

1st Concentrating Solar Heat (CSH) Workshop

Amman, September 18-19 (2018)



Middle East & North Africa
Concentrating Solar Power
Knowledge & Innovation Program

MENA CSP KIP partners:



1st Concentrating Solar Heat (CSH) Workshop

The World Bank and the Ministry of Environment of Jordan co-hosted a conference on September 18-19, 2018 under the patronage of H.E. Nayef Hmeidi Al Fayez, focused on the industrial and commercial potential of Concentrating Solar Heat (CSH).

The total global demand for heat for commercial and industrial processes far outstrips the global demand for electricity. The workshop presented solutions for meeting that demand through renewable resources which are ideally suited to the region and essential for meeting climate goals.

CSH uses solar energy to produce the heat and steam needed for industrial processes and is a clean alternative to fossil fuels. In areas where solar irradiation is high, such as the Middle East and North Africa region (MENA), there is immense potential for CSH.

Jordan was chosen as the location for this first CSH event because the country holds a pioneering position in the MENA region on renewable energy. This is especially true of its early adoption of Solar Photovoltaic and Wind energy. Jordan's experience with renewable energy is an example of what can be achieved by concerted government action coupled with private sector engagement.

Furthermore, two of the pioneering installations of CSH for industrial processes in the MENA region can be found in Jordan. Attendees of the workshop had the opportunity to visit the two first CSH industrial projects in Jordan. The CSH projects, pioneered by RAM Pharma and JTI using Industrial Solar's technology, opened their doors for the local and international attendees to visit their CSH installations.

The workshop was attended by high level policy-makers from across the MENA region, as well as international finance institutions, CSH suppliers and industrial companies interested in adopting renewable energy in their processes. An award ceremony on the first day celebrated the environmental stewardship of CSH first movers RAM Pharma and JTI.

As a result of the event in Amman, and through the MENA CSP Knowledge & Innovation Program, the World Bank is planning to support the development of CSH in Jordan and across the MENA region. Right now it is advancing talks and surveys to understand what are the best mechanisms to achieve this objective.

Objectives

Speakers:



Key Topics discussed during the workshop include:

- The practicalities of CSH for industry in Jordan
- Understanding the development of the CSH market
- Analysis of the CSH potential
- MENA CSP KIP initiatives for development of CSH
- Here to Stay: establishing a thriving global clean CSH industry



123 ATTENDEES (20% END USERS)

17 COUNTRIES REPRESENTED

Invited attendees

Australia	MegaWatt Solutions	Jordan	Jordan Chamber of Industry
Denmark	Aalborg	Jordan	Jordan Electricity Company
Egypt	365 Ecology	Jordan	Jordan Renewable Energy and Energy Efficiency Fund (JREEEF)
Egypt	East Port Said Development	Jordan	Jordan River Company for Wood Industries
Egypt	Lotus Solar Technologies	Jordan	JTI
France	ALTO Solution	Jordan	Kasih Factories Group for Foodstuff
France	SUNCIM	Jordan	Marka Islamic Specialized Hospital
France	EY	Jordan	Ministry of Environment
Germany	Industrial Solar	Jordan	Ministry of Industry
Germany	JTI	Jordan	Ministry of Industry Trade and Supply
Germany	Fraunhofer ISE	Jordan	MixGen
Jordan	Abengoa Solar	Jordan	Najjar & Rawas Co.
Jordan	Al - Amal Plastic Industries	Jordan	National Electric Power Company (NEPCO)
Jordan	Al - Khaseeh Food Factories Group	Jordan	National Energy Research Center (NERC)
Jordan	Al - Qawafil Industrial Agricultural Co.	Jordan	Nour Solar Systems
Jordan	Al Thaniah Dairy Industry Co	Jordan	Nutri Dar
Jordan	Amman Chamber of Industry	Jordan	RAM Pharma
Jordan	Anfal Fertilizers Manufacturing Company	Jordan	Spinning for Manufacturing and Cloth Trading
Jordan	Arabic Park	Jordan	The Arab Company for Manufacturing of Metal Pipes
Jordan	Bank al Etihad	Jordan	United Pioneering Business
Jordan	Capital Bank	Jordan	University of Jordan
Jordan	Comprehensive Company for Energy and Environment Solutions	Jordan	Wahaj Investment
Jordan	Dana Tailoring Factory	Jordan	Weih Shams Renewable Energy Company
Jordan	Don Construction Company	Jordan	Agence Française de développement (AFD)
Jordan	FES Jordan & Iraq	Jordan	Capital Bank
Jordan	GIZ	Jordan	IFC
Jordan	Industrial Solar	Lebanon	Association of Lebanese Industrialists
Jordan	JADU	Lebanon	BM Mechaalany
		Lebanon	Centre for Innovation and Technology, Industrial Research Institute
		Lebanon	FRWI
		Lebanon	Green Essence Lebanon

Invited attendees

Lebanon	GreenWise Energy
Lebanon	LCEC
Lebanon	Ministry of Industry
Lebanon	Navitas Technology
Lebanon	Societe Libanaise de Carton SAL - SOLICAR
Lebanon	Zeenni Group
Lebanon	REAOL
Morocco	Cluster Solaire
Morocco	Groupe GCP Carton
Oman	Glasspoint Solar
Pakistan	Zed Solar
Palestine	Al Arz Ice Cream Co.
Palestine	Birzeit Pharma
Palestine	Palestine Energy and National Resources Authority (PENRA)
Palestine	Ramallah Hospital
Palestine	Massader Natural Resources & Infrastructure Development Co.
Spain	Abengoa
Spain	ATA Insights
Spain	Solatom
Spain	STA
Sweden	Absolicon
Tunisia	ANME
Tunisia	CLSB - Delice Group
Tunisia	Entreprise Tunisienne d'Activités Pétrolières (ETAP)
Tunisia	MEMER
Tunisia	Ministry of Finance
Turkey	Lucida Solar
USA	World Bank

SPEAKERS



**H.E. Nayef
Hmeidi Al Fayez**
Minister at Ministry
of Environment of
Jordan



Dina Y. Kisbi
Director of Climate
Change Directorate
at Ministry of
Environment of
Jordan



Laurent Debroux
Program leader
World Bank



Bilal Sugheyra
Investment Officer at
International Finance
Corporation (IFC)



Elena Cuadros
Energy Consultant at
World Bank



Monali Renade
Senior Energy Specialist at
World Bank



Jonathan E. Sinton
Senior Energy Specialist
at World Bank



**Hammam
Soliman, Ph.D.**
Senior Sales and
R&D Engineer at
Aalborg



Antonio Moreno
Middle East Director
at Abengoa



Luc Le Cabellec
Director at
Agence Française de
Développement



Saeed Anabtawi
Plant Manager at
Al Arz Ice Cream



Fadel Labadi
Manager of Industrial
Development
Department at
Amman Chamber of
Industry



**Abdelkader
Baccouche**
Deputy director and Solar
process heat program
Manager at
ANME



Shatha Bdaire
Director for SME
Business at
Bank al Etihad

SPEAKERS



Wasim Salfiti
Director of SME
Product Management
at Bank al Etihad



Moath Bornat
Supporting System
& Services Engineer
At Birzeit Pharma



Nadia Zeddou
Business Development
Manager at
Cluster Solaire



Alexis Gazzo
Partner
EY



Martin Haagen
Business Development
- MENA Region
Industrial Solar



Christian Zahler
Director at
Industrial Solar



Pedro Horta
Head of Group Solar
Process Heat and
Industrial Systems
at Fraunhofer ISE



Maen Obeid Ayasrah
Chairman of the board
at Jordan Chamber of
Industry



Tony Gebrayel
Energy Engineer
LCEC



Tariq Al-Alnabhani
Manager of Project
Development at
Glasspoint



Asma Yasin
Operational Manager at
Palestine Energy and
National Resources
Authority (PENRA)



Rasmi A. Hamzeh
Executive Director at
Jordan Renewable
Energy & Energy
Efficiency Fund (JREEEF)



Mohammad Swaitti
Engineer
JTI



Siddhart Malik
Managing Director
MegaWatt Solutions

SPEAKERS



Miguel Frasset
CEO
Solatom



Ayman Al-Maaitah
General Manager
Wahaj Investment



Sylvain Legrand
CEO at
SUNCIM



José Manuel Nieto
Partner at Solar
Technical Advisors (STA)



**Mahmoud (M.R)
Alnajami**
Chairman of the board
at RAM PHARMA

AGENDA

DAY 1 – (Tue, 18th of September)

08:45 - 09:00 Welcome Remarks

H.E.Mr Nayef Hmeidi Al-Fayez, Ministry of Environment of Jordan
Laurent Debroux, Program Coordinator, Agriculture and Environment Middle East

09:00 – 09:15 Keynote address by the Ministry of Environment

Dina Y. Kisbi, Director of Climate Change Directorate, Ministry of Environment

09:15 – 11:00 The practicalities of CSH for industry in Jordan

09:15- 09:35 - A quick introduction into CSH potential for industry in Jordan

Christian Zahler, Managing Director, Industrial Solar
Martin Haagen, Business Development, Industrial Solar

09:35 – 09: 45 Overview of the potential for renewables in industry in Jordan

Maen Ayasrah, Head of Energy and Environmental Sustainability Unit, Jordan Chamber of Industry

09:45 – 10:05 - Experience of the CSH industry in India

Siddharth Malik, Founder & CEO, MegaWatt Solutions

10:05 – 10: 50 - Panel Session - A look at the finance options available for CSH development

Bilal Sugheyer, Investment Officer, IFC
Luc Le Cabellec, Directeur pour la Jordanie et l'Irak, Agence Française de développement (AFD)
Shatha Bdair, Director for SME Business, Bank al Etihad
Wasim Salfiti, Director of SME Product Management, Bank al Etihad
Rasmi Hamzeh, Executive Director, Jordan Renewable Energy and Energy Efficiency Fund (JREEF)

Moderator: Monali Ranade, Senior Energy Specialist, World Bank

10:50 – 11:25 - Coffee Break

11:25 – 12:55 Understanding the development of the CSH market

11:25 – 11:40 - A strategic approach to understanding the sun as a fuel in the industry in MENA

Hammam Soliman, Senior Sales and R&D Engineer, Aalborg

11:40 - 11:55 - A quick intro to CSH use in mining processes

Moutaz Warak, Business Development Account Manager (Jordan ,Egypt and Iraq), Abengoa

11:55 – 12:10 - An SME cost-competitive approach to provide CSH

Miguel Frasset, CEO, Solatom

12:10 – 12:20 Jordanian Breakthrough Inventions in CSH

Ayman Al-Maaitah, General Manager, Wahaj Investment

12:20 – 12:55 - Experience of CSH development in Jordan

From the end user's point of view: Mahmoud Al-Najami, General Manager, RAM Pharma

From the end user's point of view: Mohammad Swaiti, Engineer, JTI
From ACI's outlook perspective and further development of CSH activities in Jordan: Eng. Fadel Labadi, Manager of the Department for Industrial Development, Amman Chamber of Industry (ACI), Jordan

12:55 – 13: 55 – Lunch Break

13:55 – 17:00 – Site Visits to CSH installations in Amman

18:30 – Onwards – Welcome Reception, Dinner & 'CSH First Mover' Awards Reception

AGENDA

DAY 2 – Wednesday, 19th of September

09:30 - 09:45 Welcoming Remarks

World Bank & Ministry of Environment of Jordan

9:15 – 11:00 Analysis of the CSH potential

09:45 – 10:15 - The big picture: competitiveness and investment perception for CSH

Elena Cuadros, Energy Consultant, World Bank

Pedro Horta, Member, MENA CSP KIP

10:15 – 10:45 - Preview of upcoming CSH Markets Report commissioned by the World Bank

José Manuel Nieto, Partner, STA

10:45 – 11:30 - Coffee Break

11:30 – 12:00 - CSH for Enhanced Oil Recovery (EOR) and desalination

Tariq Al-Alnabhani, Project Development, GlassPoint Solar

12:00– 13:15 MENA CSP KIP initiatives for development of CSH

Initiative in Palestine

Asma Yasin, Operational Manager, Palestine Energy and National Resources Authority (PENRA)

Monali Ranade, Senior Energy Specialist, World Bank

Pedro Horta, Member, MENA CSP KIP

Saed Anabtawi, Plant Manager, Al Arz Ice Cream

Moath Bornat, Supporting System & Services Engineer, Birzeit Pharma

Abd Al-Naser Al-Fari, Ramallah Hospital

Initiative in Morocco

Jonathan Sinton, Program Manager, World Bank

Alexis Gazzo, Member, MENA CSP KIP

Nadia Zeddou, Business Development Manager, Cluster Solaire

Initiative in Tunisia

Alexis Gazzo, Member, MENA CSP KIP

Abdelkader Baccouche, Expert, ANME

Initiative in Lebanon

Pedro Horta, Member, MENA CSP KIP

Tony Gebrayel, Energy Engineer, LCEC

13:15 – 14:30 – Lunch Break

14:30 – 16:00 – Here to Stay: establishing a thriving global clean CSH industry

14:30 – 15:30 - The latest of CSH technology

Sylvain Legrand, CEO, SUNCIM

Ayman Al-Maaitah, General Manager, Wahaj Investment

15:30 – 16:20 - Business Models for CSH projects

Martin Haagen, Business Development, Industrial Solar

Siddharth Malik, CEO, MegaWatt Solutions

Miguel Frasset, CEO, Solatom

16:20 – 16:35 – Closing Remarks & Next Steps

World Bank

Ministry of Environment

16:35 – 18:30 – Last chance to network Coffee Break



Contact: events@menacspkip.com



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