

Enhancing Mediterranean Initiatives Leading SMEs to Innovation in building energy Efficiency technologies

EMILIE project

OCOVA

Gap September 16

Céline Auger

Ingénieur projet - Capenergies

Région



Provence-Alpes-Côte d'Azur



EMILIE project

EMILIE aims to identify and test promising **new technologies, products and solutions for energy efficiency of buildings** through **six demonstrating pilot actions** implemented by partners coming from 5 countries.

6 pilots rely on innovative technologies: phase change material in glass envelopes, energy efficiency, solar cooling, energy education.



5 partner countries

Italy (Friuli Venezia Giulia, Piemonte, Basilicata), France (Provence-Alpes-Côte d'Azur), Spain (Aragon, Andalusia, Catalonia), Slovenia (Osrednjeslovenska) and Croatia (Primorsko-goranska županija).

Duration: 30 months

Budget: 2M€.



1 Glassolating

- **To test the Phase Change Materials technology (PCM) when applied to tertiary building envelop.**
 - To compare PCM based envelop performance in terms of insulation and energy consumption, with double glass conventional solutions in experimental (1) and real (2) conditions.
 - To reach an accurate estimation of real energy savings achievable throughout the year associated to the use of PCM technology.



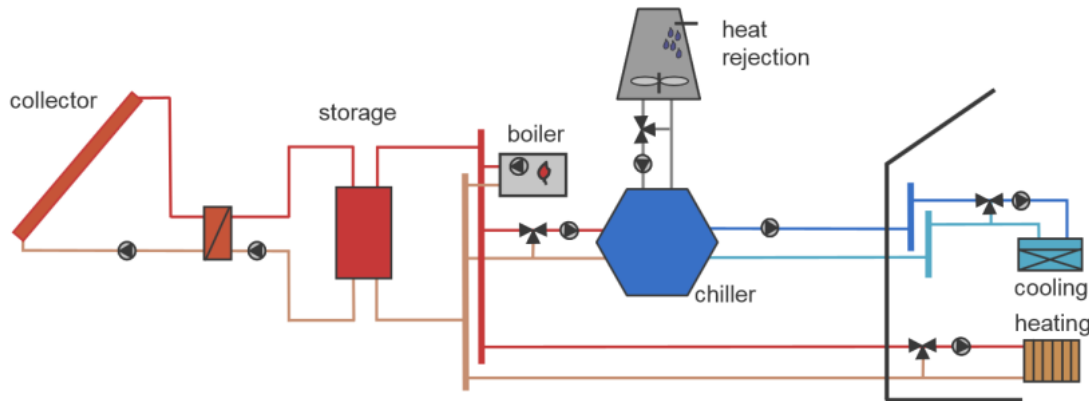
CIRCE premises in the University of Zaragoza Campus 'Río Ebro', Spain.



6 EMILIE PILOTS

2 SunCool

- **Energy savings:** savings on fossil fuel, gas and electricity, due to introduction of the absorption refrigeration and solar collectors.



**University of Rijeka,
Faculty of Engineering,
Rijeka, Croatia.**



3 HVAC technology Lab

- **Improving the air conditioning system** concerning insulation of all distribution facilities of this installation (pipes, pumps, etc.) and actions engaged towards COP improvement.

Description: Simulation of innovative solutions into HVAC system to office buildings with assessment of cost / benefit analysis according to the energy savings obtained by the model.

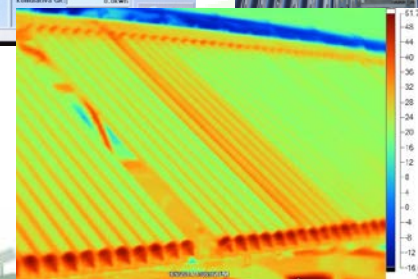
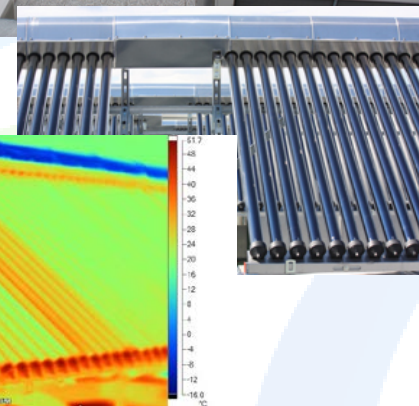
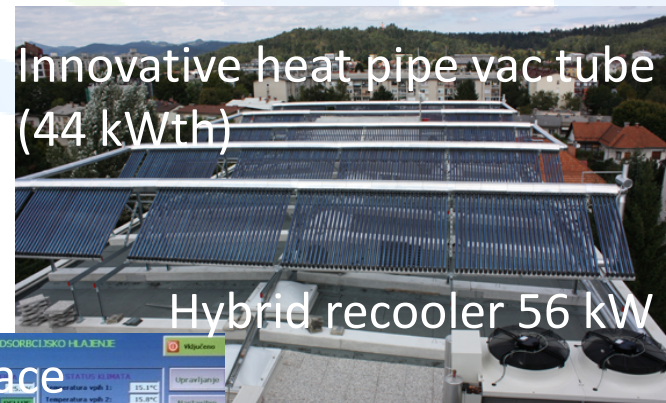


Institut Andaluz de
Tecnología, Séville, Spain.



4 InfraSun

- Elaboration of model of infrastructural solar heating and cooling (SHC)**
 Demonstration of a solar thermal system connected to an existing HVAC distribution, including easy-maintenance vacuum tube collector, an adsorption chiller and a heat store.



Josef
 Stefan
 Institute,
 Ljubljana
 Slovenia.

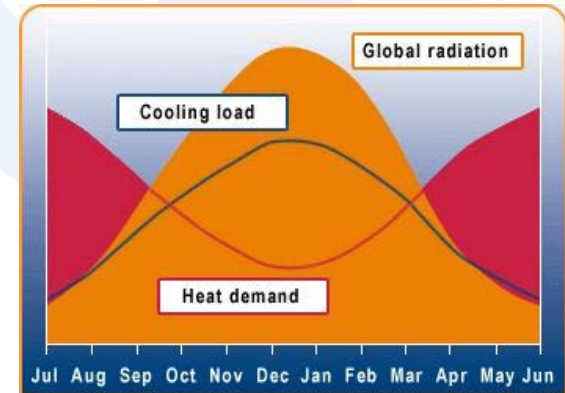


6 EMILIE PILOTS

5 SunLab

- **Solar powered absorption cooling takes advantage of the mid-day high temperature to refresh offices.**

Relying on the thermal potential of the existing solar plant, taking account the need to maintain the production of hot water and budget constraints, the purpose is to insert a 15kW_c adsorption chiller.



Science Park
AERA,
Trieste, Italy.



#6 The french pilot SmartEE: energy education in Lycée Paul Héraud



350 pupils + 90 adults

Equipment

The system installed in the secondary scholarship building includes measuring equipment (electricity, gas, water and heat meters, temperature sensors, CO2 probe) connected to a final user interface (touch screen and mobile).

Région



SmartEE: 10% energy saving

The SmartEE pilot action aims at saving 10% of energy using incentivizing tools to obtain behavioral changes from the occupants of an education building (until June 2015*).

Pupils are incentivized to reduce their electricity and hot water consumption. Their effort is measured by their participation in two competitions relying on:

- energy savings in the whole school,
- energy savings between the 25 internship modules.



**The system then becomes the property of the region and remains in place.*





BOARDING SCHOOL



- Measurement of electrical consumption in all boxes
- Measurement of hot water



WORKSHOPS



- Detection of doors opening, Indication by revolving lights
- Measurement of electrical consumption
- Measurement of temperature and CO2 concentration




OTHER AREAS



- Measurement of overall electricity consumption
- Measurement of overall gas consumption
- Measurement of overall water consumption
- Measurement of overall heat consumption
- Measurement of outdoor temperature





LYCEE PAUL HERAUD

Accueil

Mes analyses

Mes Ecotroks

Ateliers

Internats

EcoGestes


OBJECTIFS

Vos efforts par rapports à ce que vous pouvez faire pour votre lycée le mois dernier

Énergivore»

Mon comportement

Économe»



Météo

Météo Gap

27 °

Eclaircies

Vent : SE à 10 km/h

lun.

15° 28°

mar.

14° 27°

mer.

13° 28°

jeu.

14° 28°

Événements

15/03/2014

🔥

Votre consommation hebdomadaire cette semaine a été plus basse que celle de la semaine dernière.

21/02/2014

🌱

Vous avez accumulé 5300 EcoTroks, un T-shirt vous attend dans la boutique!

06/01/2014

🕒

Pensez à profiter d'heures creuses en période 12h-6h pour réduire votre facture!

Connaitre sa consommation sur les

24 dernières heures

Electricité

⚡

250 kWh

👍

Eau

🚰

30 m³



👎

Fioul

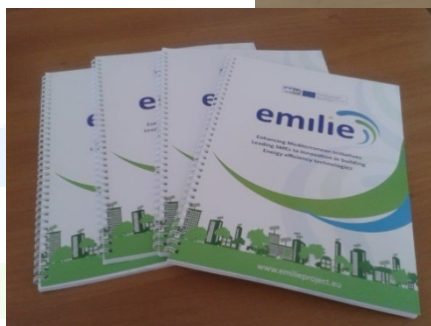
🛢️

30 m³

👎

SmartEE Teasers



Enhancing Mediterranean Initiatives Leading SMEs to Innovation in building energy Efficiency technologies

THANK YOU FOR YOUR ATTENTION

Céline Auger

Email: celine.auger@capenergies.fr

