IEA SHC Task 57
Solar Standards and Certification

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

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Standardization and Certification programs coordinator
On behalf of: Ashraf Kraidy, IEA SHC Task 57 - Subtask C leader
OBJECTIVES (1/2)

Objective 1

• ISO standards for solar thermal products are becoming increasing popular throughout the globe
• Convince stakeholders in such countries that the ISO standards are very well proven and useful – and give guidance for implementation.

Activities

• Guidelines how to understand & use ISO 9806
• Participation in national and international conferences promoting ISO 9806 standards

Deliverable

• Guidelines on implementing solar certification schemes
• Papers/presentations at national and international events
• Questionnaire with indication of interest in use of international standards.
Promotion: New emerging markets towards solar technology
Survey on International adoption of ISO 9806:2017

- ISO 9806:2017 “Solar energy – Solar thermal collectors test methods” → Revision of 2013 version as a result of a collaboration between ISO TC/180 and CEN/TC 312

- In 2018, a worldwide survey was undertaken to see if the countries were:
  - satisfied with the revised standard
  - planned to adopt it nationally
  - had any suggestions for improvement
Survey on International adoption of ISO 9806:2017

Questions:

1. Are you able to comment on behalf of your country about the possible adoption of ISO 9806-2017 Solar thermal collectors test methods?
2. Does your country have a Mirror Committee for ISO Standards Committee TC180 and/or a National Standards committee that provides Solar Heating testing Standards?
3. Are you a member of that committee?
4. Does your country currently have any National standard for a solar heating collector test methodology?
5. Does it incorporate the same methods as international standards such as EN 12975 or ISO 9806?
6. Does your country currently recognise other solar heating collector test methodologies such as EN 12975 or ISO 9806?
7. How likely is it that your country will take up ISO 9806:2017 as a National Standard or recognise it for purposes such as Regulations and/or Certification?
8. What changes would need to be made in order for your country to adopt ISO 9806-2017 as its standard solar heating collector test methodology?
9. Do you have additional national requirements for testing due to national regulation, insurance, financing, etc.?
10. Can you provide details of the additional national requirements?
11. Have you provided feedback on a previous survey on ISO 9806-2017?
12. Has the revision addressed all of your previous concerns?
13. Are there any changes to ISO 9806 that you consider would improve that Standard?
14. What changes to ISO 9806 that you consider would improve that Standard?
15. Does your Country have a certification system for solar collectors?
16. How is the certification scheme used?
17. Please provide a contact or a website for further information on the certification system
18. Please add any other comments
19. Please provide contact information of relevant person in your country who can comment on possible adoption of ISO 9806-2017 Solar thermal collectors test methods below
Survey on International adoption of ISO 9806:2017

**Responses:** 73 responses from 33 countries
Initial Analysis of the Survey
standards for solar testing methodologies Categorization
OBJECTIVES (2/2)

Objective 2

• Developing **two levels of certification** that fits the developed and the developing countries.

Activities

• Elaborate at least 2 model certification schemes:
  1. **level** required for participation in the GSCN
  2. **lower level** of requirements for countries without a very sophisticated quality infrastructure

Deliverable

• Model certification schemes “High level” & “Medium level”
Introduction of 2 levels of Solar Certification

March 2017, 22nd SKN meeting – Freiburg, Germany

“The SKN highly appreciates the activities performed by SHAMCI [...]. Furthermore, the SKN would be in favor of a **harmonization of the testing, inspection and certification procedures** of SHAMCI and Solar Keymark under the umbrella provided by the GSCN. A working group composed of members of SHAMCI and SKN will study the impact of a collaboration between both parties [...]. If these conclusions are positive, it may be possible to enter a project related to the elaboration of the cooperation between SKN and SCHAMCI as a priority issue in the 9th SCF call, as well as it will be eligible for similar projects to submit future proposals according to specific criteria proposed by the SCF Steering Group and the SKN”
Comparison of SHAMCI and Solar Keymark

Objectives:

1. Presenting possible benefits from the harmonization of SHAMCI and Solar Keymark
2. Comparing differences between SHAMCI and Solar Keymark (referred to scheme rules)
3. Discussing main differences
Comparison of SHAMCI and Solar Keymark

Expected Benefits from the Harmonization

- Facilitate product trade
- Promote market growth
- Increase competitiveness
- Faster technology learning curve
- Practical MENA representation
- Add integrity and comprehensiveness to GSC
- Facilitate knowledge exchange from/to MENA
- Eliminate quality gaps in emerging markets

Benefits of Harmonization

- Local products assessment and enhancement
- Quality awareness dissemination
- Fortifying regional QI
- Knowledge and technology transfer
- Capacity building
Comparison of SHAMCI and Solar Keymark
Main Differences between SHAMCI and Solar Keymark

Technical
- Product Scope
- Accreditation Requirements
- Specific differences of some Procedures

Non Technical
- Involved Stakeholders
- Interaction among Stakeholders and Conformity Bodies
Comparison of SHAMCI and Solar Keymark
Highlights on Main Differences

(I) Product Scope

### SHAMCI

**Currently:**
- Solar Collectors (as defined in ISO 9806)
- SWH Systems (as defined in ISO 9459-2 and -5)

### Solar Keymark

- Solar Collectors (ISO 9806)
- Factory-made Systems (EN 12796)
- Custom-built Systems (EN 12977-1 and -2)
- SWH Stores (EN 12977-3)
- Solar Combistores (EN 12977-4)
- Control Equipment (EN 12977-5)
Comparison of SHAMCI and Solar Keymark
Highlights on Main Differences

(II) Accreditation Requirements

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<thead>
<tr>
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<th>Solar Keymark</th>
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<tbody>
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<td>- During the <strong>interim period</strong> (until 31st Dec 2020):</td>
<td>- Accreditation required</td>
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<tr>
<td>&gt; No accreditation required</td>
<td></td>
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<tr>
<td>- Starting <strong>1st Jan 2021</strong>:</td>
<td></td>
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## Interaction among Stakeholders

### SHAMCI
- Main stakeholders: SHAMCI Network, RCREEE, SHAMCI certification bodies
- National-based scheme
- AIDMO as a regional sponsor

### Solar Keymark
- Main stakeholders: CEN/CENELEC, ESTIF, SKN
- Industry-based scheme
- Stronger interrelation among all stakeholders due to active participation

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**Comparison of SHAMCI and Solar Keymark**

**Highlights on Main Differences**

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(IV) Specific Differences on some Procedures

- Selection by Remote Random Testing
- Additional Requirements for large Solar Collectors
- Specifications of Surveillance
- Related procedure Annexes
- Frequency of Complete Retesting
- Frequency of Updating Database and Scheme Rules
CONCLUSION

- Harmonization can bring various technical and economical benefits
- Harmonization can contribute to current international dynamic in the field
- Core differences between SHAMCI and Solar Keymark:
  - Current Product Scope
  - Accreditation Requirements
  - Involved Stakeholders
  - Interrelation among Stakeholders
Thank You for your Attention

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