Can renewable energy be stored

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SolarReserve"s Crescent Dunes Solar Energy Plant, located near Tonopah, Nev., features an array of 10,347 mirrors arranged in a circle 1.75 miles across. A 640-foot-tall tower glows when the sun"s energy is concentrated and directed to the top. SolarReserve hide caption

Renewable energy like solar and wind is booming across the country as the costs of production have come down. But the sun doesn"t always shine, and the wind doesn"t blow when we need it to.

This challenge has sparked a technology race to store energy -- one that goes beyond your typical battery.

Batteries are often used to store solar power, but it can be a costly endeavor.

A company called SolarReserve may have found a solution: It built a large solar plant in the Nevada desert that can store heat from the sun and generate electricity for up to 10 hours even after sundown.

You can see the Crescent Dunes Solar Energy Plant from miles away. There"s a 640-foot-tall tower surrounded by 10,347 mirrors. The heliostats, as they"re technically called, are arranged in a circle that is 1.75 miles across. They direct heat from the sun to the top of the tower, which glows white-hot.

"This is really the first utility-size project of this type in the world," says SolarReserve CEO Kevin Smith.

Kevin Smith, CEO of SolarReserve, stands in the control room of the Crescent Dunes Solar Energy Plant. "This is really the first utility-size project of this type in the world," he says. Jeff Brady/NPR hide caption

He says the molten salt has to remain above 450 degrees Fahrenheit to stay liquid. It"s sent up the tower to the glowing tip, where it"s heated further. When the salt comes back down, it is 1,050 degrees.

The molten salt is used to make steam to power a generator. The facility can continue to produce electricity for up to 10 hours after the sun goes down. Smith says that flexibility is very important to the local utility.

Billboard-sized mirrors arrayed in a large circle follow the sun as it moves across the sky. The heliostats, as they"re known technically, direct the sun"s energy to the top of a tower. Jeff Brady/NPR hide caption

"That"s the whole concept here is that this facility would operate just like a natural gas, or a coal or nuclear facility -- turn us on and off when they want," he says. "We have energy in storage so that we can generate at night."

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