

APPENDIX (1)

SHAMCI HISTORY AND CURRENT STATUS (AS OF AUGUST 2017)

1. Background and Objectives

The Solar Heating Arab Mark and Certification Initiative (SHAMCI) is a quality certification scheme for solar thermal products and services across the Arab region. Although based on Europe's Solar Keymark, it has been adapted to meet the requirements of developing countries. The project was initiated by the Regional Center for Renewable Energy and Energy Efficiency (RCREEE) in cooperation with the League of Arab States (LAS) and the Arab Industrial Development and Mining Organization (AIDMO). It is the first certification scheme for solar thermal products in the Arab region. It is also the first of its kind for developing countries. Moreover, the Global Solar Certification Network has recognized SHAMCI as the quality mark of the Middle East and North Africa¹.

SHAMCI's main objective is to provide policymakers, manufacturing businesses and consumers with a regional industry and regulatory compliance framework. In other words, SHAMCI helps decision makers to devise better policies, assists manufacturers in accumulating know-how and improving product quality and offers consumers unbiased quality assessments. Regarding temporal targets, SHAMCI's secretariat and stakeholders are currently channeling all efforts in order to grant the first SHAMCI mark no later than the end of 2017².

2. Most Recent Activities and Updates

Following the recommendation of the 9th meeting of the Committee of Experts on Renewable Energy and Energy Efficiency in the Arab States, which states:

"RCREEE and the SHAMCI Network, represented by the Network Secretariat are requested to work with the Hashemite Kingdom of Jordan, the Republic of Tunisia, the Republic of Lebanon and the Arab Republic of Egypt to implement SHAMCI project at the national level."

¹ Under Regional Certification of the Global Solar Certification Network website, <http://gscn.solar/Regional%20certification.html> [Accessed 13.08.2017]

² For more information about SHAMCI's objectives, strengths and challenges, please refer to the interview: **Egypt and Jordan: SHAMCI to Give New Impetus to Arab Markets**, dated 13.07.2017 conducted by Riccardo Battisti for Solar Thermal World, <http://www.solarthermal-world.org/content/egypt-and-jordan-shamci-give-new-impetus-arab-markets> [Accessed 13.08.2017]

SHAMCI Secretariat, in cooperation with interested stakeholders as will be mentioned shortly, has organized two regional workshops. The first workshop, entitled: *Developing Executive Work Plans for SHAMCI in Egypt and Jordan*, took place in Cairo, Egypt on 15th and 16th May 2017 and in cooperation with the New and Renewable Energy Authority of Egypt (NREA) and the Technical Assistance to the Renewable Energy and Energy Efficiency Programme in Jordan (REEE II). The workshop attendees represented the national stakeholders in Egypt and Jordan, as well as several regional experts and observers. The goal of the workshop was to discuss with all quality institutions (certification and inspection bodies, testing laboratories) in Egypt and Jordan the needed requirements to implement SHAMCI at the national level; additionally, to come up with clear agreed-upon work plans in order to accelerate SHAMCI implementation and ensure that all necessary mechanisms and conditions are available for granting the first SHAMCI Mark by end of 2017.

Building on the success of the first workshop, SHAMCI Secretariat, the Lebanese Center for Energy Conversation (LCEC) and the Physikalisch-Technische Bundesanstalt (PTB) have collaborated efforts to organize another regional workshop in Beirut, Lebanon on 19th and 20th July 2017. The attendees represented certification bodies, testing facilities, energy agencies and some private sector representatives from Algeria, Lebanon, Morocco and Tunisia as well as financiers, observers and experts in the field from regional and international organizations. The workshop: *Developing Executive Work Plans for SHAMCI in Lebanon and Tunisia*, aimed at discussing the updates of SHAMCI project and the current situation in Lebanon and Tunisia on the first day. Moreover, a session was devoted for each of Lebanon and Tunisia to develop a clear and specific work plan with the concerned institutions, depending on their readiness and reported progress. On the second day, Algerian and Moroccan contributions gave an up-close overview of the current capacities and challenges necessary to implement SHAMCI in these two countries.

3. Current International Collaboration

In March 2017 on the 22nd SKN meeting in Freiburg, Germany and as an effort towards harmonization between SHAMCI and SK, a working group composed of members of SHAMCI and SKN will study the impact of a collaboration between both parties and present its conclusions in the SKN meeting of October³. The outcomes of this work group are fundamental and may secure SHAMCI project's partial or complete funding through SCF. Securing enough funding proves to accelerate implementation at national level and boost solar water heater (SWH) markets across the Arab region.

³ For more details about harmonization between SHAMCI and SK, and SKN mentioned decision, please refer to **section (4)** of this document.

Additionally, in light of the last SHAMCI regional workshop in Beirut, Lebanon, discussions regarding expanding the current PTB support program, called **Strengthening quality infrastructure for solar thermal energy in the Maghreb**, to other countries in the region through bilateral or regional collaboration took place. PTB has also expressed interest in supporting activities contributing to the goal of the quality support program under the umbrella of SHAMCI, such as funding round-robin tests of testing facilities in Maghreb and other related activities and technical assistance if applicable.

4. SHAMCI Milestones

The following table overviews the most important milestones of SHAMCI from 2011 to 2017.

Date	Description
22 Dec 2011	AMCE decision No. 152, requests RCREEE and AIDMO to coordinate with the council secretariat to work on a standardization and certification program for SWHs.
4 Jun 2012	Kick-off meeting in Stuttgart University, Germany.
27 Aug 2012	2 nd SHAMCI Network meeting in Cairo.
Aug 2012	SHAMCI Network Internal Regulations formulated.
17 Dec 2012	3 rd SHAMCI Network meeting in Cairo.
2013	IIIEE team's study for the Egyptian SWH industry and its readiness to adopt SHAMCI.
2013	SHAMCI Certification Scheme Rules formulated in English and Arabic versions.
Oct 2013	Final progress report for the GSWH project.
2014	Site visits to Jordan, Lebanon, Tunisia, and Egypt with representatives of conformity bodies and SWH manufacturers.
2014	EOS issues SHAMCI National Guideline for SWH in Egypt .
2014	Readiness criteria for SHAMCI Certification bodies - Test labs – Inspectors (Annex I) formulated.
2014	SHAMCI online training initiative developed.
20-24 Apr 2014	Study for the readiness of JSMO and Jordan's market for applying SHAMCI.
18-19 Sep 2014	4 th SHAMCI Network meeting in Beirut.
15-19 Dec 2014	Training course in Tunisia for the representatives of the conformity bodies in Lebanon, Jordan, Egypt, Tunisia, Algeria, Morocco.
Mar 2014	SHAMCI Network Internal Rules updated.

Nov 2015	TechScope Assessment for 8 countries in the Arab Region Report: Algeria, Sudan, Egypt, Morocco, Tunisia, Palestine, Jordan, UAE.
Nov 2015	SWH Market Evaluation: Case Study of Lebanon 2015.
2016	SHAMCI Certification Scheme Rules updated in English and Arabic versions.
15-16 May 2017	SHAMCI Regional Workshop: Developing Executive Work Plans for SHAMCI in Egypt and Jordan – in Cairo.
19-20 Jul 2017	SHAMCI Regional Workshop: Developing Executive Work Plans for SHAMCI in Lebanon and Tunisia – in Beirut.
Nov 2017 [<i>Expected</i>]	5 th SHAMCI Network meeting [<i>more information TBA</i>].

For up-to-date news feed and posts about SHAMCI, please visit: www.shamci.net

APPENDIX (2)**OVERVIEW OF SHAMCI AND SK ANNEXES****1. Common annexes between SHAMCI and Solar Keymark**

SHAMCI	SK	Title
Annex C1	Annex B1 (page 1)	Collector Datasheet
Annex C2	Annex B2	Solar Water Heater Datasheet
Annex D	Annex E	Factory Production Control
Annex E	Annex A1b (updated to <u>Annex A1</u> on 07.06.2017)	Inspection Report

2. Similar annexes between SHAMCI and Solar Keymark

SHAMCI	Title	SK	Title
Annex B1	Documentation of the solar collector	Annex A3	Parts list, drawings and specifications, Solar Keymark Collectors
Annex B2	Documentation of the solar water heater	Annex A4	Parts list, drawings and specifications, Solar Keymark Systems
Annex F	Special test	Annex I	Complaints - Related to Solar KEYMARK Testing Laboratories and Inspectors

3. Different annexes between SHAMCI and Solar Keymark

SHAMCI	Title	SK	Title
Annex A1	Requirements - collectors	Annex A1	Harmonized factory inspection procedure and check list
Annex A2	Requirements - solar water heaters	Annex D	System families - requirements and extrapolation procedures
Annex G	International standards adopted in AIDMO for SWH	Annex F	Requirements for freeze resistance test of evacuated tube collectors with heat pipes following EN 12975:2006
Annex H	Checklist for test labs concerning availability of standards and competence	Annex G	Solar KEYMARK certificates and sublicenses for other brands, product names, and sellers
Annex I	Readiness Criteria for SHAMCI, Certification Body-Testing Facility-Inspectors	Annex H	Transition from EN 12975-2 to EN ISO 9806 (testing) (from 2014-01-10)
		Annex J	Specific requirements for PVT collector Certification

APPENDIX (3)

COMPARING SURVEILLANCE PROCEDURES BETWEEN SHAMCI AND SK⁴

1. General differences referring to SK specific scheme rules and SHAMCI scheme rules

	SK	SHAMCI	Notes
Surveillance procedure	<ul style="list-style-type: none"> - Checking of the documentation of the related Factory Production Control (FPC) <u>at least once a year</u> - Selecting samples for surveillance tests <u>at least every second year</u> 		
Complete re-testing	<ul style="list-style-type: none"> - Required if the initial date of Solar Keymark certification or the last complete re-testing was <u>more than 10 years ago</u> 	_____	<i>In principle, SHAMCI surveillance testing is a complete retesting every second year</i>
Complete re-inspection	_____	<ul style="list-style-type: none"> - Required by the <u>certification body</u> in case needed, based on inspection reports from the two years prior to surveillance 	
Surveillance test	<ul style="list-style-type: none"> - The surveillance test is a detailed physical inspection of the product and a comparison with the specifications of the original type tested sample. - The surveillance test shall be done <u>at least every second year</u> - The test samples for surveillance testing are taken out of the current production or from the stock of the manufacturer - The inspector points out the test samples and records their serial numbers 		
Related annex	Annex A2. Solar Keymark surveillance test	Annex D. Factory Production Control	

⁴ For a discussion of these differences, please refer to **part (a)** of **section 5.3.4** of this document.

2. Detailed differences in procedure referring to related annexes; SK Annex A2. Solar Keymark surveillance test and SHAMCI Annex D. Factory Production Control

General	SK Annex A2	SHAMCI Annex D	Notes
	Concerned with "Physical Inspection" only	Concerned with "Physical Inspection", as part of "Factory Production Control (FPC)"	<i>SHAMCI surveillance inspection may be only concerned with physical inspection, or as the whole inspection procedure including inspecting Quality Management System (QMS). The decision is up to the Certification Body, depending on audits from the previous two years.</i>
Section titles	<ul style="list-style-type: none"> - General: 1. Introduction 2. Procedure 3. Guide (<i>detailed product documentation to be available for the inspection</i>) - Report: Physical inspection for the Solar Keymark: <ul style="list-style-type: none"> 1. General information 2. List of performed inspections 3. Declarations of changes 4. Defining the design 5. Declaration of discrepancies 6. Recommendations of the inspector / test lab to the certification body 	<ol style="list-style-type: none"> 1. General 2. <u>Organization</u> 3. <u>Quality documentation</u> 4. Inspection and testing 5. Actions in the case of non-conforming products 6. Handling, storage, packaging and marking of products 7. Traceability of products 8. <u>Internal audit</u> 9. Tables for control on purchased products and on the final product and during production 	<i>Covered aspects are similar except for <u>underlined</u>, which are steps belonging to the full inspection procedure in case of SHAMCI surveillance; i.e. <u>organization</u>, <u>quality documentation</u> and <u>internal audit</u> relate to inspecting the quality system and documentation of the facility according to ISO 9001 standards.</i>