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SOLTRAIN

Solar Heat for Industrial Applications

Agenda - Training Course

30 and 31 January, 2014

Skilpadvlei,
Stellenbosch, South Africa



Background Information

This training course is carried out in the frame of the project SOLTRAIN 2, which is carried out in by "AEE - Institute for Sustainable Technologies" from Austria in cooperation with the Centre of Renewable and Sustainable Energy Studies (CRSES) of Stellenbosch University.

The aim of this training course is to introduce the possibilities of solar heat integration into industrial processes as well as to conduct a design study with the participants of the training course.

Please note:

To qualify for the training course participants have to have attended at least one of the previous Train the Trainer courses of SOLTRAIN and should have a basic technical background with basic know-how in thermodynamics.



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Agenda

Thursday, 30 Jan.	
09:00 h	Welcome Prof Alan Brent, CRSES Werner Weiss, AEE INTEC
09:15 h	Introduction of participants and expectations
09:30 h	The framework, duration and the content of the SOLTRAIN 2 project
09:45 h	Solar Heat for Industrial Processes Worldwide potential, sectors, processes –overview on installed systems Werner Weiss, AEE INTEC
10:15 h	Coffee break
11:00 h	Collectors suitable for Industrial Applications Large-scale flat plate collectors, evacuated tubes, Fresnel collectors, parabolic troughs; comparison of efficiency Werner Weiss, AEE INTEC
11:30 h	Solar Thermal Integration into Industrial Processes Procedure for process optimization and solar integration, solar thermal system concepts, storage systems and optimized integration point Christoph Brunner, AEE INTEC
12:30 h	Lunch
13:30 h	Solar Process Heat in Breweries Concepts and experiences with installed systems Franz Mauthner, AEE INTEC
14:00 h	Bigger and hotter – Fresnel Collectors for Applications Tobias Schwind, Industrial Solar, Germany
14:30 h	Solar Process Heat Systems – Design Study Design process based on a case study Flow chart, mass and energy balance, Sankey diagram Christoph Brunner, AEE INTEC
15:30 h	Coffee break
16:00 h	Solar Process Heat Systems – Design Study continued Flow chart, mass and energy balance, Sankey diagram Christoph Brunner, AEE INTEC
17:30 h	End of 1 st day



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Friday, 31 January	
09:00 h	Continuation: Execution of a Design Study Process integration and process optimization – how to reduce the energy consumption and find best solar thermal integration point Christoph Brunner, AEE INTEC
11:00 h	Coffee break
11:30 h	Solar Thermal System Design Franz Mauthner, AEE INTEC
13:00 h	Lunch
14:00 h	Solar Thermal System Design - continued Franz Mauthner, AEE INTEC
16:00 h	Coffee break
16:30 h	Presentation of results Conclusion and feed back
17:30 h	End of training course

About SOLTRAIN

In the project SOLTRAIN 2 support is provided for partner countries in Southern Africa to migrate energy supply based on fossil resources to energy supply based on sustainable resources in general and solar thermal in particular.

Partners of the project are three universities, the Sustainable Energy Society of Southern Africa (SESSA) and solar thermal industries.

Within the project awareness raising campaigns, establishing of competence centres and solar thermal technology platforms and installation of demonstration plants are the main fields of activity.

Through the awareness raising campaigns relevant stakeholders and interested community members get informed about the broad field of solar thermal applications and their impact on security of energy supply, poverty, creation of jobs and environment.

Institutional structures at universities, universities of applied sciences and at the Sustainable Energy Society of Southern Africa will be established for know-how-transfer, training, technical support of local industries and supporting politics. Within these structures research and development competence will be set up.

Solar Thermal Technology Platforms contribute to cross-linking of all relevant stakeholders like solar thermal industries and suppliers of components, universities and schools, politics and administration for accelerated dispersal and use of solar thermal plants and preparing road maps for implementing solar thermal systems. An interstate technology platform for Southern Africa will intensify cooperation and information transfer. To apply the knowledge build up in trainings for craftsmen, students or responsible politicians in practice, 40 to 50 demonstration plants will be installed and will show various applications of solar thermal covering hot-water and cooling applications in hospitals and children's homes as well as heat for industrial processes in the food and beverage industry.

The project is financed by the Austrian Development Agency and implemented by AEE INTEC