# ABENGOA SOLAR





#### **PRESS RELEASE**

# Masdar Partners with Total and Abengoa Solar to build the world's largest concentrated solar power plant

**Abu Dhabi, June 09, 2010:** Masdar, Abu Dhabi's multi-faceted initiative advancing the development, commercialisation and deployment of renewable and alternative energy technologies and solutions, has appointed the bidding consortium of Total and Abengoa Solar as a partner to own, build and operate Shams 1, the world's largest concentrated solar power plant and the first of its kind in the Middle East.

One of Masdar's flagship projects, Shams 1 will directly contribute towards Abu Dhabi's target of achieving 7% renewable energy power generation capacity by the year 2020.

The joint venture between Masdar (60%), Total (20%) and Abengoa Solar (20%) will develop, build, operate and maintain the plant which will be located in Madinat Zayed, approximately 120 kilometres southwest of Abu Dhabi in the United Arab Emirates (UAE).

Shams 1 will be the largest concentrated solar power plant in the world, extending over an area of 2.5 km², with a capacity of approximately 100 MW and a solar field consisting of 768 parabolic trough collectors to be supplied by Abengoa Solar. Construction is set to begin during Q3 2010 and is expected to take approximately two years.

Commenting on the announcement, Dr. Sultan Al-Jaber, CEO of Masdar, said: "The launch of the Shams 1 marks a very important milestone for Masdar and for Abu Dhabi. I am very proud of the announcement we are making today because this project, which will be the first utility scale, commercial solar power project in the UAE, represents the translation into reality of the vision the Abu Dhabi leadership had for renewable energy in the Emirate. In addition, Shams 1 will allow Masdar to transfer to Abu Dhabi the know-how and expertise we have gained from our involvement in developing world-class renewable energy projects abroad, thus not only opening the door for renewable energy projects in the UAE but also for technology transfer, contributing toward the development of a knowledge-based economy and new job opportunities through the specializations required to manage and operate the plant."

"I am delighted we are embarking on this journey together with our strategic partners Total and Abengoa Solar, both of whom have tremendous experience and technical know-how in developing projects such as Shams 1. It is through such partnerships that Masdar will succeed in developing and advancing renewable energy solutions and establish Abu Dhabi and the UAE as a world leader in renewable energy and clean technology. I would also like to thank

our partners and stakeholders in Abu Dhabi – in particular ADWEA, ADNOC and the Regulation & Supervision Bureau – for their collaboration and support and our shareholder Mubadala for its backing and guarantee of the project," Al-Jaber continued.

"By participating in this ambitious project alongside Masdar and Abengoa Solar, Total develops its solar energy assets, enriches its portfolio of expertise with this first step in concentrated solar technology, and reaffirms its unique partnership with Abu Dhabi," commented Philippe Boisseau, President, Total Gas & Power. "We are pleased to be partnered with Abu Dhabi, a country we have been working with for more than 70 years, in its pursuit of energy diversification and to contribute to the Masdar initiative, which promotes the development of renewable energies".

Santiago Seage, CEO of Abengoa Solar, also expressed his satisfaction: "We have teamed with the most qualified partners in the region, Total and Masdar, to own and operate what will be the most advanced solar plant, featuring our cutting-edge technology". In turn, Michael Geyer, Abengoa Solar's Director of International Development, highlighted the immense potential of building large-scale solar plants in the Middle East, a region that offers both an unlimited solar resource and infinite site locations for implementation of solar plants in its deserts.

Shams 1 is registered as a project under the United Nations' Clean Development Mechanism (CDM) and is eligible for carbon credits. It is be the first CSP plant registered under the CDM and the second project registered for Masdar. The plant will displace approximately 175,000 tonnes of CO2 per year, equivalent to planting 1.5 million trees or removing 15,000 cars from Abu Dhabi's roads.

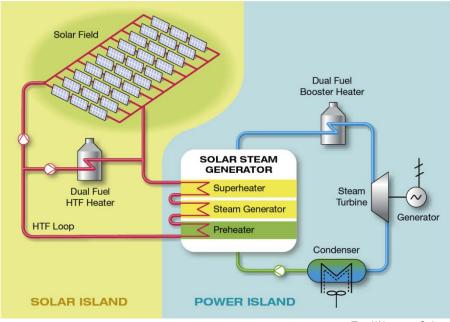
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# **About the Technology**

Based on Abengoa Solar's best-in-class solar technology, the Shams 1 technology is unique. It is the result of a strong technical cooperation between Masdar, Total and Abengoa Solar. Focused sunlight, concentrated by mirrors, heats a coolant which then generates high-pressure steam that drives a conventional steam turbine. It generates solar thermal electricity, an efficient, reliable and clean solution.



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#### **About MASDAR**

Masdar is Abu Dhabi's multi-faceted initiative advancing the development, commercialisation and deployment of renewable and alternative energy technologies and solutions. The company serves as a link between today's fossil fuel economy and the energy economy of the future - developing the "greenprint" for how we will live and work tomorrow. Backed by the stability and reputation of the Mubadala Development Company, an investment vehicle of the government of Abu Dhabi, Masdar is dedicated to the emirate's long-term vision for the future of energy. For more information, please visit: www.masdar.ae

## **About Total**

Total is one of the world's major oil and gas groups, with activities in more than 130 countries. Its 96,000 employees put their expertise to work in every part of the industry – exploration and production of oil and natural gas, refining and marketing, gas & power and trading. Total is working to keep the world supplied with energy, both today and tomorrow. The Group is also a first rank player in chemicals. <a href="www.total.com">www.total.com</a>

Total has been active in solar energy since 1983 through its interests in two companies, Photovoltech and Tenesol. Photovoltech, in which Total holds a 50% interest alongside GDF-Suez, produces photovoltaic cells based on a crystalline silicon technology. Tenesol, in which Total holds a 50% stake alongside EDF, specializes in designing, manufacturing, marketing and operating photovoltaic solar energy systems.

In December 2008, Total became the largest shareholder in U.S. start-up Konarka, which develops products based on organic solar technologies. Total's stake is now nearly 25%.

Total also acquired, in June 2010, a 25.4% interest in U.S. start-up AE Polysilicon, developer of a new solar polysilicon production technology.

Total is conducting significant R&D through partnerships with world-class laboratories in France, such as the *Laboratoire de Physique des Interfaces et des Couches Minces* (LPICM - Interface and Thin Film Physics Laboratory) at the Ecole Polytechnique engineering school and the Toulouse-based Laboratory for Analysis and Architecture of Systems (LAAS), as well as in the United States, Switzerland, Belgium and Germany.

## **About Abengoa Solar**

Abengoa Solar (<u>www.abengoasolar.com</u>) focuses its activities on the development and application of technology for generating electrical power with the sun.

Abengoa Solar has 493 megawatts in operation and construction using trough, tower and photovoltaic technologies and is developing several thousand more in several regions around the world.

Abengoa Solar is developing Europe's largest solar complex in Spain. The Solúcar Platform is the only place in the world where most existing solar technologies can be found, either in commercial use or for demonstration purposes. Continuously investing in R&D, the company develops its own technology in both parabolic trough and solar power tower. With the worldwide first and second commercial solar power towers PS10 and PS20 and its two first commercial parabolic trough plants, Solnova 1 and 3, Abengoa Solar has pioneered in a new revolutionary technology able to deliver efficient clean solar power.

Abengoa is a technology company that applies innovative solutions for sustainability in the infrastructure, environmental and energy sectors. The company is listed on the Spanish stock exchange and is present in more than seventy countries, in which it operates through its five Business Units: Solar, Bioenergy, Environmental Services, Information Technologies and Industrial Engineering and Construction.

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