WorldWater & Solar water pumps will convert Egyptian desert to farmable land

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WorldWater & Solar Technologies, Inc. will soon make desert lands in Egypt arable, thanks to the company's ability to use photovoltaics to pump water at up to a thousand gallons a minute with a 250-horsepower pump. The company has signed agreements for the projects and is now designing them.

The company partnered with Tri-Ocean Energy, an energy company in the Middle East and North Africa, to develop two pilot projects in Egypt this year that will take over existing pumping operations for two farming operations.

"One is in near Alexandria, on 150 to 200 acres of land that is currently being watered by a diesel-operated pump. Another is similar but at a different location, a 75-acre plot of land," said Davinder Sethi, Ph.D., chief financial officer and chief operating officer of WorldWater & Solar. The larger system will be powered by a 220-kilowatt photovoltaic array, while the smaller will be powered by a 135-kW array.

Next year, the company will undertake much more ambitious projects.

"We expect next year to be doing between 20,000 acres to 40,000 acres in the desert. We'll be taking desert and converting it into arable land," Sethi said. "[The system] allows us to draw water from 200 meters to 500 meters below the desert. That is the aquifer we're tapping into."

The company will create an artificial pond or lake, fill up the reservoir with water and then drain it. With this design, the reservoir becomes the storage system.

"WorldWater & Solar has been working on proprietary technology over the years and has developed a water pumping solution for large-scale water-pumping agriculture situations," Sethi said. The company is able to size the water pump to the end-user's needs then engineer a solar array appropriate to run the pump.

The company has developed a number of patents and technological know-how that interconnects the pump with the solar array to get the most out of the pump, according to Sethi.

"Nobody has approached it at the level and scope we are able to do," he said.

The company has already used its solar-powered Mobile Max system to irrigate a 400-acre citrus farm in California, according to Sethi. That system has been operational for over three years. And it's Mobile MaxPure water pumping and filtration devices, mounted on trailers, are being used to purify water—even irradiated water in Japan—as part of disaster recovery efforts.

The technology could also help produce arable lands in other parts of the world, like Jordan and other parts of North Africa. In fact, the company already is preparing proposals for Sudan, Sethi said.

"Eventually, the technology and the system is applicable to South America all of Africa and Asia," he said.