Fraunhofer ISI Fraunhofer ISE

Press Release

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Solar thermal power plants – a win-win situation for North Africa and Europe

Fraunhofer study analyzes the potentials of this technology for industry in the MENA region

Strong growth in the capacities of solar thermal power plants can currently be observed around the world. So far, these Concentrating Solar Power (CSP) plants have been constructed mainly in southern Europe and the US, even though North Africa and the Middle East actually have the biggest global application potential and thus the largest opportunities for this technology. This region stands to profit greatly from the expansion of CSP capacity in the future as shown by a new study on behalf of the World Bank by the Fraunhofer Institute for Systems and Innovation Research ISI and the Fraunhofer Institute for Solar Energy Systems ISE. The study's results indicate that European plant manufacturers and technology providers are also very interested and ready to get involved in North Africa and countries of the Middle East.

The background to the study is the World Bank's Clean Technology Fund (CTF), which is supporting the development of solar thermal power plants in MENA (Middle East & North Africa) countries. An investment program is intended to help finance new power plants in the MENA region, develop a local CSP industry as well as attract additional investment and allow MENA countries to participate in the global expansion of renewable energies.

The success and acceptance of solar power plant construction in the five countries examined (Egypt, Algeria, Jordan, Morocco and Tunisia) depend heavily on the integration and participation of local industry. The study "MENA Assessment of Local Manufacturing Potential for Concentrated Solar

Fraunhofer Institute for Solar Energy Systems ISE
Heidenhofstr. 2
79110 Freiburg
Germany
Press and Public Relations
Karin Schneider
Phone +49 761 4588-5150
Fax +49 761 4588-9342
info@ise.fraunhofer.de

www.ise.fraunhofer.de

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Power (CSP) Projects" was conducted by Fraunhofer ISI and Fraunhofer ISE in cooperation with Ernst & Young. Working together with industry in North Africa and Europe, the researchers analyzed the CSP value chain, the production processes of a solar thermal plant's core components and the industry potentials in the MENA countries. An action plan to realize local production capacities is shown in the form of a roadmap. Mario Ragwitz, who heads the study at Fraunhofer ISI, emphasizes that such an action plan is able to tap a large potential of the local value added and the turnover and jobs associated with this.

The study results indicate that the local value added for CSP plants in the MENA region can reach up to 60 percent on average. Christoph Kost, head of the study at Fraunhofer ISE, estimates the effect due to local value added in the region to be 14.3 billion US dollars if sustainable, long-term demand is created. 60,000 to 80,000 new jobs, some of them highly qualified permanent positions, can be created in the MENA region by 2025. Countries stand to profit from the development of production capacities and extensive infrastructure construction projects in the field of renewable energies if they exploit their regional advantages and dismantle market barriers. European plant manufacturers and component suppliers also see large growth opportunities in this market in the medium term. Europe and MENA both stand to benefit from the enormous solar power potential of the region via new markets for the companies of the two continents.

The results of the study were presented to the Egyptian Energy Minister at the end of September in Cairo and communicated and discussed at a workshop attended by more than 120 local and international industry representatives, government officials from the five target countries and project partners.

Fraunhofer Institute for Solar Energy Systems ISE
Heidenhofstr. 2
79110 Freiburg
Germany
Press and Public Relations
Karin Schneider
Phone +49 761 4588-5150
Fax +49 761 4588-9342
info@ise.fraunhofer.de

www.ise.fraunhofer.de

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The two Fraunhofer Institutes founded the Fraunhofer Center for Renewable Energy Innovation Policy RENIP in 2009 with the objective of combining the experience of Fraunhofer ISI in systems analysis and innovation research with the broad technology expertise of Fraunhofer ISE in the field of renewable energies in order to conduct joint detailed technology and economic analyses.

Information material:
Fraunhofer ISE, Presse und Public Relations
Phone +49 761 4588-5150
Fax +49 761 4588-9342
info@ise.fraunhofer.de
Text of the PR and photos can be downloaded from our web page: www.ise.fraunhofer.de

Contact Person for further information:
Project leader
Christoph Kost, Fraunhofer ISE
Phone +49 761 4588-5750
Christoph.Kost@ise.fraunhofer.de
Dr. Mario Ragwitz, Fraunhofer ISI
Phone +49 721-6809 157
Mario.Ragwitz@isi.fraunhofer.de

50 MWe parabolic trough power plant (Andasol1) in Andalusia, Spain. The integrated thermal reservoir holds enough heat to run the turbine for about seven hours at full load. ©Fraunhofer ISE

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79110 Freiburg
Germany
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Karin Schneider
Phone +49 761 4588-5150
Fax +49 761 4588-9342
info@ise.fraunhofer.de

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