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Southern African Solar Thermal Training and Demonstration Initiative (SOLTRAIN)

Solar Thermal Energy for Namibia

Training Course for Experts & Professionals on

Pumped Solar Water Heaters

Report

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AUSTRIAN DEVELOPMENT AGENCY

Uniting against Poverty

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1. INTRODUCTION:

The Namibia University of Science and Technology (NUST), through the Namibia Energy Institute (NEI) conducted a Training course for Experts and Professionals on Pumped Solar Water Heaters under the Southern African Solar Thermal Training and Demonstration Initiative (SOLTRAIN Project) in collaboration with the Ministry of Mines and Energy (MME). The training course was the third in a series of three technical training course for professionals in the course of the SOLTRAIN. The aim of the course was to increase the theoretical and practical knowledge to be able to design, build and to install pumped solar thermal systems. The targeted groups for the training were the staff of companies, who are already active in solar water heating systems, staff from Universities and Vocational training centres, as well at technical experts from utilities, government bodies and housing developers. The training took place on 22 - 23 June 2017 at NUST hotel school. The training was attended by more than 50 participants.

The NEI director, Dr Zivayi Chiguvare welcomed all the participants to the workshop and give a background of the SOLTRAIN project. The SOLTRAIN project is a regional initiative on capacity building and demonstration of Solar Thermal systems in the Southern African Development Community (SADC) region. The project is funded by the Austrian Development Agency (ADA) and co-funded by the OPEC Fund for International Development (OFID). The overall goal of SOLTRAIN is to contribute to the switch from a fossil fuel based energy supply to a sustainable energy supply systems based on renewable energies in general but based on solar thermal in particular.

Rudolf Moschik from AEE - INTEC (Institute for Sustainable Technologies) from Austria conducted the training.

The following topics were covered on Day 1 of the Training:

- The framework, duration and the content of the Project SOLTRAIN;
- Different types and applications of solar thermal systems, solar thermal systems designs for; medium sized hot water systems (thermosyphon and pumped systems);
- Solar resource, calculation of collector efficiency;
- Evaluation of different hydraulic schemes, dimensioning of collector hydraulics for middle; sized solar thermal systems (high and low flow systems) and
- Dimensioning of main components for a solar thermal system (storage, piping, expansion vessels).

The topics that were covered on Day 2 of the training include:

- Dimensioning of solar thermal system and economical calculations with the help of simulation programs (RETScreen and Tsol);
- Presenting monitoring results of solar thermal systems gained during SOLTRAIN activities and

- Practical training with the solar trailer (pumped system): setting of controller, system check, filling of the systems.

Rudolf Moschik explaining the Pumped system and setting up the controller, Commissioning system quality check and filling of the systems in the Solar Trailer.

Some of the Participants who attended the Training course for Experts and Professionals on Pumped Solar Water Heaters. An assessment was written by the participants, and participants who achieved more than 60% in the test were awarded certificates of competence.

The best participants who scored highest, Mr Matsungo Canisius receiving a certificate from the Director of NEI, Dr Zivayi Chiguvare

2. SUMMARY:

Participants were encouraged to go out and look for opportunities for solar thermal applications because there is a budget in the SOLTRAIN project for co-financing up to 50% of demonstration systems. The participants were encouraged to use the practical knowledge from the training in order to design, build and installed pumped solar thermal systems of good quality and working properly. The next training will be on quality inspection of Solar Thermal Systems