



POWER
Low Carbon Economies



INTERREG IVC
INNOVATION & ENVIRONMENT
REGIONS OF EUROPE SHARING SOLUTIONS



European Union
European Regional Development Fund

Best practice Identified and transferred

Section	Indication of content
<p>1 Title of the best practice</p>	<p style="text-align: center;">SOLAR PLATAFORM OF ALMERÍA</p>
<p>2 Precise theme/issue tackled by the practice</p>	<p>Research Centre Solar thermal power</p> <p>The Solar Platform of Almeria (Plataforma Solar de Almería (PSA)), belongs to the Energy, Environmental and Technology Research Centre (Centro de Investigaciones Energética, Medioambientales y Tecnológicas (CIEMAT)), and is the largest European centre for research, development and testing of concentrating solar technologies. The PSA's activities are integrated as a R & D division within the structure of CIEMAT's Energy Department.</p> 
<p>3 Objectives of the best practice</p>	<p>The objectives that inspire its research activity are:</p> <ul style="list-style-type: none"> • Contribute to establishing a framework of clean and sustainable global energy supply • Contribute to conservations of energy resources in Europe and climate and environmental protection. • Promote the market introduction of solar thermal technologies and those derived from chemicals processes. • Contribute to the development of a European competitive and exporting solar thermal industry. • Strengthen cooperation between the business sector and scientific institutions

	<p>in the field of research, development, demonstration and marketing of solar thermal technologies.</p> <ul style="list-style-type: none"> • Promote technological innovations aimed at reducing costs that contribute to increased market acceptance of solar thermal technologies. • Promote North – South technology cooperation, especially in the Mediterranean area. <p>Assist industry in identifying market opportunities related to solar thermal technologies.</p>
<p>4 Location</p>	<p>Country: Spain Region: Andalusia Province: Almería Metropolitan Area: Almería Municipality: Tabernas</p>
<p>5 Detailed description of the best practice</p>	<p>The Solar Platform of Almeria currently has two main research lines:</p> <ul style="list-style-type: none"> - USCS (Solar Concentrating Systems Unit) - AMES (Environmental Applications of Solar Energy) <p style="text-align: center;">Solar Concentrating Systems Unit (USCS)</p> <p>The purpose of the Solar Concentrating Systems Unit (USCS) is to promote and contribute to the development of solar radiation concentrating systems, both for power generation and for industrial processes which require solar concentration, whether for medium or high temperatures or high photon flux.</p> <p>This Unit consists of three R&D Groups:</p> <ul style="list-style-type: none"> ○ Medium Concentration Group, ○ High Concentration Group, and ○ Solar Fuels & Solarization of Industrial Processes Group <p>The activities performed in the USCS in 2007 followed four master lines that are defined as goals:</p> <ul style="list-style-type: none"> ○ Develop new solar concentrating system components with an improved quality/price ratio. ○ Develop simulation and characterization tools for this type of solar system. ○ Encourage and promote vanguard action in solar concentrating technologies, opening the way to medium and technology long-term improvement, and ○ Facilitate development and consolidation of a national solar concentrating system industry through technical-scientific consulting and technology transfer.



AMES - Environmental Applications of Solar Energy

2007 was a year of continuation and consolidation in the various activities that configure the Environmental Applications of Solar Energy and Evaluation of the Solar Resource Unit, and which encompass the following lines of research:

- Solar water detoxification and disinfection
- Solar air detoxification and disinfection
- Solar seawater and saltwater desalination
- Characterization and measurement of solar radiation

These activities also define the four groups which provide the Unit's content. Good proof of the consolidation shown in these activities is the fact that in 2007, 6 new projects (2 European and 2 Ministry RD&I projects, one PROFIT project and one CENIT project) have been initiated in the Unit. All of these projects are directly related to the main activities of the abovementioned groups.

6 Evaluation

- Possible demonstrated results (e.g. through indicators)

The Solar Platform currently has testing facilities for technologies that are implemented in commercial plants. These main technologies are:




- Central Tower Receiver
- Parabolic Trough Collector
- Parabolic Dish
- Linear Fresnel Concentrator

- Possible success factors:

- Experience in research and development carried out since 1980 in Andalusia in the Solar Platform.
- Spanish legislation: Electricity Act and its implementing regulation through feed-in tariff has been an essential element for the development of this technology in Spain.
- Favourable support scheme and legal framework at national, regional level.
- Favourable opinion and well received by citizens and civil society.

- Difficulties Encountered

So far the main difficulties have been related to the development of new technologies and their commercial implementation for the first time in Europe. In relation to developing these facilities now and in the future, difficulties may be related to the

	general contraction of the financial market.
7 Lessons learnt from the best practice	It is important that behind every commercial solar plant there is a research centre like the Solar Platform which can respond to new initiatives, implementations and problems encountered during the design of the plant.
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9 Other possible interesting information	 CIEMAT  CTAER  Escuela Superior de Ingenieros de Sevilla
10. Best practice transfered	The Solar Platform of Almeria is one of the main motors and pillars in the solar development of the region and the companies related with this technology that implement commercial plants.