

# Abu Dhabi to build 'world's largest' solar plant

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A solar thermal electric power plant in Sanlucar La Mayor in 2008. French oil firm Total and Spain's Abengoa Solar are to partner with Abu Dhabi's alternative energy company Masdar to build "the world's largest" concentrated solar power plant, Masdar has announced.

French oil firm Total and Spain's Abengoa Solar will partner with Abu Dhabi's alternative energy company Masdar to build "the world's largest" concentrated solar power plant, Masdar announced on Wednesday.

The state-owned firm said it has selected a "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."

"We are moving on the right path to make Abu Dhabi the main source

and the international capital of renewable energy and sustainable development," Masdar CEO Sultan al-Jaber told a news conference in the oil-rich emirate.

The plant "will offset 170 thousand tonnes of carbon dioxide annually."

Construction of the plant, which will cover an area of 2.5 square kilometres (1 square mile) and have a 100 megawatt capacity, will begin in the third quarter of 2010 and be completed in approximately two years, Masdar said.

"We expect the cost of this project to be around 600 million dollars (504.2 million euros)," project manager Mohammed al-Zaabi said.

Masdar will hold a 60 percent stake in the project, while Total and Abengoa Solar will each have 20 percent.

"Shams (Arabic for sun) is the first major step for Abu Dhabi to achieve its seven percent target" for renewable energy use by 2020, Zaabi said.

"It will be followed by the next projects, Shams Two and Three."

Power demand in Abu Dhabi peaks during the day due to air conditioner use, Zaabi said, making [solar power](#) ideal, as sunlight is strongest at the same time.

"This is the first time in the [United Arab Emirates](#) where we can provide significant (power) capacity that does not rely on fossil fuel," said Nicholas Carter, head of the Abu Dhabi Regulation and Supervision Bureau, which regulates the water and electricity sectors.

Concentrated solar power (CSP) plants use mirrors to heat liquid -- a type of oil, in the case of Shams 1 -- to then heat water to run a steam generator and produce electricity, Zaabi said.

Abengoa Solar CEO Santiago Seage said that, compared to other types of solar power plants, "the main advantage of CSP is the fact that it is less intermittent."

"You have a solar field ... but you also have a boiler where you use natural gas to create the steam if the solar resource is not enough," he said.

Abengoa Solar has already constructed four CSP plants in Spain, and is building others in Spain, north Africa and the United States, Seage said.

The plant will be located in Madinat Zayed, about 120 kilometres (75 miles) southwest of [Abu Dhabi](#).

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