Rio 6 World Climate & Energy Event

SolCamp

Campaign for Increasing Use of Solar Thermal Systems at Camping Sites

Dr. Gerhard Valentin
Structure

• Main Targets of the Projekt
• Work Steps
• Software Tool
• Outcome of the Projekt
Main Target

Reduction of CO$_2$ Emissions

Substitution by Solar Heating Systems

Other Activities
Intended Market Trend

- 200 GW mentioned in ESTTP-Paper
- 70 GW (100 Mio m²) mentioned in "Sun in Action" (Active Policies)
- 7 GW (10 Mio m²) mentioned in "Sun in Action" in operation in 2001
- 10 GW (14 Mio m²) in operation in 2004

Specific system cost [EURO/kWth] vs. total installed thermal capacity [GWth] from 1980 to 2040.
Campaign for Use of Solar Heating Systems at Camping Sites
Partners

11 Regions in 9 Countries

- Great Britain
- Germany
- Spain
- Portugal
- Italy
- Kroatia
- Slovenia
- Poland
Expected Results

• Increase of 5% of STHS p/a
• 7,500 m² of New Collector Area p/a
• Additional of 150 New Jobs
• Multiplication to Privat Houses
Main Work Steps

- Regional Networks will be established
- Training of „SolarCheckers“
- Check Audits of Camping Sites
- Implementation of Solar Heating Systems
Regional Networks

- Owners of Camping sites
- Tourist-/Camping-Associations
- Energy agencies / Energy consultants
- Chamber of handicraft

SOLCAMP

[Image: RIO 6 Solcamp Intelligent Energy Europe]
Training of SolarCheckers

- Performing Training courses for SolarCheckers

- Providing tools for SolarCheckers:
  - New Software T*SOLcamp
  - Manual „Solar Energy for Camping Sites“
System Hydraulics

Thermosiphon System

System with Bi-干线 (Twin Coil) DHW Storage Tank for DHW Supply

System with DHW and Solar Tanks

Large-Scale DHW System with Standby Tank
Collector Array

Collector

Use which collector type? Select

- Standard Flat-Plate Collector

At which tilt angle should the collectors be set? 40°

Which direction for the collector orientation? 0°
(0° South, -90° East, 90° West, 180° North)

Piping

- Single (One-Way) Length of Piping Inside Building: 10 m
- Single (One-Way) Length of Piping Outside Building: 1 m
Results simulated

<table>
<thead>
<tr>
<th></th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electricity Savings</td>
<td>30.304,1 kWh</td>
</tr>
<tr>
<td>CO2 Emissions Avoided</td>
<td>20.182,5 kg</td>
</tr>
<tr>
<td>DHW Solar Fraction</td>
<td>70,2 %</td>
</tr>
<tr>
<td>System Efficiency</td>
<td>35,2 %</td>
</tr>
</tbody>
</table>
Outlook, Snow Ball Principle

Campain

SolarCheckers

Camping Sites

Home Owners

SolarCheckers

Camping Sites

Home Owners

SolarCheckers

Camping Sites

Home Owners

Home Owners

Home Owners

Home Owners
Thank You
For Your Intention

For Further Information:

www.solcamp.eu
www.valentin.de
Outcomes of the Project

• 1000 “SolarCheckCamping” Audits
• 250 New Solar Systems in Camping Sites after 2 years
• 8 GWh Energy can be substituted
• 5,000 t of CO₂ Emissions avoided
• 10,000 solar systems in privat houses
• 50,000 m² collector area