Solar Process Heat

The third newsletter of the Intelligent Energy Europe Project SO-PRO

The IEE-project "Solar Process Heat" (SO-PRO)

The IEE-project "Solar Process Heat" (SO-PRO) aims at triggering the starting-up of markets for solar process heat in 6 European regions. The project partners are:

- O.Ö. Energiesparverband (Upper Austria), project co-ordinator
- ESCAN (Spain/Castillias and Madrid regions)
- Energy Centre České Budějovice (Czech Republic/South Bohemia)
- GERTEC (Germany/North-Rhine Westphalia)
- Sächsische Energieagentur (Germany/Saxony)
- Energy Agency of Podravje (Slovenia/Maribor region)
- Fraunhofer Institute for Solar Energy Systems

For further information, please visit the project website www.solar-process-heat.eu

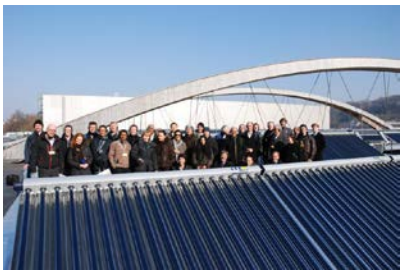
If you would like to receive other information on this project, please register here. We would also be pleased to receive your suggestions and feedback at this website or to office@esv.or.at.

International activities

International conference "Solar Process Heat", 3-4 March 2011, Wels/Austria
The international conference "Solar Process Heat" was held from 3 to 4 March 2011 in Wels and was attended by more than 180 participants from 35 countries. It was held in the framework of the annual international conference "World Sustainable Energy Days" (2-4 March 2011, www.wsed.at).

The conference programme included sessions on "potentials, markets and practical experiences with solar process heat", "technology and examples" & "project examples", a round-table discussion and a technical site-visit. 24 speakers from Europe and beyond presented technology solutions, market reports and best practice examples.





International training seminar for solar process heat

An international training seminar "Solar Process Heat" was held on 9 June 2011 in Munich as an official side event of the trade fair and exhibition Intersolar Europe. It attracted 30 participants from 11 countries. Training contents included:

- selected industrial processes which require low temperature heat
- an interactive training session on different planning approaches
- a discussion of different system concepts and collector types
- case studies including financing aspects and "solar contracting" examples



Stand at the Hannover Fair

A "SO-PRO-stand" at the Hanover fair - the world's leading exhibition for industrial technologies - was organised and staffed by the project partners. The trade show (4 – 8 April 2011) offered the opportunity to present the Solar Process Heat project to a wide range of professional visitors. The project partners had more than 200 personal contacts with professional visitors from all over the world providing information on the results of the SO-PRO project as well as guidance on how to start concrete projects.


"SO-PRO - Lessons learnt" – conclusions from stakeholder discussions

One important element of the SO-PRO project is the involvement of stakeholders, the exchange of experience and the lively discussions at events and training seminars. Based on the recent activities within the project, the following conclusions for triggering market development of SO-PRO installations can be drawn:

- Economic viability of solar process heat is more likely if:
  - low temperature process heat is required mostly in the summer months
  - no waste heat from other processes can be used
  - heating oil is the main fuel
  - dedicated funding schemes are available

- A wide range of industries & processes
  - processes such as cleaning/washing, hot water as "raw material", low temperature baths etc. can be found in a range of industry sectors
  - open industrial processes with a low available temperature level are promising
  - implementation can be easier in medium sized and family-owned enterprises

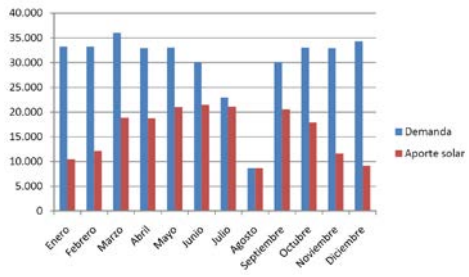
- Planning recommendations:
  - energy efficiency measures should be considered first
  - reliable knowledge of the process parameters (load-profile, temperature levels, mass flows etc.) is necessary
  - different ways of integrating solar thermal system (either at the level of heat generation or at the level of heat demand/process) should be considered
  - proper design of the solar thermal collectors (dimensioning, inclination, type of collector, integration, maintenance, remote control) is important

- Major information gaps
  - significant awareness raising, information and training are needed (for solar companies, planners, industrial companies)

Pilot projects of the SO-PRO project

Among others, the following pilot projects were supported by the SO-PRO project:

Montesano: Solar process heat for Iberic products, Spain
Montesano is a company specialised in meat products and well-known for its Iberic ham. As in many food industries, the production process requires high-amounts of warm water for cleaning and washing processes. Based on the positive experience with a solar thermal installation at another company site, a solar thermal system of 252 m² was installed in Jerez de los Caballeros, with two 15,000 litre buffer storages. The process supplied by the solar system include the washing processes of the raw products, the first and second product treatments as well as the washing of the final products and the cleaning of vessels and machinery. The investment costs were 175,000 Euro, with a pay-back time of about 7 years.



SOVEN: Sheep wool processing, Slovenia

SOVEN is a sheep wool processing company in Selnica ob Dravi, producing wool as well as semi and final wool products. Environmental considerations are important to the company and are an element in the marketing of their products. The hot water demand is mostly for washing, sanitizing and colouring processes in wool processing which require 40 - 45 °C. A solar thermal system with 7 m² was installed which is the first solar process heat installation in the region. Investment costs were about 5,500 Euro, the annual solar fraction is calculated to be 70 %.

Hustert Galvanik: Solar process heat for electroplating, Germany

Hustert Galvanik in Rahden is specialised in surface treatment and electroplating (galvanizing). The company had an interest in stabilising its energy costs and reducing its dependency on the international energy markets. A solar thermal installation with 221 m² (vacuum tubes) was installed which supports the heating process of the industrial baths which require 80 °C. The solar fraction is expected to be about 40 %. Total investment costs were about 160,000 Euro.

Asamer: Solar and biomass for process heat, Upper Austria
Asamer operates a gravel and concrete plant at their site in Ohlsdorf which is also the company headquarter. In the framework of a comprehensive renovation - which also included a thermal retrofitting of the office building - a heat distribution grid supplied by biomass and a solar thermal system (167 m² flat plate collectors) and 2 buffer storage tanks were installed. During the summer months, the solar installation is calculated to cover all heat needs at the company site.



Vaporizados Palencia: Truck vessels washing, Spain
Vaporizados Palencia, located in Villamuriel de Cerrato, is specialised in washing truck vessels which offers its services to transporters of different products, such as chemicals, food, industrial oils etc. Each washing process is different, depending on the materials transported. The average need of water is about 300 litre/truck, with 20 trucks washed per day. A solar thermal system of 140 m² was installed with two buffer tanks of 5,000 liters each. The investment was 85,000 Euro, due to a regional subsidy, pay-back time of 7 years can be achieved.



And So-Pro goes on….

Although the IEE-project ends end of September 2011, a number of SO-PRO activities will be continued by the project partners, for example:

- the training seminars, developed in the frame of the project, will be continued in the partner regions
- the website will be maintained and updated
- the publications will remain available, e.g: checklists, planning guidelines, regional publications, project leaflet

- an informal network "Solar Process Heat Network Europe" will be set up by the project partners

Check out the website www.solar-process-heat.eu for more details.

More information on SO-PRO:

www.solar-process-heat.eu
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