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

Minutes
1. Solar Keymark Network Meeting

Item 1: Opening of the meeting
Uwe Brechlin and Harald Drück, chairman of the Solar Keymark Network, opened the meeting and welcomed the participants.
Uwe Brechlin introduced the Solar Keymark II project and mentioned that in the framework of this project the Solar Keymark Network is established.
Harald Drück gave a short explanation about the Solar Keymark Network. The main task of the SK-Network is to agree on uniform procedures between the different institutions (accredited solar thermal test labs and the certifiers) working according to the Solar Keymark scheme rules.
The meeting took place on Wednesday, June 21st, 2006 from 14.00 till 17:00 hrs at the Intersolar Trade Fair, Freiburg, Room K10.
The invitation and the agenda of the meeting was sent by email dated June 8th, 2006. The version of the agenda named “1. Draft Agenda” (File: SK_NW_AG1A 07/06/2006) was accepted by the participants with a small change concerning the order of the items. The final agenda that was agreed on at the beginning of the meeting is included as Annex B.

Item 2: Introduction of participants
The participants were asked to introduce themselves. The list of participants is attached as Annex A.

Experience of certifiers with Solar Keymark certification
In the context of the introduction Mr. Drück asked the representatives from the certifiers to report about their experience with Solar Keymark certification.

Sören Scholz, DIN CERTCO (Germany):
Up to now 60 Solar Keymark (SK) certificates for collectors and systems were issued by DIN CERTCO. In addition to this approx. 25 more certificates are under preparation.
Mr. Scholz is very positive about SK. With regard to the future he would like to see a European round robin test of solar thermal collectors and the translation of the SK certification scheme in other European languages.
He sees the need to find a common agreement on how to handle product changes. Furthermore a list of frequently asked questions would be helpful. He also expresses the need for a European checklist and mentioned that it is important that all certifiers act in the same way.

Joao Nascimento, CERTIF (Portugal):
Up to now there are 5 Solar Keymark manufacturers in Portugal and 10 Solar Keymark (SK) certificates were issued by CERTIF.
Giorgos Panaras as representative for ELOT (Greece):
Up to now 3 SK certificates were issued by ELOT. There only exists one national test lab in Greece that is Demokritos.
He mentioned that ELOT is very positive to the Solar Keymark and that there is a national certification scheme in combination with Solar Keymark certification available.
Furthermore he mentioned that at the next meeting of the Solar Keymark Network a representative from ELOT will participate.

Dominique Caccavelli for CSTB (France):
He mentioned that CSTB has their own certification scheme named CSTbat. In 2005 the number of 85 certificates were issued for CSTbat.
CSTB is interested in Solar Keymark certification and wishes to issue also the Solar Keymark certificates in the future.

Peter Kovacs not officially representing SP-certification (Sweden):
He mentioned that SP is empowered to issue SK certificates, but up to now no SK certificates were issued by SP. At the moment SP is considering if they should apply for a new empowerment on the basis of the new version of the European standards (EN 12975 and EN 12976)

Vinood Shama from ENEA (Italy):
He mentioned that an institution named ICIM in Italy is thinking about to apply for an empowerment to issue Solar Keymark certificates.
Note: ENEA is no certification body.

Item 3: Presentation of the Solar Keymark II Project
A short presentation about the Solar Keymark II project is given by Jan Erik Nielsen.
The presentation is included as Annex C. For further information see: www.solarkeymark.org

Item 4: Solar Keymark and CE-Mark
At the last CEN TC 312 meeting at the Canary Islands it was decided to go for CE-Marking for solar collectors provided that several conditions are fulfilled (Resolution 3, CEN/TC312-Gran Canaria, Spain, 2006-04-03 & 04).
Jan Erik Nielsen gave a short presentation about the relation between Solar Keymark and CE marking (see Annex D).
He also presented an indicative time frame for establishing CE-marking and estimated that it will take approximately 7 years until CE-marking of solar thermal collectors on the basis of the Construction Product Directive (CPD) will be obliged.
Item 5: Test reference years

With regard to the performance prediction according to EN 12976 it is essential that all labs use the same weather data. In order to ensure this, it was agreed on the following procedure:

Calculation of check-sum figures:
In order to identify the data set and to ensure that the same data are used check-sum figures have to be calculated (proposal from Peter Kovacs).

The check-sum figures that have to be determined are:
- maximum value
- minimum value
- sum over the year.

For the calculation of these values the data should be imported in a spread sheet programme (e. g. EXCEL) and the values should be determined without using any interpolation algorithms (e. g. for calculation of an annual sum: SUM(B1:B8760)

For the following quantities the check-sum figures mentioned above have to be calculated:
- direct radiation (on 45° tilt angle) [W/m$^2$]
- diffuse radiation (including ground reflection) on 45° tilt angle) [W/m$^2$]
- ambient temperature [°C]
- wind speed (optional) [m/s]

Weather data:
It was agreed that with regard to the weather data for specific countries the persons listed below will act as a contact point. On request these persons shall supply weather data that are not protected with any copyright.

- Sweden: Ulrik Pettersson / Peter Kovacs (SP)
- Germany: Harald Drück (ITW)
- Denmark: Jan Erik Nielsen (SolarKey)
- Spain: Pilar Navarro Rivero (ITC)
- Austria: Josef Buchinger (arsenal)
- Greece: Emmanouil Mathioulakis, Giorgos Panaras (Demokritos)
- Italy: Vinood Shama (ENEA)
- Poland: Marian Gryciuk (ECBREC)
- Portugal: Maria Carvalho (INETI)
- France: Dominique Caccavelli (CSTB)

The data should be delivered as hourly values and including the following quantities:
- direct radiation on 45° tilt angle [W/m$^2$]
- diffuse radiation (including ground reflection) on 45° tilt angle) [W/m$^2$]
- ambient temperature [°C]
- wind speed (optional) [m/s]

TO DO: It was decided that these persons are responsible to send the check-sum figures (procedure for calculation of check-sum figures see above) for their weather data to Harald Drück (Email: drueck@itw.uni-stuttgart.de) until the end of August 2006.

Furthermore it was agreed that during the revision of the Solar Keymark scheme rules it should be stated in the revised version of the scheme rules that the check-sum figures of the weather used for the performance prediction shall be included in the test report.
Item 6: Revision of standards EN 12975, EN 12976 and ENV 12977

The revised version of EN 12975 is already available and the revised version of EN 12976 will be available quite soon. With regard to the revision Harald Drück asked the representatives for the test labs when they intend to perform tests according to the revised version of the standards. The following answers were given:

INETI already performs tests and issues test certificates according to the revised version.
ENEA will in the coming month perform tests and issue test certificates according to the revised version.
ITC mentioned that within 2,5 months the corresponding national standards will be available. If this is the case, then tests will be performed and test certificates will be issued according to the revised version of the standards.
Demokritos: Tests according to the revised version will be carried out from September 06.
ISE: New acquisitions will be tested according to the revised version of the standards.
arsenal: New acquisitions will be tested according to the revised version of the standards.

Consequences resulting from the revision of the standards:
According to Jan Erik Nielsen CCB requires that the certifiers and the test labs have to renew their accreditation based on the revised version of the standards.

Resulting from this the test labs and certifiers are recommended to inform their accreditation body that the standards are revised and ask them about the consequences.

According to Sören Scholz the certifiers are obliged to inform their test labs about the revised version of the standards. The test labs have to get from the accreditation body within one year a confirmation that their accreditation is still valid. As a consequence of this, also Solar Keymark certificates issued on the basis of the old version of the standards are still valid.

Decision – related to test results based on old / new (revised) standards
The experts present are confident that test results (thermal performance and durability) to be obtained on the basis of the new version of EN 12975 and EN 12976 will not differ from results that would have been obtained on the basis of the old version, as the methodology and the test equipment are the same.

This decision was taken unanimously

Decision – related to new accreditation certificates
It was decided that in case a test lab gets a new accreditation certificate, this certificate should be electronically send to jen@solarkey.org

This decision was taken unanimously

Decision – related to collector power curve / collector efficiency curve
In the revised version of the test standard for collectors (EN 12975) the collector performance is presented by means of a collector power curve. In this context it was decided by the experts present to recommend that for collector performance tests that are carried out according to the revised version of the collector test standard EN 12975 the collector efficiency curve shall not be included in the test report (not even in an Annex).

This decision was taken unanimously.
Item 7: Solar Keymark factory inspection check list

The aim is to agree on a common check list.

TO DO: As a basis for this it was agreed that all certifiers send their factory inspection check list in English language to
Mr. Stephan Fischer (Email: fischer@itw.uni-stuttgar.de).

In conjunction with the next Solar Keymark Network meeting a special session related to the elaboration of a common checklist will be foreseen.

Item 8: Any other business

Nothing reportable was discussed related to any other business

Item 9: Date and place of next meeting

It was decided that the next meeting will take place in conjunction with the next Solar Keymark II Project meeting. In addition to the “core” Solar Keymark Network Meeting there will be a separate session related to the elaboration of a common check list for factory inspection.

Date for next Solar Keymark Network Meeting:

Feb. 15th, 2007 from 14:00 hrs to 18:00 hrs at Paris

Date for special “check list session”:

Feb. 16th, 2007 from 9:00 hrs to 12:00 hrs at Paris

Item 10: End of meeting

Harald Drück thanked the participants for attending the meeting and for their constructive contributions. He closed the meeting at 17:20 hrs.

The minutes were prepared by Harald Drück (Chairman of the Solar Keymark Network)
Stuttgart, July 19th, 2006

Contact address:
Harald Drück
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Pfaffenwaldring 6
70550 Stuttgart, Germany
Email: drueck@itw.uni-stuttgart.de
**Annex A: List of participants**

**SOLAR KEYMARK NETWORK**

1\(^{st}\) MEETING, FREIBURG JUNE 21\(^{st}\) 2006

<table>
<thead>
<tr>
<th>NAME</th>
<th>ORGANISATION</th>
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<tr>
<td>Giorgos Panaras</td>
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<td>Sören Scholz</td>
<td>DINCERTCO (Germany)</td>
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<td>Shama</td>
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<td>Joao Nascimento</td>
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<td>Korbinian Kramer</td>
<td>Fraunhofer ISE (Germany)</td>
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Annex B: Final agenda

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

1. Solar Keymark Network Meeting
Wednesday, June 21st, 2006  14.00- 17:00 hrs
Intersolar Trade Fair, Freiburg, Room K10

Final Agenda

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| 1    | Opening of the meeting  
Harald Drück (ITW) |
| 2    | Introduction of participants  
Short presentation of the Certifiers (including mentioning the accepted solar test labs and inspectors) |
| 3    | Presentation of the Solar Keymark II Project  
Jan Erik Nielsen, SolarKey Int., ESTIF consultant |
| 4    | Solar Keymark and CE-mark |
| 5    | Test reference years for performance prediction acc. to EN 12976  
How to ensure that all labs use the same data? |
| 6    | Revision of standards EN 12975, EN 12976 and ENV 12977 with regard to the Solar Keymark |
| 7    | Solar Keymark factory inspection check list  
Agreement on a common check list |
| 8    | Any other business |
| 9    | Date and place of next meeting |
| 10   | End of meeting |

Information how to reach Intersolar can be found at: [www.intersolar.de](http://www.intersolar.de)

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Pfaffenwaldring 6  
70550 Stuttgart, Germany  
Email: drueck@itw.uni-stuttgart.de
Annex C: Presentation of Solar Keymark II project

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**Main data:**
- **Title:** Large open EU market for solar thermal products
- **Annex:** SOLARKEYMARKII
- **Budget:** 134,017 €
- **EC-funding:** 312,208 € (75%)
- **Project start:** 1.8.2006
- **Project end:** 31.12.2007

**Objective:**
- Break down barriers to an open EU market for solar thermal products
- Increase the EU market for solar thermal quality products

**Specific:**
- Promote Solar Keymark brands national authorities and industry
- Acceptance in all national/regional incentive schemes and regulations
- Updating Solar Keymark scheme rules/standards – feasibility
- Implementing EPBD calculation standard (en-15114-4-3)

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Annex D: Presentation related to CE-Marking

RESOLUTION 1, CEN/TC 151 - GRANULAR ANALYSIS 2006-08-01 R 04

CEN/TC 151 supports the creation of ETS E-CE-Marking. – should be the development harmonised standards for solar thermal installations.

- and any additional requirements certified procedure shall be included if truly necessary.
- CEN/TC 151 also supports the creation of CE-Marking. – should be the development harmonised standards for solar thermal installations.
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12 January 2013, Brussels, Belgium. These products will be certified by harmonised standards based on the European standards. The CE-Marking of solar thermal installations.

Indicative time frame for establishing CE-Marking:

July 2006: Response from TCI/TC to CEN/TC
March 2007: Mandate from CEN/TC to develop harmonised standards
December 2007: Funding available (optimistic)
December 2016: Harmonised standards established
July 2017: CE-Marking of collectors (the CPQ obliged)

→ 5 years

(Based on experience 1 would add another 2 years → 7 years)