

Media FACT SHEET



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Saguaro Solar Power Plant

Location – Near Red Rock, Arizona

Total Generation – The one megawatt (MW) plant can serve an average of 300 homes

Construction – Completed in 2005

Owned and Operated – Arizona Public Service Company is the sole owner and operator of the site.

Milestones – Saguaro is the first solar trough ever constructed in Arizona and the first built in the U.S. in almost 20 years. The plant was named one of the top 12 power plants in the world by *Power* magazine.



The Saguaro Solar Power Plant is the first in the world to combine solar trough technology with an Organic Rankine Cycle Power Block (technology that uses pentane, an organic fluid, which turns to vapor at a lower temperature).

Details

The \$6 million, 14-acre plant consists of six rows of parabolic mirrors that track the sun as it moves across the sky. The mirrors focus sunlight on specially-coated steel tubes filled with flowing mineral oil. The oil, heated to 600 degrees Fahrenheit, is used to heat a second fluid, pentane. Pentane vapor is then forced under pressure through a turbine generator.

Unlike a photovoltaic solar plant, which uses sunlight to produce electricity, a solar trough uses heat from the sun to create electricity. The technology can be easily combined with a storage facility, allowing it to hold energy and provide electricity when needed — not just when the sun is shining; something traditional photovoltaic solar plants are unable to do.

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APS, Arizona's largest and longest-serving electricity utility, serves about 1 million customers in 11 of the state's 15 counties. With headquarters in Phoenix, APS is the largest subsidiary of Pinnacle West Capital Corp. (NYSE: PNW)