

Press Release

PROJECT TO IMPROVE THE EFFICIENCY OF PHOTOVOLTAIC CELLS

Sarriguren (Navarra), 9 February 2010.-Improving the energy efficiency of photovoltaic cells is the main objective of the joint project that is being carried out by the **Foundation for the Research and Development of Nanotechnology (FIDENA)** and the **National Renewable Energy Centre (CENER)**. This is the first project to be developed by both institutions and its aim is to combine research in nanotechnology with the development of renewable energies.

Solar photovoltaic cells are devices that are used to transform solar light energy into electricity via the use of a semi-conducting material, which, in its more widely extended version, is silicon. The efficiency of this transformation is currently around 16% for the majority of the devices that are manufactured industrially, due to the actual characteristics of the base material and the cell technology used. The opportunity to improve the degree of energy efficiency of the cells is, therefore, very interesting.

The proposal of CENER and FideNa consists in carrying out nanometric-sized structures (under 300 nm) in the photovoltaic cells, with a dual objective: first, to reduce the reflection on the cell surface, to bring it close to zero, for there to be no light reflected and second, to improve the absorption in the silicon, so as to achieve a high level of radiation that penetrates the cell for it to produce a greater quantity of energy. Both objectives can be achieved via the use of nano-sized structures in the manufacture of the photovoltaic cells.

The project, with a budget of just over 500,000 euros, has requested funding from the Government of Navarra (Dept. of Innovation, Enterprise and Employment) and from the Ministry of Science and Innovation.

Activity started in October last year and will continue until the end of 2011. A group of 10 researchers from both entities are taking part in the project and during this first stage their challenge is to develop technology that can be applied in the photovoltaic cell industrialisation process.

More information:

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