Projects - Plan

- Involvement of market actors
- Management of the “Online platform”
- Training for market actors

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### National Pilot Projects - Plan

- involvement of market actors,
  - test and use the national 'Label Pack A+' labelling platforms
  - National Stakeholders Platform (NSP)
  - Memorandum of Understanding (MoU): commitment of individual companies/individuals/associations
    - consultation and validation of the project deliverables,
    - cooperation regarding the online platform
    - training actions to be carried out during the project.






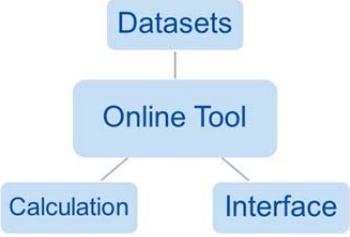



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### National Pilot Projects - Plan

- management of the “Online platform”
  - national platforms (websites), in national language
  - labelling tool functional before September 2015
  - help desk, providing guidance and for professional and end-users
  - information and communication activities

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 <h3>National Pilot Projects - Plan</h3> <ul style="list-style-type: none"> <li>Training for market actors             <ul style="list-style-type: none"> <li>materials put into action</li> <li>training for the market actors:                 <ul style="list-style-type: none"> <li>manufactures, distributors, installers and other relevant actors, namely project designers.</li> </ul> </li> <li>Training is provided in different formats:                 <ul style="list-style-type: none"> <li>Directly to companies sales and technical staff                     <ul style="list-style-type: none"> <li>replicate the training actions through their contact chain</li> </ul> </li> <li>Using established events, such as trade fairs, installer associations meetings or other.</li> </ul> </li> <li>Goal of training up to 500 professionals</li> </ul> </li> </ul> <p> <small>H2020-649905 -LabelpackA+</small>      2015-2018       <small>Cofunded by the Intelligent Energy Europe Programme of the European Union</small>      08/02/2014         </p>	 <h3>National Pilot Projects - Plan</h3> <ul style="list-style-type: none"> <li>Communication with the consumers             <ul style="list-style-type: none"> <li>communication strategies</li> <li>materials</li> <li>provide distributors with training</li> <li>coherent and complete information</li> </ul> </li> </ul> <p> <small>H2020-649905 -LabelpackA+</small>      2015-2018       <small>Cofunded by the Intelligent Energy Europe Programme of the European Union</small>      08/02/2014         </p>
 <h3>Deliverables – National Pilot Projects</h3> <ul style="list-style-type: none"> <li>National Roadmap for the implementation of the package label</li> <li>National help desk for the LabelPack A+ online application and supporting documents</li> <li>National Test plans/protocols and test report for the online application</li> <li>Packs of training and information material for professionals and consumers</li> <li>Pilot implementation reports</li> <li>National Communication plans</li> <li>National LabelPack A+ Website</li> <li>Label pack A+ brochure</li> </ul> <p> <small>H2020-649905 -LabelpackA+</small>      2015-2018       <small>Cofunded by the Intelligent Energy Europe Programme of the European Union</small>      08/02/2014         </p>	 <h3>Cooperation with SKN</h3>  <p> <small>H2020-649905 -LabelpackA+</small>      2015-2018       <small>Cofunded by the Intelligent Energy Europe Programme of the European Union</small>      08/02/2014         </p>
 <h3>Cooperation with SKN</h3> <ul style="list-style-type: none"> <li>Development of the Label Pack A+ online application and calculation tool             <ul style="list-style-type: none"> <li>Support the enlargement of the dataset, including the linkage to existing databases, including the SKN database</li> <li>Support to the development of the online tool with expertise on product database</li> </ul> </li> </ul> <p> <small>H2020-649905 -LabelpackA+</small>      2015-2018       <small>Cofunded by the Intelligent Energy Europe Programme of the European Union</small>      08/02/2014         </p>	 <h2>LabelPack A+</h2> <p> <small>H2020-649905 -LabelpackA+</small>      2015-2018       <small>Cofunded by the Intelligent Energy Europe Programme of the European Union</small>      08/02/2014         </p>



# Annex C

## Voluntary collector energy output label




### Voluntary collector label

Solar-Experience  
Solar Thermal

*The less you leave to chance,  
the better chance you have*

Gabriel Ross Perot

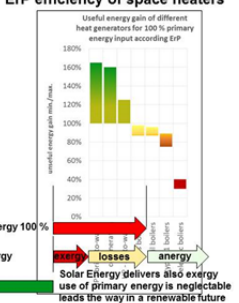
SKN-voluntary collector label – page: 1



### ErP labelling – reference primary energy e.g. space heater


Solar-Experience  
Solar Thermal

**ErP efficiency of space heaters**




Primary Energy 100% → Useful Energy

Solar Energy delivers also exergy use of primary energy is neglectable leads the way in a renewable future



SKN-voluntary collector label – page: 2




### Is a solar thermal collector a „heat generator“ – EU says “no”

Solar-Experience  
Solar Thermal

Definitions acc. page L 239-3:  
paragraph 2  
„space heater“ means a device that  
a) provides heat to a water-based central heating system in order to reach and maintain at a desired level the indoor temperature of an enclosed space such as a building, a dwelling or a room; and  
b) is equipped with one or more heat generators  
paragraph 5  
„heat generator“ means the part of a heater that generates the heat using one or more of the following processes:  
a) combustion of fossil fuels and/or biomass fuels,  
b) use of the Joule effect in electric resistance heating elements,  
c) capture of ambient heat from an air source, water source or ground source, and/or waste heat

**Difficult to understand – Solar is not mentioned**  
Beside consuming fossil fuels and electricity only capture of ambient heat – mainly anergy – is an accepted process of the EU regulation for being a heat generator  
-> always primary energy necessary!

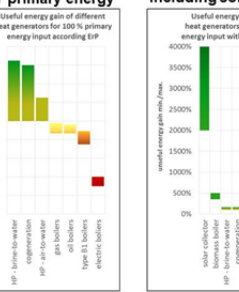
SKN-voluntary collector label – page: 3



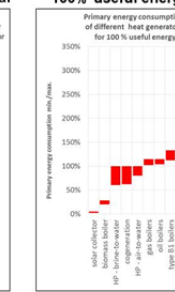
### Why Solar is not mentioned? Always a question of approach!

Solar-Experience  
Solar Thermal

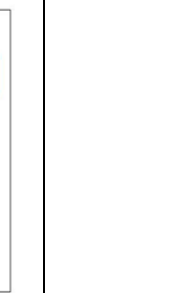
**ErP comparison with 100% primary energy**




**Scale “explodes” including solar thermal**



**Different approach 100% useful energy**



SKN-voluntary collector label – page: 4



### Status Quo of Solar in ErP Package Label - ingredients

Solar-Experience  
Solar Thermal

Space heater, boilerhead pump, Space heater, temperature control and solar device

Productfiche space heater + calculation

Productfiches

- Solar collector (no label)
- Storage tank (label)
- temperature control (no label)

ErP uses inappropriate formula

$$\eta_{rel}(ErP) = \eta_p - (a_1 + a_2 \cdot 40 \text{ K}) \cdot \frac{P_{max}}{1000 \text{ W}}$$

and not understandable equation dependent on  $P_{max}$  of space heater, typically not more than  $A^+$  possible


Package label space heating

Solar contribution is hidden and has a wrong assessment in the package label

Package label water heating

SOLCAL ignores that solar can provide tank losses of backup part -> difficult to improve water heaters with M and L profile, with larger collector areas solar fraction can decrease

SKN-voluntary collector label – page: 5



### Make visible the potential of solar collectors! Solar Keymark data sheets provides output data for annual efficiency (ref. Würzburg)

Solar-Experience  
Solar Thermal

Annual Collector Output [kWh per module] (xy °C)  
Gross area (AG) · Annual total irradiation (Gtot)

$\eta_a(xy \text{ °C}) = \frac{\text{Annual Collector Output [kWh per module] (xy °C)}{\text{Gross area (AG) · Annual total irradiation (Gtot)}}$

Würzburg

25°C 50°C 75°C

687 453 269

1.374 906 537

SKN-voluntary collector label – page: 6



### Approach – How to create efficiency classes for solar thermal collectors (gross area)

Solar-Experience  
Solar Thermal

Energy efficiency/Output class	G	F	E	D	C	B	A	A <sup>+</sup>	A <sup>++</sup>	A <sup>+++</sup>
Heaters without low-temperature heat pump										
Collectors for higher temperatures (75 °C)										
Low-temperature heat pump										
seasonal space heating efficiency	0%	55%	59%	61%	100%	107%	115%	123%	150%	155%
Collectors for medium temperatures (50 °C)										

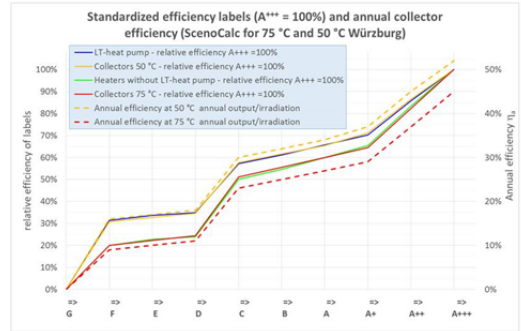
SKN-voluntary collector label – page: 7

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### Proposal for collector labelling adapted to standardized label steps for boiler/heat pumps (75°C) resp. low-temperature heat pumps (50 °C)

Solar-Experience  
Solar Thermal



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### Proposed table of efficiency classes adapted to regulation (EU) No 811/2013

Solar-Experience  
Solar Thermal

Output classes of collectors for higher temperatures (75 °C)

Output class	Annual efficiency $\eta_p$ in %
A <sup>+++</sup>	$\eta_p \geq 45$
A <sup>++</sup>	$37 \leq \eta_p < 45$
A <sup>+</sup>	$29 \leq \eta_p < 37$
A	$27 \leq \eta_p < 29$
B	$25 \leq \eta_p < 27$
C	$23 \leq \eta_p < 25$
D	$11 \leq \eta_p < 23$
E	$10 \leq \eta_p < 11$
F	$9 \leq \eta_p < 10$
G	$\eta_p < 9$

Not necessary

Output classes of collectors for medium temperatures (50 °C)

Output class	Annual efficiency $\eta_p$ in %
A <sup>+++</sup>	$\eta_p \geq 52$
A <sup>++</sup>	$45 \leq \eta_p < 52$
A <sup>+</sup>	$37 \leq \eta_p < 45$
A	$34 \leq \eta_p < 37$
B	$32 \leq \eta_p < 34$
C	$30 \leq \eta_p < 32$
D	$18 \leq \eta_p < 30$
E	$17 \leq \eta_p < 18$
F	$16 \leq \eta_p < 17$
G	$\eta_p < 16$

Not necessary

SKN-voluntary collector label – page: 9

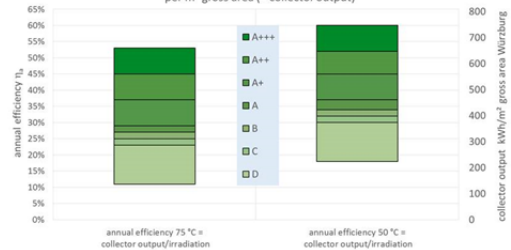
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### Scheme of output classes related to annual efficiency resp. specific annual collector output

Solar-Experience  
Solar Thermal

Output classes related to annual efficiency respectively specific annual output per m<sup>2</sup> gross area (= collector output)



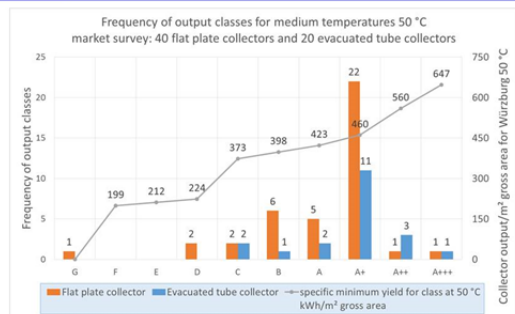
SKN-voluntary collector label – page: 10

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### Frequency distribution of output classes of relevant market players (FPC and ETC) for medium temperature 50 °C

Solar-Experience  
Solar Thermal



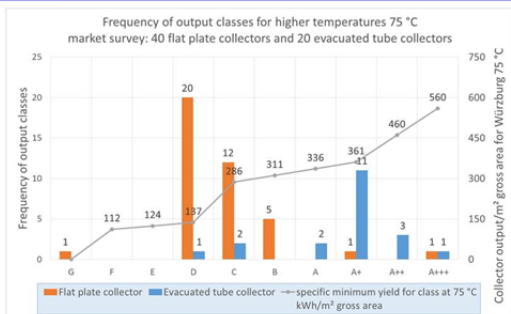
SKN-voluntary collector label – page: 11

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### Frequency distribution of output classes of relevant market players (FPC and ETC) for higher temperature 75 °C

Solar-Experience  
Solar Thermal

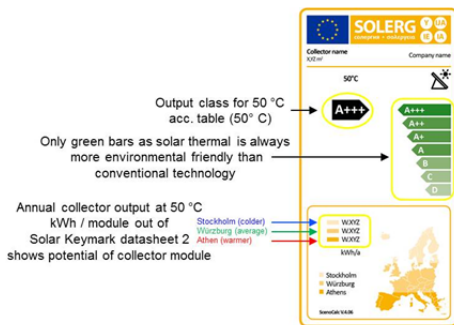


SKN-voluntary collector label – page: 12

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### Collector energy output label - Output classes

A+++ to D for 50 °C

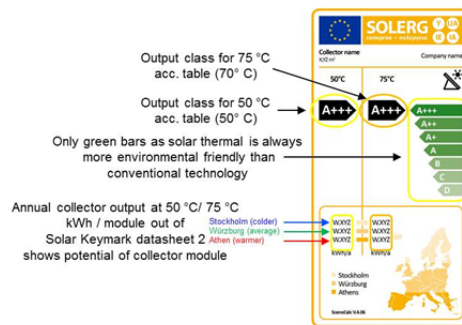


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### Collector energy output label - Output classes

A+++ to D for 50 °C and 75 °C combined



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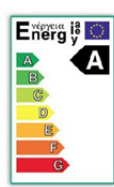
### Not really a new idea!

#### Voluntary labels of other associations

Thermostatic valves



Circulator Pumps (2005-2012)



Energieklasse

Energie-Effizienz-Index
A EEI < 0,4
B 0,4 = EEI < 0,6
C 0,6 = EEI < 0,8
D 0,8 = EEI < 1,0
E 1,0 = EEI < 1,2
F 1,2 = EEI < 1,4
G 1,6 = EEI

SKN-voluntary collector label – page: 15

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### Example circulator pumps

#### Association: "Europump"

#### Energy efficiency of circulators

#### Voluntary industry commitment (since 2005)

In March 2005 'Europump' launched the voluntary industry commitment to improve the energy performance of stand-alone circulators

Energy Efficiency Label



... the voluntary industry commitment will finish to end of 2012. Then from 1.1.2013 the European regulation for circulators will become active... the European Association of Pump Manufacturers

SKN-voluntary collector label – page: 16

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### Example circulator pumps

#### Association: "Europump"

#### The labelling scheme (circulator pumps):

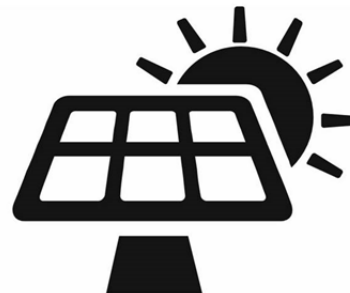
<http://noteswww.garndfos.com/web/orfoseweb.net/GrafikOplag/energylabeling3Filelabelling.pdf>

- The labelling scheme for circulator pumps resembles the already existing EU labelling scheme for refrigerators and other domestic appliances.
- The scheme is based on the principles described in Directive 98/11/EC implementing Council Directive 92/75/EEC with regard to energy labelling of household lamps. Its introduction shall increase awareness of the efficiency gains derived by the use of more advanced circulator pumps.
- The European pump industry will introduce these labels to foster competition between the manufacturers in the development of circulator pumps which consume less energy.
- The agreement is an initiative open to all circulator pump manufacturers willing to join this voluntary scheme.
- The labelling scheme is controlled by a committee consisting of signatories and representatives from Europump, who regulates the participants ensuring they adhere to the agreement. A representative of the European Commission is also invited to participate in the committee. Non-compliance will lead to sanctions. Serious non-compliance may lead to a company being excluded from the labelling scheme. Furthermore consumer associations are able to keep control just as the case is with other energy labelled products.

SKN-voluntary collector label – page: 17

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### Sun at work?



SKN-voluntary collector label – page: 18

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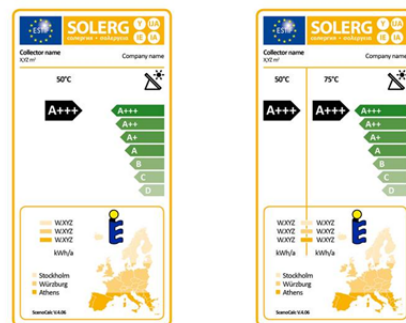
### Sun at work?



SKN-voluntary collector label – page: 19

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### It's up to you!




SKN-voluntary collector label – page: 19

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## Annex D

### ScenoCalc – Additions and updates / new data sheet



SP Technical Research Institute of Sweden

#### ScenoCalc – additions & updates

- Agenda
  - SCF project SC1.5 – SS-unglazed collectors
  - Harmonized data sheet – Annex B.1 (collectors)
  - Data required for CDR (EU) No 812/2013
  - ISO 9806 reference
  - Aperture area → Gross area

#### SS calculations for unglazed collectors in ScenoCalc

- SCF founded (Call No.5)
- Participants
  - SP Technical Research Institute of Sweden (SP)
  - ITW-Universität Stuttgart
  - TÜV Rheinland Energie und Umwelt GmbH Solarenergie
- Main objectives
  - a) Enabling steady-state energy output calculations for unglazed solar collectors in the ScenoCalc calculation tool
  - b) Updating the integrated Solar Keymark Datasheet to enable proper presentation of output data

#### SS calculations for unglazed collectors in ScenoCalc

- New table for power output presentation (SS-unglazed)
- ISO 9806:2013 reference - Table A.8 – Collector power output record

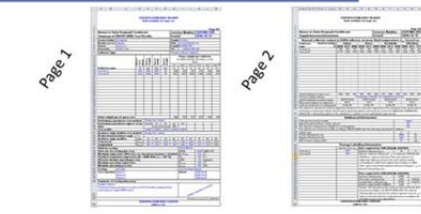
$\theta_{m, \theta_s} = 2 \text{ K}$	$u < 1 \text{ m/s}$	$u = 1.5 \pm 0.5 \text{ m/s}$	$u = 3.0 \pm 0.5 \text{ m/s}$
400 W/m <sup>2</sup> ( $G_{th} = 200 \text{ W/m}^2$ , $G_g = 200 \text{ W/m}^2$ )			
700 W/m <sup>2</sup> ( $G_{th} = 440 \text{ W/m}^2$ , $G_g = 260 \text{ W/m}^2$ )			
1000 W/m <sup>2</sup> ( $G_{th} = 850 \text{ W/m}^2$ , $G_g = 150 \text{ W/m}^2$ )			

#### SS calculations for unglazed collectors in ScenoCalc

- New table for power output presentation (SS-unglazed)
- ISO 9806:2013 reference - Table A.8 – Collector power output record

$\theta_{m, \theta_s} = 2 \text{ K}$	$u < 1 \text{ m/s}$	$u = 1.5 \pm 0.5 \text{ m/s}$	$u = 3.0 \pm 0.5 \text{ m/s}$
400 W/m <sup>2</sup> ( $G_{th} = 200 \text{ W/m}^2$ , $G_g = 200 \text{ W/m}^2$ )			
700 W/m <sup>2</sup> ( $G_{th} = 440 \text{ W/m}^2$ , $G_g = 260 \text{ W/m}^2$ )			
1000 W/m <sup>2</sup> ( $G_{th} = 850 \text{ W/m}^2$ , $G_g = 150 \text{ W/m}^2$ )	X	X	X

#### New harmonized collector data sheet (Annex B.1)



#### New harmonized collector data sheet (Annex B.1)










- Features
  - New collector standard reference – ISO 9806:2013
  - Gross area reference,  $A_g$
  - Energy labelling calculation/information – “Data required for CDR (EU) No 812/2013”

#### New harmonized collector data sheet

- Energy labelling calculation/information – “Data required for CDR (EU) No 812/2013”

Energy Labelling Information	
Aperture area $A_a$	Data required for CDR (EU) No 812/2013
0.95	Collector efficiency $\eta_{col}$
1.80	60 %
Remark: Collector efficiency ( $\eta_{col}$ ) is defined in CDR (EU) No 812/2013 as collector efficiency of the solar collector at a temperature difference between the solar collector and the surrounding air of 40 K and a global solar irradiance of 1000 W/m <sup>2</sup> , expressed in % and rounded to the nearest integer. $\eta_{col}$ is based on the aperture area.	
Data required for CDR (EU) No 812/2013	
0.895	First-order coefficient ( $a_1$ )
3.47	Second-order coefficient ( $a_2$ )
0.011	Incidence angle modifier ( $\text{IAM}(0^\circ)$ )
0.94	Incidence angle modifier ( $\text{IAM}(45^\circ)$ )
Remark: The data given in this section are derived from the data measured according to the EN ISO 9806:2013. The collector efficiency data are related to the collector aperture area ( $A_a$ ), which are determined by the testing laboratory according to the ISO 9806 and the Berman EN 12275-1.	



<div data-bbox="199 235 247 302"></div> <div data-bbox="710 235 782 268"></div> <h2 data-bbox="255 302 587 324">New harmonized collector data sheet</h2> <ul data-bbox="255 336 702 448" style="list-style-type: none"><li>▪ Features<ul style="list-style-type: none"><li>▪ New collector standard reference – ISO 9806:2013<ul style="list-style-type: none"><li>▪ Gross area reference, <math>A_g</math></li></ul></li><li>▪ Energy labelling calculation/information – “Data required for CDR (EU) No 812/2013”</li><li>▪ New and improved interface and colour scheme</li><li>▪ Illustration of different tracking options (page 2)</li></ul></li></ul> <div data-bbox="550 414 734 548"></div> <div data-bbox="199 548 311 560"><small>SP Technical Research Institute of Sweden</small></div>	<div data-bbox="813 235 861 302"></div> <div data-bbox="1324 235 1396 268"></div> <h2 data-bbox="869 302 1050 324">Acknowledgements</h2> <ul data-bbox="869 336 981 425" style="list-style-type: none"><li>▪ Stephan Fischer</li><li>▪ Ulrich Fritzsche</li><li>▪ Andreas Bohren</li><li>▪ Jan Erik Nielsen</li></ul> <div data-bbox="813 548 925 560"><small>SP Technical Research Institute of Sweden</small></div>
<div data-bbox="199 620 247 687"></div> <div data-bbox="710 620 782 654"></div> <div data-bbox="188 698 788 922"></div> <div data-bbox="268 844 489 866"><p>Thank you for your attention!</p></div> <div data-bbox="199 929 311 940"><small>SP Technical Research Institute of Sweden</small></div> <div data-bbox="614 922 710 940"><small>patrik.ollas@sp.se</small></div> <div data-bbox="726 878 774 922"></div>	

# Annex E

## AirCow-CAO calculation for solar air heating collectors

### FRAUNHOFER INSTITUTE FOR SOLAR ENERGY SYSTEMS ISE

How to calculate the CAO for SAHC

TestLab  
Solar Thermal  
Systems



Dr. Korbilian Kramer,  
Christian Welz,  
Stefan Mehnert

Fraunhofer Institute for Solar  
Energy Systems ISE

18<sup>th</sup> SKN Meeting, March 2015,  
Rom  
www.collectortest.com  
www.ise.fraunhofer.de

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ISE

Why is there a need to handle SAHC special?

- Strong mass flow dependence of the efficiency
- Leakage rate has an enormous influence on the usable power output
- Very different technical variants

-> How to calculate in a way that is fair and transparent  
and defined well enough for multi-party use

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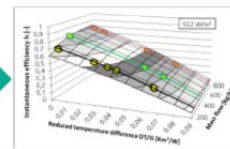
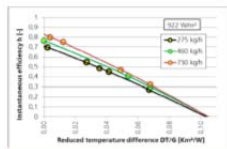
### Mass flow dependent efficiency model for solar air heating collectors

■ Efficiency curve

$$\eta = \eta_0 - a_1 \frac{\Delta T}{G} - a_2 \frac{\Delta T^2}{G}$$

■ Efficiency surface

$$\eta = \left(1 - e^{-a_1 \frac{\Delta T}{G}}\right) \left(\eta_{0, \text{min}} - a_{1, \text{min}} \frac{\Delta T}{G} - a_{2, \text{min}} \frac{\Delta T^2}{G}\right)$$



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More details on the „science“ part

- Mass flow dependent efficiency modelling and complex leakage modelling are published in <http://www.sciencedirect.com/science/article/pii/S1876610214002926>
- Considered are a SAHC field, a system flow resistance, and a ventilator efficiency
- Modelling is implemented in the excel file „AirCow“
- Currently NOT applicable for open to ambient ONLY collectors, because of lack of modelling

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How does it work?

„AirCow“ Solar Air Heating Collector Field Calculator and Optimizer for single Working Points:

- Takes into account only information which is available after a testing according to EN ISO 9806:2013
- Computes the individual mass flow of each SAHC
- Calculates a single point of boundary conditions which is representative and comparable
- Determines parameters  $\eta_0$ ,  $a_1$ ,  $a_2$  of an efficiency curve for direct use in SCEnOCalc
- Easy use: enter SAHC model parameters, press button, read out  $\eta_0$ ,  $a_1$ ,  $a_2$

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First glance on the proposed procedure/tool:









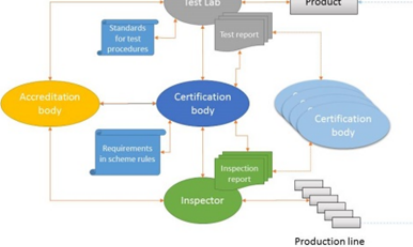


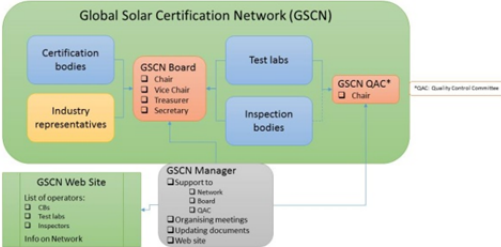
-> [AirCow excel](#)

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## Annex F

### Global solar certification

<p><b>Introduction to the Global Solar Certification Network</b> </p> <p></p> <p><b>Part 1: New Concept</b> but still: <b>Global Solar Certification Network</b></p> <p><i>Global Solar Certification Network meeting, 12<sup>th</sup> March 2015, Rome</i></p> <p>1</p>	<p><b>Introduction to the Global Solar Certification Network</b> </p> <p><b>Aim is still:</b></p> <ul style="list-style-type: none"> <li>❑ Facilitate worldwide cross-border trading for manufacturers of solar thermal quality products</li> <li>❑ Minimize the need for re-testing and re-inspection in new markets</li> </ul> <p><b>Leading to:</b></p> <ul style="list-style-type: none"> <li>→ Increased quality</li> <li>→ Lower costs</li> <li>→ Spread of knowledge</li> <li>→ Bigger market - better business ☺</li> </ul> <p><i>Global Solar Certification Network meeting, 12<sup>th</sup> March 2015, Rome</i></p> <p>2</p>
<p><b>Introduction to the Global Solar Certification Network</b> </p> <p><b>Method changed:</b></p> <p>❑ <del>One-Global-Solar-Certification-Scheme—One-Global-Mark</del></p> <p>→ Use existing certification schemes with mutual recognition of test reports and inspection reports</p> <p><i>Global Solar Certification Network meeting, 12<sup>th</sup> March 2015, Rome</i></p> <p>3</p>	<p><b>Introduction to the Global Solar Certification Network</b> </p> <p></p> <p>Reports fulfilling requirements given in GSCN Working Rules and done by test labs and inspectors recognized by GSCN.</p> <p></p> <p><i>Global Solar Certification Network meeting, 12<sup>th</sup> March 2015, Rome</i></p> <p>4</p>
<p><b>Introduction to the Global Solar Certification Network</b> </p> <p></p> <p><i>Global Solar Certification Network meeting, 12<sup>th</sup> March 2015, Rome</i></p> <p>5</p>	<p><b>Introduction to the Global Solar Certification Network</b> </p> <p><b>Framework / organisation:</b></p> <ul style="list-style-type: none"> <li>❑ Global Solar Certification Network (GSCN) - working under the GSCN Working Rules       <ul style="list-style-type: none"> <li>❑ Certification bodies (CB)</li> <li>❑ Test labs (TL)</li> <li>❑ Inspectors / inspection bodies (IB)</li> <li>❑ Industry representatives (IR)</li> </ul> </li> </ul> <p><i>Global Solar Certification Network meeting, 12<sup>th</sup> March 2015, Rome</i></p> <p>6</p>
<p><b>Introduction to the Global Solar Certification Network</b> </p> <p></p> <p><i>Global Solar Certification Network meeting, 12<sup>th</sup> March 2015, Rome</i></p> <p>7</p>	

# Annex G

## Energy labelling and liaisons to CEN TC 128 and CEN TC 371




Consultancy for renewable energy in the built environment


### Update (33) Ecodesign & energy label

Gerard van Amerongen  
vAConsult

1




Download: ESTIF website



Ecodesign / energy label (SCF 4C16a)

### DOCUMENT


2



### Introduction

- A comprehensive document on Ecodesign and energy label
  - Focussed on solar thermal
- Consisting of two parts:
  - Part 1: overview of the regulations
    - and how to get the best label class
  - Part 2: Procedures of the regulation
    - with Excel tools as templates and for automation
- A state of the art interpretation of the regulations


3



### Part 1 – Overview -

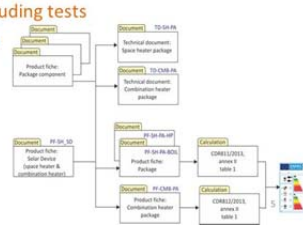
- Introduction to the regulations
  - Difference Ecodesign and energy label, scope, ...
- The distinctive labels
  - The many labels explained
- The stakeholders
  - Suppliers, dealers, test institutes, CEN and certification
- Optimize the label class
  - Rules of thumb
- Future developments
  - What can be expected in near future

4




### Part 2 – Details -

- Known issues
  - An extensive list with proposals to overcome
    - Workshop 05.12.2014 (Brussels) and 11.02.2015 (Brussels)
- Elements that make up the (solar) labels
  - Information needed, including tests
  - Flow chart on procedure
  - Technical document
  - Product fiche
- Additional information




5



### Part 2 – Details -

- Tools available:
  - 4x Excel workbook
  - SOLCAL method



6



  <p>CEN Mandate 495 (SCF 5C2.1)</p> <h2>HARMONIZATION ACTIVITIES</h2> <p>7</p>	 <h2>Goal</h2> <ul style="list-style-type: none"> <li>Formally lay down the methods in standards             <ul style="list-style-type: none"> <li>From “transition document” to standards</li> </ul> </li> <li>After harmonization the standard is ‘Law’</li> <li>Goals:             <ul style="list-style-type: none"> <li>Describe the methods of the ErP in standards</li> <li>Add missing parts</li> <li>Add an Annex ZA                     <ul style="list-style-type: none"> <li>Section standard &lt;-&gt; section ErP</li> </ul> </li> </ul> </li> <li>Support from vAConsult and ITW</li> </ul> <p>8</p>
  <h2>Harmonization</h2> <ul style="list-style-type: none"> <li>EN 12975-1             <ul style="list-style-type: none"> <li>Product families &amp; gross / aperture area</li> </ul> </li> <li>EN 12976-1 &amp; 2             <ul style="list-style-type: none"> <li>Product families (DST method only)</li> <li>Non solar water heating efficiency &amp; conformity load profiles                     <ul style="list-style-type: none"> <li>Efficiency issue (what test, how to interpret and is it needed)</li> </ul> </li> <li>References: load profiles, climate</li> </ul> </li> <li>EN 12977-3 (&amp; 4)             <ul style="list-style-type: none"> <li>Product families</li> </ul> </li> <li>EN 15316-4-3             <ul style="list-style-type: none"> <li>Load profiles and climate</li> <li>Non solar water heating efficiency</li> <li>Improved SOLCAL</li> </ul> </li> </ul> <p>9</p>	  <p>Related to TC 312 (SCF 5C4.2, 4.3, 4.4 and SCF 5C12c)</p> <h2>LIAISON POSITIONS</h2> <p>10</p>
  <h2>TC 164 (SCF 5C4.2)</h2> <ul style="list-style-type: none"> <li>TC 164 – Water supply             <ul style="list-style-type: none"> <li>WG 2: Internal systems and components                     <ul style="list-style-type: none"> <li>CEN-EN 806 – series (referenced in solar standards: e.g. Legionella)</li> </ul> </li> </ul> </li> <li>Current activities:             <ul style="list-style-type: none"> <li>Preparation revision 806-1 and 2</li> <li>Legionella!</li> </ul> </li> <li>Task: input on this issue from the Legionella report</li> </ul> <p>11</p>	  <h2>TC 371 (SCF 5C4.4)</h2> <ul style="list-style-type: none"> <li>Project Committee - Energy Performance of Building project group</li> <li>Main goal:             <ul style="list-style-type: none"> <li>Establish framework joining the EPBD standards</li> <li>EN 15603 Energy performance of buildings - Overarching standard EPB</li> </ul> </li> <li>Status:             <ul style="list-style-type: none"> <li>Rejected (07.10.2014)                     <ul style="list-style-type: none"> <li>15 yes, 3 No, 15 abstained (weighted, below 71%)</li> </ul> </li> <li>Minor revisions and next formal vote (01.11.2015)</li> </ul> </li> <li>Important: determination of EP of whole building</li> </ul> <p>12</p>

## TC 228 (SCF 5C4.3)



- **Heating systems and water based cooling systems in buildings**
  - WG4: Calculation methods and system performance and evaluation
    - prEN 15316-4-3, method 1, 2 and 3 on solar thermal
- **Status**
  - Public enquiry closed recently
  - Process comments

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## prEN 15316-4-3



- **Three solar thermal methods:**
  1. **Monthly / annual method, using system test data**
    - Input data according EN 12976-2 (e.g. DST)
    - Editorial changes + common output → heat needed from backup
  2. **Monthly method, using component test data ("Fchart")**
    - Input data according to EN 12975-2 and EN 12977-3/4
    - Editorial changes + some major changes
  3. **Hourly method, using component test data**
    - Input data according to EN 12975-2
    - Collector loop only!
    - New method
- **Three solar PV methods added**

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## prEN 15316-4-3, method 2



- **Main changes:**
  - Full support for integrated backup heating
    - Main output from  $Q_{\text{helioout}}$  to  $Q_{\text{heating}}$
  - Storage heat losses are taken into account
  - Correction factor introduced ( $f_{\text{app}}$ )
    - Compensation storage heat losses.
    - Can be used otherwise also
  - Added: temperature level space heating
  - (almost) in compliance with Ecodesign/energy labelling (SOLCAL)
- **Output should be the same (on average), but**
  - effect of heat losses and temperature space heating

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## prEN 15316-4-3, method 3



- **Hourly method in combi with prEN15316-5**



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## Evaluation (SCF 4C12c)



- **Tools:**
  - To assist evaluation in inquiry phase
  - Excel applications:
    - Method 2, monthly method
    - Method 3, combining prEN15316-4-3 and prEN15316-5
- **Evaluation of prEN15316-5 (storage)**
  - Standard is not finished
  - Comments for improvement added
    - CEN format and text proposals
- **Hourly method is of great importance for solar thermal**

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## Annex H

### Liaison to IEC TC 117



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

### ISO/TC 180 Liaison Report from IEC/TC 117 Solar thermal electric plants

**Stephan Fischer**  
Institute for Thermodynamics and Thermal Engineering (ITW)  
Research and Testing Centre for Thermal Solar Systems (TZS)  
University of Stuttgart  
Pfaffenwaldring 6, 70550 Stuttgart, Germany  
Email: [fischer@itw.uni-stuttgart.de](mailto:fischer@itw.uni-stuttgart.de)  
Internet: [www.itw.uni-stuttgart.de](http://www.itw.uni-stuttgart.de)

Stephan Fischer    Liaison Report from IEC TC 117, 18th Solar Keymark network meeting, 10th – 11th March 2015, Rome



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

### 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, 18th Solar Keymark network meeting, 10th – 11th March 2015, Rome



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

### 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, 18th Solar Keymark network meeting, 10th – 11th March 2015, Rome



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

### SCOPE 2/2

The standards would define terminology, design and installation requirements, performance measurement techniques and test methods, safety requirements, "power quality" issues for each of the above systems.

The standards would also address issues of connectivity and interoperability with the power grid related to connections, bi-directional communicates and centralized control (Smart Grid) and environmental aspects.

Stephan Fischer    Liaison Report from IEC TC 117, 18th Solar Keymark network meeting, 10th – 11th March 2015, Rome



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

### TC 117 officers

Position	Name	Institution
Chairman	Mr Amnon Mahalalel (IL)	Siemens AG Energy Sector
Secretary	Mr Eduardo Garcia Iglesias (ES)	PROTERMO SOLAR
Assistant Secretary	Mrs Carmen Martin Marino (ES)	AENOR
Technical Officer	Mr Charles Jacquemart	IEC Central Office

Stephan Fischer    Liaison Report from IEC TC 117, 18th Solar Keymark network meeting, 10th – 11th March 2015, Rome











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










### TC 117 officers

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

Stephan Fischer    Liaison Report from IEC TC 117, 18th Solar Keymark network meeting, 10th – 11th March 2015, Rome



<div data-bbox="188 235 782 280">  Institute for Thermodynamics and Thermal Engineering  Research and Testing Centre for Thermal Solar Systems (TZS) Universität Stuttgart </div> <h3 data-bbox="351 280 654 313">MEMBERSHIP STATUS</h3> <p data-bbox="239 324 542 369"><b>Participating countries:</b> 11 <b>Observing countries:</b> 12</p> <div data-bbox="239 369 662 616"> <div> <u>Participating countries:</u>  - China  - France  - Germany  - Israel  - Italy  - Japan  - Portugal  - Spain  - Sweden  - Switzerland  - USA </div> <div> <u>Observing countries:</u>  - Australia  - Austria  - Brazil  - Canada  - Czech Republic  - Denmark  - Iran  - Republic of Korea  - Mexico  - Poland  - South Africa  - United Kingdom </div> </div> <p data-bbox="215 622 686 638">Stephan Fischer      Liaison Report from IEC TC 117, 18th Solar Keymark network meeting, 10th - 11th March 2015, Rome</p>	<div data-bbox="813 235 1412 280">  Institute for Thermodynamics and Thermal Engineering  Research and Testing Centre for Thermal Solar Systems (TZS) Universität Stuttgart </div> <h3 data-bbox="1005 280 1220 313">STRUCTURE 1/3</h3> <p data-bbox="853 324 1348 369">The TC 117 currently has <b>2 subcommittees</b> with in total <b>3 active working groups</b></p> <p data-bbox="853 380 973 403"><u>Project Teams</u></p> <p data-bbox="853 414 1356 459"><b>PT 62862-1-1 Terminology:</b> To draft a Technical Specification on Solar Thermal Electric Plants – Terminology Project Leader: Mr. Eduardo Zarza Moya (Spain)</p> <p data-bbox="853 515 1372 571"><b>PT 62862-1-2 Procedure for generating a representative solar year:</b> To draft a Technical Specification on the Procedure for generating a representative solar year Project Leader: Mr. Lourdes Ramirez Santigosa (Spain)</p> <p data-bbox="821 622 1300 638">Stephan Fischer      Liaison Report from IEC TC 117, 18th Solar Keymark network meeting, 10th - 11th March 2015, Rome</p>
<div data-bbox="188 694 782 739">  Institute for Thermodynamics and Thermal Engineering  Research and Testing Centre for Thermal Solar Systems (TZS) Universität Stuttgart </div> <h3 data-bbox="391 739 614 772">STRUCTURE 2/3</h3> <p data-bbox="239 772 375 795"><u>Ad-Hoc Groups</u></p> <p data-bbox="239 806 766 896"><b>AHG 1 General subjects:</b> To develop IEC deliverables regarding common aspects for the different STE technologies such as Terminology, Safety requirements, Typical Meteorological Year (TMY) definition, as well as their relevant schedule Project Leader: Mr. Chris Flueckiger (USA)</p> <p data-bbox="239 952 774 1064"><b>AHG 2 Systems and components:</b> To develop the necessary IEC deliverables to standardize the requirements to qualify the components of the different technologies as well as the parameters for the operational monitoring of the plants and the relevant acceptance tests Project Leader: Mr. Eduardo García Iglesias (Spain)</p> <p data-bbox="215 1079 686 1095">Stephan Fischer      Liaison Report from IEC TC 117, 18th Solar Keymark network meeting, 10th - 11th March 2015, Rome</p>	<div data-bbox="813 694 1412 739">  Institute for Thermodynamics and Thermal Engineering  Research and Testing Centre for Thermal Solar Systems (TZS) Universität Stuttgart </div> <h3 data-bbox="1005 739 1220 772">STRUCTURE 3/3</h3> <p data-bbox="853 772 1404 840"><b>AHG 3 Energy Storage:</b> To develop the necessary IEC deliverables for characterizing the thermal energy storage focusing on the whole system and on the specific components</p> <p data-bbox="853 873 1173 896">Project Leader: Mr Matthias Gommel (GER)</p> <p data-bbox="821 1079 1300 1095">Stephan Fischer      Liaison Report from IEC TC 117, 18th Solar Keymark network meeting, 10th - 11th March 2015, Rome</p>
<div data-bbox="188 1164 782 1209">  Institute for Thermodynamics and Thermal Engineering  Research and Testing Centre for Thermal Solar Systems (TZS) Universität Stuttgart </div> <h3 data-bbox="430 1209 574 1243">LIAISONS</h3> <p data-bbox="239 1243 406 1265"><u>Internal IEC Liaison:</u></p> <p data-bbox="239 1265 718 1299"><b>TC 120 — Electrical Energy Storage (EES) Systems</b></p> <p data-bbox="239 1299 478 1332"><b>TC 5      Gas Turbines</b></p> <p data-bbox="239 1332 662 1366"><b>TC 82      Solar photovoltaic energy systems</b></p> <p data-bbox="239 1388 343 1422"><u>Liaison ISO:</u></p> <p data-bbox="239 1422 470 1456"><b>TC 180      Solar energy</b></p> <p data-bbox="239 1456 470 1489"><b>TC 192 — Gas turbines</b></p> <p data-bbox="215 1541 686 1556">Stephan Fischer      Liaison Report from IEC TC 117, 18th Solar Keymark network meeting, 10th - 11th March 2015, Rome</p>	<div data-bbox="813 1164 1412 1209">  Institute for Thermodynamics and Thermal Engineering  Research and Testing Centre for Thermal Solar Systems (TZS) Universität Stuttgart </div> <h3 data-bbox="1037 1209 1189 1243">MEETINGS</h3> <p data-bbox="853 1243 941 1265"><u>Meetings:</u></p> <p data-bbox="853 1276 1268 1377">Madrid, Spain, 7<sup>th</sup> – 8<sup>th</sup> March 2012 Tel Aviv, Israel, 30<sup>th</sup> October – 1<sup>st</sup> November 2012 Northbrook, USA, 19<sup>th</sup> -20<sup>th</sup> November 2013 Tokyo, Japan, 14<sup>th</sup> – 15<sup>th</sup> November 2014</p> <p data-bbox="853 1400 973 1422"><u>Next meeting:</u></p> <p data-bbox="853 1444 1117 1467">October 2015, location pending</p> <p data-bbox="821 1541 1300 1556">Stephan Fischer      Liaison Report from IEC TC 117, 18th Solar Keymark network meeting, 10th - 11th March 2015, Rome</p>
<div data-bbox="188 1635 782 1680">  Institute for Thermodynamics and Thermal Engineering  Research and Testing Centre for Thermal Solar Systems (TZS) Universität Stuttgart </div> <h3 data-bbox="422 1680 582 1713">Work items</h3> <p data-bbox="239 1724 726 1814"><b>117/27/NP</b> Future IEC 6xxxx TS Ed.1: Solar Thermal Electric Plants – Terminology (approved, CD 2014-10, TS 2015-10)</p> <p data-bbox="239 1836 694 1926"><b>117/28/NP</b> Future IEC 6xxxx TS Ed.1: Procedure for generating a representative solar year (approved, CD 2014-11, TS 2015-11)</p> <p data-bbox="215 2004 686 2020">Stephan Fischer      Liaison Report from IEC TC 117, 18th Solar Keymark network meeting, 10th - 11th March 2015, Rome</p>	<div data-bbox="813 1635 1412 1680">  Institute for Thermodynamics and Thermal Engineering  Research and Testing Centre for Thermal Solar Systems (TZS) Universität Stuttgart </div> <h3 data-bbox="1037 1680 1197 1713">Work items</h3> <p data-bbox="853 1724 1372 1814"><b>117/31/NP</b> Solar thermal electric plants - Part 3-2: Systems and components. General requirements and test methods for parabolic-trough collectors (proposed IEC 62862-3-2) (closing date for voting: 2014-11-07, CD 2015-04, IS 2016-12)</p> <p data-bbox="853 1836 1380 1948"><b>117/32/NP</b> Solar thermal electric plants - Part 3-3: Systems and components - General requirements and test methods for solar receivers (proposed IEC 62862-3-3) (closing date for voting: 2014-11-07, CD 2015-02, IS 2016-12)</p> <p data-bbox="821 2004 1300 2020">Stephan Fischer      Liaison Report from IEC TC 117, 18th Solar Keymark network meeting, 10th - 11th March 2015, Rome</p>

<div data-bbox="181 208 790 280">  <div> Institute for Thermodynamics and Thermal Engineering  Research and Testing Centre for Thermal Solar Systems (TZS) </div>  </div> <div data-bbox="181 280 790 616"> <h3>Work items</h3> <p><b>117/34/NP</b>  Thermal energy storage for concentrated solar - General characterization (proposed IEC TS 62862-2-1)  (closing date for voting: 2014-12-19, CD 2015-12, IS 2017-07)</p> <p><b>117/41/NP</b>  Solar thermal electric plants - Part 5-2: Systems and components - General requirements and test methods for linear Fresnel collectors (Proposed IEC 62862-5-2)  (closing date for voting: 2015-03-06, CD 2015-08, IS 2017-03)</p> </div> <div data-bbox="181 616 790 660"> <div>Stephan Fischer</div> <div>Liaison Report from IEC TC 117, 18<sup>th</sup> Solar Keymark network meeting, 10<sup>th</sup> - 11<sup>th</sup> March 2015, Rome</div> </div>	<div data-bbox="805 208 1410 280">  <div> Institute for Thermodynamics and Thermal Engineering  Research and Testing Centre for Thermal Solar Systems (TZS) </div>  </div> <div data-bbox="805 280 1410 616"> <h3>Actions taken since last SKN meeting</h3> <ul style="list-style-type: none"> <li>ISO/TC 180 wrote a letter to IEC/TC 117 <ul style="list-style-type: none"> <li>- with the request to leave the standardization in solar thermal products to ISO/TC 180</li> <li>- with the request to withdraw their WI</li> <li>- and invited the IEC/TC 117 expert to work within the frame work of ISO/TC 180</li> </ul> </li> </ul> <p>no official answer received up to now</p> <ul style="list-style-type: none"> <li>Bilateral discussions between <b>Maria João Carvalho</b>, <b>Korbinian Kramer</b>, <b>Stephan Fischer (ISO/TC180)</b> and <b>Fabienne Sallaberry</b>, <b>Werner Platzer</b>, <b>Eckhard Lüpfert (IEC/TC117)</b></li> </ul> </div> <div data-bbox="805 616 1410 660"> <div>Stephan Fischer</div> <div>Liaison Report from IEC TC 117, 18<sup>th</sup> Solar Keymark network meeting, 10<sup>th</sup> - 11<sup>th</sup> March 2015, Rome</div> </div>
<div data-bbox="181 683 790 754">  <div> Institute for Thermodynamics and Thermal Engineering  Research and Testing Centre for Thermal Solar Systems (TZS) </div>  </div> <div data-bbox="181 754 790 1090"> <h3>Next steps?</h3> <ul style="list-style-type: none"> <li>Ken Guthrie will contact the new chairman (Werner Platzer)</li> <li>Joined TC180/TC117 meeting ?</li> <li>Invitation of IEC/TC117 experts to CEN/TC 312 WG1 meetings</li> <li>....</li> </ul> </div> <div data-bbox="181 1090 790 1120"> <div>Stephan Fischer</div> <div>Liaison Report from IEC TC 117, 18<sup>th</sup> Solar Keymark network meeting, 10<sup>th</sup> - 11<sup>th</sup> March 2015, Rome</div> </div>	<div data-bbox="805 683 1410 754">  <div> Institute for Thermodynamics and Thermal Engineering  Research and Testing Centre for Thermal Solar Systems (TZS) </div>  </div> <div data-bbox="805 754 1410 1090"> <h3>Thank you ...</h3>  </div> <div data-bbox="805 1090 1410 1120"> <div>Stephan Fischer</div> <div>Liaison Report from IEC TC 117, 18<sup>th</sup> Solar Keymark network meeting, 10<sup>th</sup> - 11<sup>th</sup> March 2015, Rome</div> </div>

## Annex I

### Liaison to CEN TC 128

#### Liaison Report on TC 128 (incl. TC 254) for TC 312 and ESTESC



TestLab  
Solar Thermal  
Systems

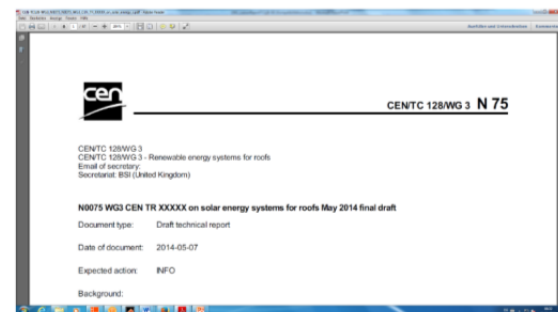
Dr. Korbinian Kramer  
11.02.15

Fraunhofer Institute for  
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#### TR renewal energy systems for roofs structural connections:



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Systems  
Fraunhofer  
ISE

#### What do companies have to do?

Solar energy systems for roofs: Requirements for structural connections to solar panels

##### SUMMARY

- Type of solar panel: Thermal or photovoltaic solar panels which comply with the mechanical resistance requirements of EN12975 (solar thermal collectors) or EN61215 (solar PV panels).
- Determine the loads and load combinations: self-weight of the solar panels and relevant imposed wind and snow actions.
- Determine the design loads for the solar panels: multiply each of the loads by their respective partial factor  $\gamma_G$  or  $\gamma_Q$  for the ultimate limit state, and separately for the serviceability limit state.
- Identify one or more combinations of most unfavourable design loads which act together at the same time, for the ultimate and serviceability limit states. Modify the loads by applying one or more load combination factor  $\psi$  for two or more variable loads which act at the same time.

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- Determine the structural resistance of the connections between the solar panels and the roof structure in accordance with calculation methods of one or more of the following standards:

EN1992 to EN1996, and EN1999

for the ultimate and serviceability limit states. For the serviceability limit state, specify the maximum deformation limiting the function of the connection;

Or

where the structural resistance cannot be determined by calculation methods, determine the resistance by serviceability and ultimate load tests.

- Verify the design by confirming that the factored structural resistance is not less than the critical combinations of factored actions for both limit states.

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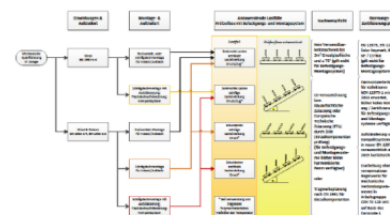
#### Challenge for ST branch:

- Solutions to fulfill the technical state-of-the-art
- National regulations will also ask for these information, harmonization is needed (DIBt, MCS, CSTBat,...)
- The collector standard is open to the stress level chosen by the manufacturer, so the manufacturer has to know what he wants
- The collector standard asks manufacturers to give (service and) ultimate load levels for collectors (which is in close connection with the mounting equipment's requirements)
- Calculation of all parts in the context with the requirements is almost impossible
- Testing of all components seems also quite a high effort, but see proposal
- Combining tests are possible, but have to be optimized to be efficient

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#### Overview on calculations and tests for different schemes and purpose from the >>Mechtest project<<



<http://www.mechtest.de>

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#### Thank you for your attention!



Join the >>KoST Project<<, to get your products tested and optimized!

Fraunhofer-Institut für Solare Energiesysteme ISE

Dr. Korbinian Kramer

[www.mechtest.de](http://www.mechtest.de)

[www.ise.fraunhofer.de](http://www.ise.fraunhofer.de)  
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[www.kollektortest.de](http://www.kollektortest.de)


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ISE



## Annex J

### SCF Projects – General status report



### Solar Keymark SKN meeting

10-11 March 2015  
Rome

**The Solar Keymark  
CEN Keymark Scheme**

THE Quality Label for Solar Thermal Products in Europe

### Solar Certification Fund

- 68 projects approved so far:
 

– Closed:	39	– 1 <sup>st</sup> call:	9
– Reporting:	9	– 2 <sup>nd</sup> call:	7
– On-going:	14	– 3 <sup>rd</sup> call:	18
– Contracting:	2	– 4 <sup>th</sup> call:	16
– Deferred:	2	– 5 <sup>th</sup> call:	18
– Cancelled:	2		

**The Solar Keymark  
CEN Keymark Scheme**

THE Quality Label for Solar Thermal Products in Europe

### Solar Certification Fund

- 579 845 EUR (approx.) allocated to projects
 

– 1 <sup>st</sup> call:	145 950 EUR
– 2 <sup>nd</sup> call:	79 910 EUR
– 3 <sup>rd</sup> call:	170 565 EUR
– 4 <sup>th</sup> call:	183 420 EUR
– 5 <sup>th</sup> call:	179 900 EUR

**The Solar Keymark  
CEN Keymark Scheme**

THE Quality Label for Solar Thermal Products in Europe

### Solar Certification Fund

- Closed projects
  - Report and deliverables approved by the SCF Steering Group
  - Balance payment done or being prepared
    - invoice requested or payment on pipeline
- Deferred projects
  - Projects that are on-hold
    - Waiting for one of the conditions for the project to occur (external)
- Cancelled projects
  - One case insofar - request from contractor
  - Possible also by SG decision in extreme cases

**The Solar Keymark  
CEN Keymark Scheme**

THE Quality Label for Solar Thermal Products in Europe

### Solar Certification Fund

- On-going projects
  - Projects that are being executed
  - Periodic reports available (for the majority) at the Disc. Board
  - Deliverables (or drafts) may be also available at the Disc. Board
- Reporting projects
  - Projects that have concluded their work
  - Pending approval, because:
    - Reports (or deliverables) are to be provided (uploaded at DB)
    - Secretariat is preparing evaluation files
    - Evaluators are assessing report and deliverables
    - Evaluators requested additional clarification or work

**The Solar Keymark  
CEN Keymark Scheme**

THE Quality Label for Solar Thermal Products in Europe

### Closed projects (since October 2014)

Reference	Project Name	Responsible	Start Date	End Date	Budget
4C11	Uncert	Martin Persson	29-03-13	05-01-14	€5.000,00
	Calculation of the uncertainty of the performance figures of solar collectors and factory made systems based on the results obtained by the GAST round robin test				
4C18	SCF-Sec13	Pedro Dias	29-03-13	31-03-14	€9.985,00
	Administration of SCF: administrative secretariat / technical secretary				
4C12b	LiasTC 228 -13	Gerard van Amerongen	01-04-13	27-03-14	€5.000,00
	Liaison officers of TC 228 (Heating systems in buildings)				
4C01	Task43Ext	Jan Erik Nielsen	02-04-13	03-02-15	€20.000,00
	Operating Agent for extension of IEA-SHC Task 43 "Solar Rating and Certification"				
4C07	DataSheet-12977	Jan Erik Nielsen	01-05-13	18-11-14	€7.000,00
	Elaboration of data sheet templates for custom built systems and components acc. to EN 12977 series				
4C12c	LiasTC 371-13	Gerard van Amerongen	01-04-13	26-05-14	€5.000,00
	Liaison officers of TC 371 (Project Committee - Energy Performance of Building project group)				

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## Deferred or Cancelled

Ref	Project Name	Responsible	Budget
2C04	PeQAS-SPF Andreas Bohren Solar Keymark Policing for Quality Assurance		€5.000,00
	<b>PROJECT CANCELLED !!!</b> Request from the contractor. Allocated budget was EUR 5000		
3C16	HarmHeq_DINCERTCO Sören Scholz		€7.000,00
	Measures to harmonise the qualification requirements for inspectors and test labs		
	<b>PROJECT CANCELLED !!!</b> Request from the contractor. Allocated budget was EUR 7000		
3C14	CE-Bro-ESTIF Pedro Dias		€8.250,00
	Information about CE-marking of solar collectors - target group manufacturers		
	Project shall not start before there is approval (or at least final version sent for enquiry) of part 1 - EN12975. This is expected to happen only mid 2013. To be followed up by then.		
5C74	STANDARD_ITScher Jean-Marc Suter		€10.000,00
	Revision of EN ISO 9488 Solar energy - Vocabulary - German and French terminology; Translation and cross-border harmonization		
	Project delayed 12 months; the project "Revision of EN ISO 9488" will be formally canceled due to non availability of the English draft per September 2014. A new start for this revision should be formally decided at the next ISO/TC180 meeting which will be held in Beijing at the beginning of October. Being voted if revision to be done under CEN lead.		



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## Reporting

Reference	Project Name	Responsible	Start	End (foreseen)	Budget
2C06	SysIndoor-ITW	Stephan Fischer	01-05-12	30-06-14	€9 900,00
	Development of an indoor test procedure for factory made systems according to EN12976 sent to evaluators				
4C03	GlobCert II	Jaime Fernandez	29-03-13	30-10-14	€10 000,00
	Follow-up project on global certification conc. elaborating and implementing a Global Certification scheme for solar collectors sent to evaluators				
4C05	SK Annex E	Jaime Fernandez	01-06-13	31-10-14	€13 000,00
	Harmonized Solar Keymark factory production control procedure for EN 12975, -76 and -77 products. Improving Annex E to the scheme rules sent to evaluators				
4C06	SK 12976	Danijana Thels	01-04-13	31-12-14	€12 900,00
	Quality assurance procedures to assure harmonised of boundary conditions for the long performance prediction for factory made systems and automatic implementation of the performance results in the Solar Keymark data sheets sent to evaluators				



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## Reporting

Reference	Project Name	Responsible	Start	End (foreseen)	Budget
4C08	RR-12977	Christian Weilmüller	01-05-13	30-06-14	€9 900,00
	Organisation and management plus co-financing of a Round Robin Test of a solar water heater store according to EN 12977-3 and performance predictions of a complete solar water heating system according to EN 12977-2..... waiting for final invoice				
4C16a	EcoDes-12	Gerard van Amerongen	01-04-13	30-10-14	€10 000,00
	Preparing to meet the requirements of Ecodesign Energy Labeling with respect to testing. sent to evaluators				
5C15	SOLARKEYMARK_SP	Peter Kovacs	30-05-14	31-10-14	€13 000,00
	This project will develop the ScenarioCalc tool further by including a calculation model that is still missing: Unglazed solar collectors under steady-state conditions. waiting for deliverables and revised final report				
5C18	EPBD_vAConsult	Gerard van Amerongen	07-07-14	31-12-14	€12 900,00
	Development of Excel tools that describe the solar thermal calculation methods in prEN15116-4-3:2013 for evaluation purposes during the CEV enquiry period. sent to evaluators				
5C11.1	ANNIVERSARY_ESTIF	Theresa Doebich	30-05-14	31-07-14	€5.000,00
	ESTIF Anniversary reporting				



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## On-going (contracting)

Reference	Project Name	Responsible	Start	End (est.)	Budget
5C1.4	SOLARKEYMARK_ISE (Guideline)	Stephan Meschert	30-05-14	31/03/2014	€5 000,00
	With the publication of the new substantially revised EN 12975 and EN ISO 9806 the guide and the brochure will be obsolete and need to be updated. waiting for signed documents				
5C7.2	STANDARD_SWIT	Harald Drück	30-05-14	31/03/2014	€5 000,00
	In order to perform the annual system simulation for solar combisystems, among others, space heating load profiles are required. waiting for project summary				



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## On-going

Ref	Project Name	Responsible	Start	End (foreseen)	SCF funding
1C04a	EN12973 solar-SWT	Dominik Bestenlehner	20-07-11	31-08-14	€14.950,00
	"Solar friendly" alternative to "EN 12973-3" waiting for update/interim report				
4C19b	Industry_Interaction	Pedro Dias	29-03-13	31-03-14	€10.000,00
	Ensure a better involvement of industry resources in standardisation work interim report available				
5C1.2	SOLARKEYMARK_SKI	Jan Erik Nielsen	30-05-14	31-12-14	€10.900,00
	The Solar Keymark brochure will be updated - taking also into account the increasing interest in Solar Keymark in overseas countries. Standard presentations for use of Solar Keymark network members to promote Solar Keymark will be updated and developed. waiting for update/interim report				
5C2.1	EcoLab_vAConsult	Gerard van Amerongen	30-05-14	31-03-15	€24.000,00
	As a consequence of the publication of the regulations on Ecodesign and the energy labeling in September 2013, the involved standards need to be harmonized (EN 12975, 12976 and 12977) according to the CEN mandate 495. interim report available				
5C3.1	CE-CPR_ESTIF	Pedro Dias	30-05-14	31-10-14	€9.000,00
	An adequate overview of the CE-marking requirements in the different markets will facilitate the work of the solar thermal industry in preparing for the implementation after the expected publication (Sept/Oct. 2014). interim report available				



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## On-going

Ref	Project Name	Responsible	Start Date	End (est.)	Budget
5C4.1	LiasTC117_ITW	Stephan Fischer	30-05-14	31-08-15	€5.000,00
	Support the work of the liaison officer who will follow the work going on in the IEC/TC117 and the reporting to CEN/TC 332, ISO/TC180, the Solar Keymark network and the European Solar Thermal Energy Standardisation & Certification Working Group (ESTESC). interim report available				
5C4.2	LiasTC164_vAConsult	Gerard van Amerongen	30-05-14	31-03-15	€5.000,00
	The main issue during the contractual period will be the proposed revisions of the EN 806-11 and EN 806-22. Requirements of these standards are referred to in the solar thermal standards. interim report available				
5C4.3	LiasTC228_vAConsult	Gerard van Amerongen	30-05-14	31-03-15	€5.000,00
	The main focus during the contractual period will be the revisions of the EPBD standards and more specifically the handling of the comments from the enquiry process. interim report available				
5C4.4	LiasTC371_vAConsult	Gerard van Amerongen	30-05-14	31-03-15	€5.000,00
	The main focus of this contractual period is the development of the revised EPBD standards (CEN mandate 480) that should be finalized before 15. 2015. interim report available				
5C5.1	TC312WG_SPF	Andreas Bohren	30-05-14	28-02-15	€6.000,00
	Part financing of CEN secretariat for solar collector working group (CEN/TC312 WG1) waiting for update/interim report				



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## On-going

Ref	Project Name	Responsible	Start Date	End (foreseen)	Budget
5C6.1	DATABASE_SKI	Jan Erik Nielsen	05-02-15	30-06-15	€9 900,00
	All data from the Solar Keymark data sheets will be included in the searchable/sortable database. Option for showing/printing only selected data. waiting for update/interim report				
5C7.1	STANDARD_ISE	Korbinian Kramer	01-01-15	30-10-15	€10 000,00
	The goal of the project is to close a gap in standardisation, testing and reporting for certification regarding the Incident Angle Modifier (IAM) of Linear Fresnel Collectors (LFC). project just started				
5C7.3	STANDARD_ITW	Stephan Fischer	30-05-14	31-10-15	€13 000,00
	Within the project test procedures and classifications for thermal insulation used in solar thermal collectors and thermal energy stores will be developed and pre-normative documents drafted (ISO EN 12975). interim report available				
5C13.1	GOODIDEA_vAConsult(Legio)	Gerard van Amerongen	30-05-14	31-12-14	€12 900,00
	Drafting a CEN Technical Report on Legionella prevention in amongst other solar water heaters. interim report available				



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## Solar Keymark SKN meeting

10-11 March 2015

Rome



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