TECSOL

Engineering office – specialized in solar energy.... **Since 25 years**
47 collaborators in France (Perpignan, Paris, Lyon, Strasbourg,
Orange, Montpellier + La Réunion, Antilles )+ Spain (Barcelona)

Our activities :
- PV
- Solar thermal : DWH application, heating and cooling
- Monitoring for Guarantee of Solar Results
+ training, R&D

TECSOL

Part of our activity in solar cooling

- Engineering (design, sizing, planning, monitoring) : GICB Banyuls *(1991)*, CSTB Sophia Antipolis, installation in MACLA, IUT Saint Pierre (RAFSOL), offices in Chambéry (SOLERA), Offices in Perpignan (SOLAACLIM)
- R&D project : SACE, CLIMASOL, ODIRSOL, ORISRA, ROCOCO,
  SOLAIR, SOLARCombi+, MEDISCO, ORASOL, MeGaPICS ...
- IEA Task 25, Task 38 and next ?
Method toward solar cooling and heating installation performance guarantee

Amandine LE DENN

IEA new task definition
Paris, 28th and 29th march 2011

Project synopsis

Projet ANR HABISOL 2009 – Labellisation: DERBI, CAP ENERGIE

Start: January 2010, duration: 3 years
Budget total: 1 207 420 €  Aide allouée: 560 122 €

Partners:

TECSOL, PIMENT, CEA à l’INES, GDF SUEZ R&D, EDF R&D,
ENERPLAN

Focus: existing and new buildings, all types
Public: scientific community, solar energy professional network, investors, etc....
Main goals

• Set up methodologies and best practice to go to solar cooling and heating installations performance guarantee

• Objectif: installation with higher quality, better thermal performances, more reliable during the use, increase lifespan

• Context: R&D projects (ORASOL, ODIRSOL, etc...), IEA Task 38 and existing installations

• Limit: close cycle sorption system

Action plan

SHC project planning

Feasibility study

Design and Planning phase
- design + sizing ➔ call for tender
- works ➔ monitoring
- start-up ➔ commissioning

Operation and maintenance

To get a more reliable installation = to go into each step of the project
Action plan

To evaluate the quality = To quantify the service

- To define relevant performance criteria
- To predict the performances (by calculation)
- To monitor the operation

Project planning

Task 0: management
- Task 1: Sensibility study
- Task 2: calculation tool
- Task 4: recommendation and guidelines
- Task 5: validation

Task 5: diffusion
Project planning

Task 1: Sensibility study
- Sensibility studies on dynamics models with « screening » method and « FAST » method (PIMENT) to get the parameters which influence the most the performances
- Method to characterize the system in a test bench

Task 2: calculation tool
- Selection of hydraulic scheme (configuration) and their basic control principles
- Set up a predesign and design to, usable in RT2012

Task 3: recommendation and guidelines
- Define and select the most relevant performance criteria
- Guideline for engineering, commissioning, monitoring
- Model document for call for tender

Task 4: validation
- Monitoring product market database
- Validation of the models and calculation on existing installation (4 installations: RAFSOL, SOLERA, SOLACLIM, Sonnenkraft)

Publications

Public deliverable:
www.solaire-collectif.fr / FROID SOLAIRE
Soon: megapics website
Next Solar Cooling and Heating OTTI Conference, Larnaka (oct. 2011)
Next ESTEC conference, Marseille (sept. 2011)

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