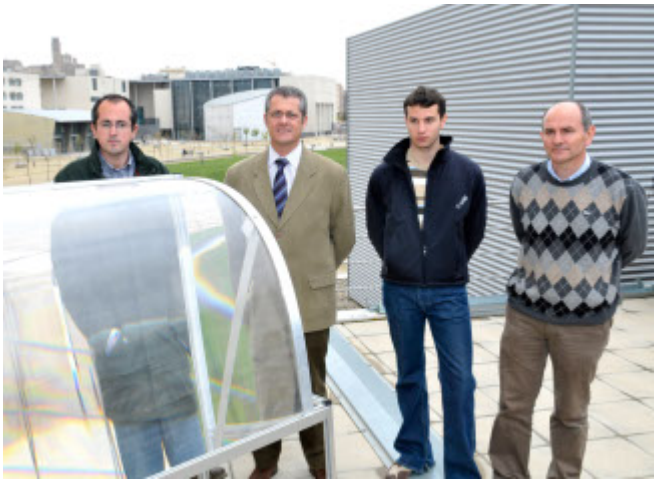
Universitat de Lleida
Web de la universitat de Lleida [http://www.udl.cat/]
Pl. de Víctor Siurana, 1 E-25003 Lleida | Tel. +34 973 70 20 00

30th march 2009

Patent for a concentration solar power module that integrates into façades and roofs

UdL has obtained the Spanish patent for the creation of a concentration solar power system, and has already started the proceedings for obtaining an international patent. This system produces heat, cold and electricity and can be architecturally integrated into the buildings where it is installed



Manel Ibáñez, Ferran Badia, Daniel Chemisana and Joan Ignasi Rosell behind the concentration solar power system. PHOTO: Jordi V. Pou

A concentration solar power module that produces heat, cold and electricity and that can be integrated to façades or building roofs constitutes the new patent obtained by UdL. This system has been developed by Daniel Chemisana, member of the research group in Agrometeorology and Energy for Environment, leaded by UdL lecturers Manel Ibáñez and Joan Ignasi Rosell.
This thermal-photovoltaic modular system has a solar concentration of 10 suns, that is, it only needs a tenth part of a standard system's active surface to produce the same energy, be it electricity, heat, or both simultaneously. Besides the reduction in the surface of used solar cells and the cost reduction this implies, this new technology can generate cold by connecting a heat pump to the system.

Rosell highlighted the architectural integration that these modules will allow either in roofs or in façades, which will reduce their visual impact. They can be directly installed in roofs, on the closure of concrete or brick blocks, forming a curtain wall in the façades or as a part of the railings in terraces, "as if they were a building's second skin". They can also be used in residential buildings, companies or farms.

The system, of which the international patent has already been requested, consists of a stationary lens and a linear absorber plate that concentrates sunlight to generate energy. This concentration system reduces the space that until now was needed with traditional plates, which move around in search of sunlight.

This system produces heat, cold and electricity using only a tenth part of a standard system's surface, with the cost reduction this implie

Rosell also underlined the global efficiency of energetic conversion in this module, which could rise above 60%. Researchers at UdL anticipate that the product could be commercialised in a year if companies opt for this technology. The prototype has financed by CIDEM and has the support of the UdL Technological Springboard.

MORE INFORMATION

CONCENTRATION SOLAR POWER SYSTEM (PDF DOSSIER) [/export/sites/universitat-lleida/ca/serveis/oficina/.galleries/docs/documents-premsa/Dossier_Modul_Termic_UdL.pdf]

Listen this text [javascript:void(0);]

[javascript:window.print()] [javascript:history.back()] [#]