

# REUTERS

## Israel site for California solar power test

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Wed Jun 11, 2008 12:59pm EDT

By Ari Rabinovitch

JERUSALEM (Reuters) - Energy company BrightSource Energy Inc said it will open a solar "power tower" in Israel this week to test new technology it will use when building power plants next year in California.

California utility PG&E Corp signed contracts with BrightSource in April to buy up to 900 megawatts of solar thermal power in the next few years, enough to power about 630,000 homes.

The move is part of a PG&E push to comply with California's requirement that at least 20 percent of its electricity supplies come from renewable energy by 2010.

A global race is on to find energy alternatives to replace fossil fuels, and entrepreneurs are scrambling for a slice of a clean energy market that analysts estimate was worth nearly \$150 billion last year.

BrightSource's development centre, with its 60 meter-high (60 foot) tower and some 1,200 mirrors, sits on about 12,000 square meters (three acres) of Israel's southern Negev Desert, chairman Arnold Goldman said.

BrightSource did not release financial details of the complex, but said its systems are more cost-efficient than other solar power plants.

The new power tower, which is capable of generating 1.5 megawatts, will not produce electricity for public use, but rather test the technologies that will power future plants, including a 100 megawatt plant in California's Mojave Desert scheduled to be completed by 2011, Kroizer said.

The 100 megawatt plant will be about 50 times larger than the Negev centre.

BrightSource CEO John Woolard said competitors, like Spanish building and energy group Acciona, were still using similar technologies to those used by BrightSource 20 years ago.

"The new power tower based technology, we don't see any serious competition, yet, in that area," Woolard told a news conference in Jerusalem.

HIGHER TEMPERATURE, HIGHER PRESSURE

Solar power towers, which have been used for decades, use mirrors to reflect and intensify sunlight, much like using a magnifying glass to start a fire. Traditionally, the system contains rows of large, curved mirrors, sometimes reaching 100 meters in length.

The sunlight is aimed at a boiler on top of the tower and is hot enough to boil the water into steam that passes through turbines and produces electricity.

The new power tower is surrounded by a system of smaller, flat mirrors, each with an enhanced guidance system to track and reflect the sun more effectively than the trough-like systems, Goldman said.

"It takes huge amounts of electronics and controls and gears. The electronics industry has driven those costs down so much that you can do that today," Goldman said. It also requires about a third of the steel and cement, he said.

BrightSource's mirrors reflect about 50 percent of the sunlight, while standard systems reflect 35-40 percent, Goldman said. As a result, the temperature and pressure in the boiler is higher and energy is produced more effectively.

"Historic troughs can put the equivalent of about 20 suns on the tower. We have a maximum of 600 suns," Goldman said.

Woolard also said the new power tower works at half the cost of photo-voltaic solar panel plants because it produces energy about twice as many hours in a year.

(Editing by William Hardy)