

Energy company may use desert air to fuel solar plant

BY PATRICK O'GRADY

pograd@bizjournals.com

EnviroMission Inc. is looking to use desert hot air to help run a solar power plant that could sprout towers throughout the U.S.

The Phoenix company, a subsidiary of Australia-based EnviroMission Ltd., received approval late last month to be a potential power supplier for the Southern California Public Power Authority. The company would use the basic physics of hot air rising to fuel its massive towers, which could land in La Paz County in western Arizona.

Chris Davey, the company's president, said unlike other solar systems, the solar tower concept uses no water and could last for decades — and it can provide power at a cost more in line with traditional sources than today's fleet of renewable options.

"Renewables are great; sustainability is great," Davey said. "But you can't do that if it's too expensive."

The process starts with what essentially is a massive greenhouse, covering as much as 2,400 acres, which traps hot air and funnels it into the tower. The air would create a 35-mile-per-hour wind up the 2,000-foot-tall tower, driving 32 turbines.

With as much of the technology rooted in the wind industry as solar, a test site in Manzanares, Spain, used the concept around the clock for seven years with a 660-foot tower. The tower was able to generate peak power for more than 10 hours a day. Davey said it works at night, too, albeit at

minimal levels.

The physics behind the concept isn't groundbreaking. The construction technology, however, is fairly new. Several years ago, such a facility would have been nearly impossible to build.

"There's technology out there and there's engineering out there that have caught up to the design," Davey said.

He said one of the biggest benefits, particularly in the arid Southwest, is that it will require no water to run, unlike many of its solar counterparts.

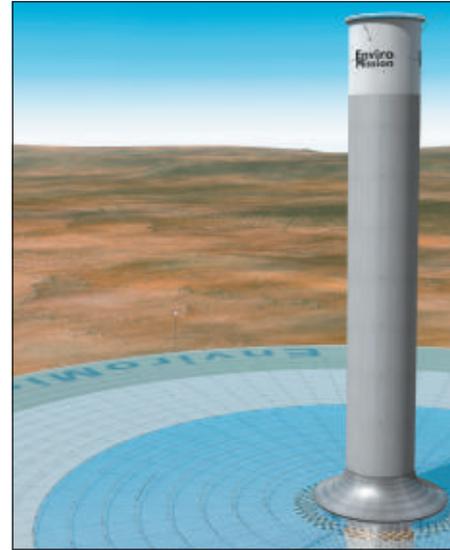
EnviroMission is talking to potential suppliers ranging from glass manufacturers to construction and steel providers about a possible site in La Paz County, Davey said.

SCPPA still is in discussions with EnviroMission about how much power it might buy from the completed facility. The group represents 12 cities in Southern California, including Los Angeles and several of its suburbs, and it has been accepting applications for renewable projects as more cities look for cleaner power, said David Walden, SCPPA's energy systems manager.

The group's power companies serve about 2 million households representing about 4.8 million people. Some of the cities are more aggressive in their search for renewable power than others, which has opened options for projects beyond California, including Arizona, Walden said.

EnviroMission's project "is one of the many projects that we'll be negotiating with," he said.

Those negotiations could take some time to come to fruition. SCPPA works to coordi-



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Phoenix-based EnviroMission Inc., a subsidiary of an Australian company, is looking to bring a form of solar technology to Arizona that will turn hot air into energy without using water.

nate 12 cities' needs. Once the power allotment has been decided, the individual city councils must ratify the deals, which can take months, Walden said.

"They're all in process," he said. "It's a thing where they all take their own path."

While the solar tower theory is relatively new on the market, at least one analyst sees potential for it to compete with more established technologies such as photovoltaics and concentrated solar power, which uses mirrors to heat fluids that drive turbines.

Pavel Molchanov, an analyst with Ray-

mond James and Associates Inc. in St. Petersburg, Fla., said in a research brief the technology could provide an alternative for utility-scale production at a cost lower than other solar options.

With a cost of about \$3.5 million per megawatt, compared with about \$5 million for a concentrated solar plant and a longer generation time, Molchanov wrote that solar tower technology could be more readily accepted among utility providers.

While Davey would not comment on the cost of a solar tower, Raymond James' estimate of its price per megawatt would put it around \$700 million for a 200-megawatt plant. By comparison, CSP plants proposed for Arizona utilities cost \$1 billion to \$1.5 billion for a slightly greater output.

The company has finished its environmental studies and has a handful of parcels in La Paz County under option, but has not selected a final site.

If it will not be selling power to Arizona utilities, EnviroMission would only need approvals from local governments for construction and from the Arizona Corporation Commission for transmission and siting, ACC officials said.

The company has talked with local utilities about options to provide power, but Davey would not say whether any negotiations are under way with Arizona Public Service Co. or Salt River Project, the Valley's primary electrical utilities.

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