CUBA SOLAR

Large-scale Solar Cooling and Heating systems: Austrian-Cuban Cooperation for innovative technology transfer



Summary Work Package 2: Awareness, cooperation building, dissemination¹

WP Leader Energieinstitut der Wirtschaft:

During the project period, several activities were carried out in WP2:

Meetings and presentation of the preparatory project for solar cooling and hot water production system at the IPK hospital to main stakeholders:

Ministries

Cuban Ministry of Industry (MINEM) Cuban Ministry of Foreign Trade and Investment (MINCEX) Cuban Ministry of Energy and Mines (MINEM) Cuban Union de Electrica (UNE) Ministry of Tourism (MINTUR) Cuban Ministry of Agriculture Cuban Embassy in Vienna

Public Institutions/companies

Groupo de la Electronica (GELECT) Empresa comercial izadora de Servicios Tecnos y Technologicos (TECNOSIME) Empresa Refrigeracion y calderas (RC) Instituto de Refrigeracion y climatization (IRC) – Cuban Project Partner

International donor/financing organisations

United Nations Industrial Development Organization (ONURE, UNIDO), Havana Agence Française de Development (AFD), Havana United Nations Industrial Development Organization (UNIDO), Vienna The OPEC Fund for International Development (OFID), Vienna

Austrian donor/financing organisations

Österreichische Kontrollbank (OeKB)

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Workshops, seminars and dissemination activities in Cuba

15.12.2017: VI Evento National de Refrigeration, Climatizacion y Ventilacion (full day)² Participating project partners: SOLID, EIW, IRC

This is a yearly event for the whole Cuban refrigeration branch to exchange information between scientists, research institutes and institutions responsible for building, operating and maintain AC installations.

In an own presentation SOLID could inform about the basic concept and the technology of the solar cooling and hot water project. <u>More than 200 Cuban and international experts in the AC-sector</u> and representatives of Cuban ministries and institutions participated in this full day workshop. The event was a yearly organised and hosted by the Cuban project partner IRC.

After the presentation and during breaks it was possible to explain the background of the project in more detail.





² Several photos from events and meetings have been edited or removed in order to comply with data protection rules.

26.04. 2018: Austrian-Cuban Workshop with R&D presentations at IRC (half day) Participating project partners: SOLID, EIW, IRC

About 20 participants from MINEM, ONURE, Biocuba Farma and IRC

SOLID gave a presentation about solar-thermal technology for

- Air conditioning and cooling
- Hot water production
- Best practice examples
- Experience with these technologies in the Caribbean

After that presentation, the participants used the possibility for statements, questions and for detailed discussion.

26.11.2018: Austrian-Cuban Showcase at TECNOSIME (full day)

Participating project partners: SOLID, EIW, IRC <u>About 80 participants from MINEM, MINDUS, MINSEX, GELECT and different Cuban business</u> <u>and research institutions</u>

SOLID gave a presentation about the technical solation for the solar cooling and hot water production project at the IPK hospital and information about this application of solar thermal installations. EIW gave a presentation about the economic feasibility of the project and information about the Austrian R&D-activities in the renewable energy and energy saving sector.



28.11.2018: CUBASOLAR

Participating project partners: SOLID, EIW

The project partners visited the president of CUBASOLAR who is also the editor of the quarterly publication "ENERGIA Y TU".

CUBASOLAR was created In November 1994 as a non-governmental Organization (NGO), currently with more than 1000 members organised in provincial offices.

CUBASOLAR supports the development of national teams that contribute to the use of renewable sources of energy with high efficiency, in particular promoting the training of technicians and workers, both in the country and abroad, in order to achieve a high international quality of products. CUBASOLAR coordinates and supports demonstration projects in the field of renewable energy sources, primarily in the education and health sector.

ENERGIA Y TU is the most important publication about renewable energy development in Cuba. About 10,000 copies are printed and, in addition, the publication is available in the internet (http://www.cubasolar.cu/Biblioteca/energiaytu.asp).

During the meeting, information on the Cuban renewable energy sector, existing experience in the field of solar cooling and heating in Cuba and possibilities for cooperation and dissemination of activities in the Austrian Cuban preparatory project at the IPK hospital where discussed. It was agreed that the results of the preparatory project will be published in one of the ENERGIA Y TU publications 2019.

30.11.2018: University Havanna - IMRE Laboratory for Material Science and Technology Participating project partners: SOLID, EIW

The meeting was with a professor who is working as the IMRE Laboratory expert in PV and utilization of solar energy systems. He is president of the Laboratorio de Investigationes Fotovoltaicas and is advisor for different ministries and institutions.

IMRE aims to stimulate research in fields studying renewable and clean energies, equipment and materials which can be used directly for the benefit of human health as priority objectives During the meeting information on Cuban technologies, material specifications and experience with solar thermal and PV installations were discussed.

It was agreed that a closer cooperation and information exchange would be of benefit for both parties and can support the solar cooling and hot water system utilization in Cuba.