



EVENT DESCRIPTION

Project Partner: GERTEC

Title of the event: Curreant Projects and Solar Cooling

Date & location: 20. Sept. 2011 at ZukunftsZentrumZollverein in Essen

Organiser: GERTEC Ingenieurgesellschaft

Number of Participants: 36 participants + 5 speakers

Summary

The last event in NRW within the SO-PRO-project was held on the issues realised solar thermal plants in the NRW region and on solar cooling.

Ritter XL Solar and Vaillant presented two so-pro-plants installed recently – one at the electroplating company Hustert in Rahden, one at the Vaillant factory in Remscheid, using the solar heated water for washing copper pipes.

Solarnext gave an overview on technical and economic aspects on different types of solar cooling systems and possible applications in industry and administrative buildings.

Ritter XL Solar presented the solar cooling project at FESTO en Esslingen.

In the afternoon the round table participants had the possibility to visit the solar thermal plant at Vaillant in Remscheid.

Objective & main programme point

Because of multiple customer feedback a round table was organised where mainly realised projects have been presented. The presentations have been divided into two blocks – solar process heat thermal and solar cooling. Because of the elevated complexity of the solar cooling part, first a general overview has been given by one speaker on this issue.

Besides the regular round table meeting in the morning, the participants have been invited to join a site visit at the Vaillant production hall. A group of 20 persons used this opportunity to visit a solar process heat plant. The participants had the possibility to ask numerous questions to the two planers of the solar thermal plant.

Conclusions & lessons learnt (based on stakeholder input)

During the round table discussions was pointed out clearly above all by the HVAC-companies, that the existing funding guidelines are very confusing. Possible clients for solar thermal installation also ask them for funding programs. Some of the programs can be freely combined, others not. Some programs are intended only for small and medium-sized companies, some also for large scale enterprise.

The SO-PRO-team has been asked for support on this issue by drawing up an overview on existing support programs.

Very lively discussed has been the solar process heat project of Hustert. At this installation there was no space left for installing buffer storage so the installation was realised in that way that the formation of hot steam in the solar collectors is tolerated. The installation was realised anyhow without using fitting within the pipe system after the hydraulic separator avoiding the damage of the fitting in case of stagnation. Also was pointed out very clearly during the discussion with the participants that the information of the real heat demand in a production process by the customer is indispensable for designing the plant in a way to avoid stagnation.

The water based system of Ritter XL Solar take advantage of the very high heat transfer performance of the medium water but it has to be heated during the cold season because of the risk of frost damage. But the expenditure of energy for heating the collectors is very low, comparing it with the increased gain of energy of the water based system opposing a glycol-water-based system.

The presentation of the solar process heat plant at the Vaillant factory in Remscheid, generating hot water for the washing of copper tubes informed about the “drain back technology” which actually is used only in installations in foreign countries, not in Germany.

The drain back technology enables the complete drawdown of the solar collector in an instant when the collector temperature is rising up to a critical level avoiding this way the stagnation of the solar process heat plant. A temperature rising usually appears when there is not enough heat consumption in the production process. With the drain back technology the plant can react immediately. When the heat consumption reaches again a level that enables the introduction of solar heat, within a few minutes the collectors can be filled up again with the medium and keep on giving energy support to the process.

The presentation on technical and economic aspects of solar cooling showed the high potential of this technology in Germany and Europe. Interesting was the aspect that the costs of solar cooling are on a strong decrease. Comparing the specific costs per kW since 2007, the costs decreased up to 50%. Actually solar cooling installations including collectors, hot water storage, pump-set, chiller, re-cooler and system controller costs between 2.250 and 4.500 EUR/kW.

ANNEX

The following documents are included in the annex:

- Pictures
- Programme

Pictures





„Solare Prozesswärme – SO-PRO“- Workshop IV: Aktuelle Projektbeispiele und Solares Kühlen

Datum: 20. September 2011
Ort: Zukunftszentrum Zollverein - Triple Z, Katernberger Str. 107, 45327 Essen
Konferenzraum 1, Gebäude G1, Erdgeschoss

Programm

8:45 Uhr	Eintreffen der Teilnehmer
9:00 Uhr	Begrüßung der Workshopteilnehmer Dipl.-Ing. (FH) Heli Kasa M.Sc. – Gertec GmbH Ingenieurgesellschaft, Essen
9:15 Uhr	Solare Prozesswärme für einen Galvanikbetrieb Hustert Galvanik, Rahden Dipl.-Ing. Jan Neyrinck – Ritter XL Solar GmbH, Karlsbad Diskussion
9:55 Uhr	Solare Prozesswärme für eine Rohrwaschanlage Vaillant GmbH, Remscheid Dipl.-Ing. Sascha Severin – Vaillant GmbH, Remscheid Diskussion
10:25 Uhr	Kaffeepause
10:45 Uhr	Solares Kühlen – Technische und wirtschaftliche Grundlagen Absorptionskälte und Adsorptionskälte Dr. Uli Jakob – SolarNext AG, Rimsting/Chiemsee Diskussion
11:15 Uhr	Solares Kühlen - Projektbeispiel Adsorptionskälte für Büroräume der Festo AG in Esslingen-Bergheim Dipl.-Ing. Jan Neyrinck – Ritter XL Solar GmbH, Karlsbad Diskussion
11:45 Uhr	Abschlussdiskussion Ausblick auf künftige Netzwerkaktivitäten, Themensammlung für nächsten Workshop
12:15 Uhr	Gemeinsames Mittagessen
ca. 15:00 Uhr	Ortstermin zur Besichtigung einer solaren Prozesswärmanlage Vaillant GmbH – Berghauser Straße 40 – 42859 Remscheid