

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 (SOLACLIM)
- 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

www.tecsol.fr



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....



- 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

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

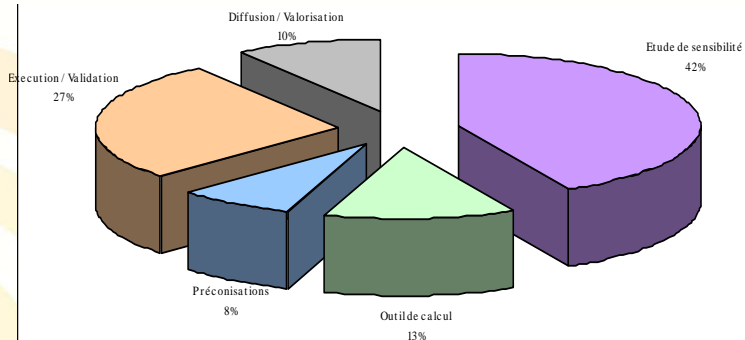
To evaluate the quality = To quantify the service

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

Task 0 management

Task 1 : Sensibility study
Task 2 : calculation tool
Task 4 : recommandation and guidelines
Task 5 : validation

Task 5 : diffusion



Task 1 : Sensibility study

- Sensibility studies on dynamics models with « screening » method and « FAST » method (PIMENT) → 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 : recommandation 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)

Public deliverable:

www.solaire-collectif.fr / FROID SOLAIRE

Soon: megapics website

Next Solar Cooling and Heating OTTI Conférence, Larnaka (oct. 2011)

Next ESTEC conference, Marseille (sept. 2011)

Contact:

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