

## **Abengoa collaborates with the Helmholtz Dresden-Rossendorf research center**

- **The objective is to improve the efficiency of solar plants.**

Seville, December 19, 2012. Abengoa (MCE: ABG.B), the international company that applies innovative technology solutions for sustainable development in the energy and environment sectors, has signed a collaboration agreement with the Helmholtz Dresden-Rossendorf research center in Dresden, Germany, to develop materials that increase the efficiency of solar receivers, one of the key components for improving the efficiency of solar plants.

At present, the move towards larger plants and better designed components is leading to higher temperatures in solar receivers. Consequently, the receivers of the future will require materials that are capable of resisting high temperatures, are highly absorbent and are capable of minimizing any heat loss in order to increase the efficiency of the solar plant.

Abengoa, through its own research center, Abengoa Research, will collaborate with the Helmholtz Dresden-Rossendorf center, specifically with the nanotechnology department of the Institute of Ion Beam Physics and Materials Research, to search for new materials for the covering of the solar receivers using multi-layer thin films to enable them to withstand high temperatures.

The research will focus on the use of ion beams to analyze and modify thin films, mainly in carbon and nitrogen based nano-composites as well as advanced oxides.

Furthermore, it has recently acquired some high-tech equipment known as a "cluster tool", which will enable it to prepare thin films using steam deposition techniques, while also measuring the thickness, composition and optical properties of the deposited materials at high temperatures.

Thanks to these innovative techniques and the "in-situ" nature of the work, Abengoa's researchers can study the optimum parameters that enable the maximum amount of thermal solar energy to be absorbed, and to be more stable at high temperatures, optimizing the efficiency of these components in tower technology plants.

This collaboration will further consolidate Abengoa's commitment to sustainable development and new technologies, demonstrating its dedication to solar energy, as

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one of the companies that has globally contributed the most to developing new technologies to improve photovoltaic and solar-thermal energy. Innovation has driven the company's development from the outset and has enabled it to maintain a competitive advantage in the sectors in which it operates.

## About Abengoa

Abengoa (MCE: ABG) is an international company that applies innovative technology solutions for sustainable development in the energy and environment sectors, generating electricity from the sun, producing biofuels, desalinating sea water and recycling industrial waste. ([www.abengoa.com](http://www.abengoa.com))

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