Report about Damascus Workshop 6th – 7th july, 2009

The GTZ Programs on Regional Promotion of Innovation and Technology to SMEs in Near East in cooperation with the National Energy Research Center (NERC) in Syria, the Private Sector Development (Egypt) and Urban Development (Syria) jointly organized the Regional Workshop on:

Solar Cooling Technology
Technical Aspects and Feasibility in the Mashriq-Region
Damascus 6th-7th July, 2009

The two days event, which was attended by more than 80 participants from Egypt, Jordan and Syria, is a follow up for the Thermal Solar Application workshop that held in Cairo 23rd – 25th March 2009.

The workshop provided a platform for a fruitful exchange between interested private sector and public sector representatives from the Mashriq-Region and Germany to discuss the current state-of the- art of research and technology, besides the feasibility of solar cooling technology.

In the opening speeches, Dr. Magdi El-Menshawi, GTZ country director Syria and Lebanon, talked about GTZ projects and programs in Syria such as RE&EE Master Plan, and focused on the necessity of adapting EE&RE technologies, then Eng. Mohamed Khalil Sheki, the general director of the National Energy Research Centre (NERC), raised the issue about the bad effect of the growing numbers of electrical air-conditioning regarding the peak load in Syria, and the need for alternative cooling technology

The first day was organized in two sessions, dealing with solar cooling technology and market as well as lessons learned from the region. The second day included a tour in the old city of Damascus under the subject of EE in the historical building, and the planned solar cooling pilot project in Syria which aimed to be performed in Maktab Anbar. Representatives from RE&EE agencies, universities and research centers attended the workshop and discussed the availability of this technology to enter the local markets, and the optimum ways to do so.

Overview of the event activities,

Day 1, "Solar Cooling Technology and its Feasibility in the Mashreq Region"

The first sessions was about the history of the technology, the development patterns ,the current situation as well as the economical evaluation

Prof. Dr. Ursula Eicker, the Scientific Director of the Research Centre Sustainable Energy Technologies at the University of Applied Sciences in Stuttgart (zafh.net), gave an analytical view about the main technologies used in thermal solar cooling systems and their advantages and disadvantages, the market situation, developments trends. She talked about 400 solar cooling projects worldwide using the different technologies (8% adsorption, 63% absorption and 29% DEC), the production cost goes between 1€/kWh in Europe and 0.2 €/kWh in MENA region.
Prof. Ara Sayegh, the head of the Power Engineering Faculty of the Mechanical Engineering University of Aleppo, presented a background on the need for cooling in the region as well as the potential to achieve cooling through the use of solar energy, he highlighted the main research topics related to solar cooling in the region, the barriers for the application of solar cooling technology and measures to overcome these obstacles with a special focus on the need of more R&D.

Dr. Jürgen Schumacher, General Secretary of the Research Center Sustainable Energy Technology at the University of Applied Sciences in Stuttgart (zahf.net), presented an introduction of simulation concepts for solar cooling application through a case study of INSEL® software which is used to understand, plan, monitor and visualize energy system.

Dr. Uli Jakob, Head of the Solar Cooling Division of SolarNext AG and a consultant at novus energy research for thermal/solar cooling, process heat, energy efficient buildings and systems in Weinstadt, Germany, shows the solar cooling global market development, the proper components of the sola cooling systems and promotion of such a technology.

Florentine Visser, registered Architect in the Netherlands and Consultant for Sustainable Building & Construction, presented the case study of the Aqaba Residence Energy Efficiency Project, which was a part of MED-ENEC program illustrated on the design, technology and system components. As far as we understand, the project passed through many failure steps and till now it haven't achieved the requested results.

Eng. Mohamed Khalil Sheki, General Director of the Syrian National Energy Research Centre (NERC), shows the Syrian targets regards EE&RE and NERC activities in terms of attaining them, he highlighted the recent issued regulations in Syria which are Energy Conservation Law, Energy Efficiency Standards for Electrical Appliances Law and Syrian Building Insulation Code.

The presentations of the day followed by a panel discussion included the speakers and focused about the most important question, Is the solar cooling technology mature enough to be adapted in the region as one of the major EE&RE applications….?? The panelists and the audience agreed that this technology is still in the research phase and needed to be promoted and supported to step into the commercial phase.

Day 2, "Energy Efficiency in Traditional Buildings and Maktab Anbar"

Eng. Feras Asfour from the Urban Development Program in cooperation with the Old City Directorate, has leaded the guided tour under the topic "Energy Efficiency in traditional homes in the old city of Damascus" which showed the architecture design of the old city streets and homes which consider the environmental aspects and the thermal comfort for the residence, the tour included a visit to one of the historical big homes in Old Damascus called Bayt Alsibaiy,

The city tour followed by a visit to Maktab Anbar where the Urban Development Project is hosted, an introduction to the project presented by Eng. Firas Asfour,

Dr. Uli Jakob, talked about the pilot project of the development of a solar cooling system for Maktab Anbar, Damascus challenging of dimensioning, which considered as a part of the UDP project. He presented the results came out from the study submitted for the project.

An open discussion about the project followed the presentation; the participants agreed that such a place is not appropriate for such a project for two main reasons:

1- The pilot project should be implemented in a common designed place not a very special unique historical place,
2- The solar cooling system may cause visual distortion due to the big area of the solar collectors that will be installed on the building roofs.

-