

SOLARRESERVE RECEIVES AWARD FROM U.S. DEPARTMENT OF ENERGY SUNSHOT INITIATIVE TO DEVELOP ADVANCED DESIGN CONCENTRATING SOLAR TECHNOLOGY

Cooperative award provides R&D funding to advance breakthrough molten salt technology to lower cost of 24-hour Concentrating Solar Power

SANTA MONICA, California, September 16, 2015 – [SolarReserve](#), a leading global developer of utility-scale solar power projects and advanced solar thermal energy storage technology, announced today that it is the recipient of a CSP APOLLO program award from the [U.S. Department of Energy SunShot Initiative](#).

The Concentrating Solar Power: Advanced Projects Offering Low LCOE Opportunities (CSP: APOLLO) program funds research and development (R&D) projects to improve the performance and increase the efficiency of all components of CSP plants, ultimately lowering the cost of solar electricity and producing affordable, clean and renewable energy, even at night, by storing the heat generated by the sun.

SolarReserve will co-fund the solar technology advancements along with \$2.4 million in funding from the Energy Department, and will work with the University of California, San Diego and Trex Enterprises Advanced Materials Group to benefit from their expertise in selective absorber coatings and ceramic production, respectively.

“We are excited to participate in the SunShot Initiative and aggressively drive innovation that will deliver affordable clean energy to American homes and businesses,” said Kevin Smith, SolarReserve’s CEO. “Through this award, we can help make lasting change and further CSP’s ability to replace traditional forms of electric power generation in terms of functionality, energy storage, and lower costs.”

SolarReserve’s U.S.-developed CSP technology with molten salt energy storage captures and stores the sun’s power to reliably provide electricity whenever it’s needed most, even after the sun has set. Thousands of tracking mirrors called heliostats follow the sun throughout the day and reflect and concentrate sunlight onto a large heat exchanger called a receiver that sits atop a central tower. Within the receiver, molten salt flows through piping that forms the external walls, absorbing the heat from the concentrated sunlight. After passing through the receiver, the high temperature molten salt flows down the piping inside the tower and into an insulated thermal energy storage tank. When electricity is required, day or night, the high temperature molten salt is passed through a steam generation system to produce high-quality superheated steam to drive a standard steam turbine at maximum efficiency, generating electricity. The steam generation process is identical to the process used in conventional gas, coal or nuclear power plants, except that it is 100 percent renewable with zero harmful emissions or waste and zero fossil fuel.

“Today, the molten salt is heated from 550⁰F to 1050⁰F,” said Tim Connor, SolarReserve’s VP of Engineering and Technology. “The SunShot CSP APOLLO award will be used for development of an innovative 1350⁰F ceramic receiver that breaks through current temperature and performance barriers, while meaningfully increasing efficiency, energy storage capabilities and lowering capital cost.”

Connor added, “With the successful design, engineering, fabrication and erection of the world’s largest capacity molten salt tower receiver at our Crescent Dunes Solar Energy Project in Nevada, SolarReserve has established itself as the industry leader in commercializing molten salt power tower and energy storage technology. The SunShot award enables us to continue our commitment to technology innovation and to continue lowering delivered cost of electricity with the added benefit of round-the-clock electricity availability through energy storage.”

About the SunShot Initiative

The [U.S. Department of Energy SunShot Initiative](#) is a collaborative national effort that aggressively drives innovation to make solar energy fully cost-competitive with traditional energy sources before the end of the decade. Through SunShot, the Energy Department supports efforts by private companies, universities, and national laboratories to drive down the cost of solar electricity to \$0.06 per kilowatt-hour. Learn more at energy.gov/sunshot

About SolarReserve

SolarReserve, LLC is a leading global developer of utility-scale solar power projects and advanced solar energy storage technology with more than \$1.8 billion of projects in construction and operation worldwide. The company's experienced team of power project professionals has assembled an extensive global development pipeline of 6.6 gigawatts (GW) across the world's most attractive, high growth renewable energy markets. The robust portfolio is strategically positioned to secure power offtake contracts, and includes advanced solar thermal technology (Concentrating Solar Power or "CSP") that includes energy storage, photovoltaic (PV) technology, and hybrid (combined CSP and PV). SolarReserve's hybrid CSP/PV solutions with energy storage eliminate the intermittency issues associated with PV-only projects while providing cost efficient and reliable electricity generation.

SolarReserve's 110 MW [Crescent Dunes Solar Energy Plant](#) located in Nevada is the world's first utility-scale solar thermal facility to feature advanced molten salt power tower energy storage capabilities. The Crescent Dunes project includes 10 hours of full-load energy storage utilizing SolarReserve's proprietary solar energy storage technology and the project will deliver more than 500,000 megawatt-hours of electricity per year. Nevada's largest electric utility, NV Energy, will purchase 100 percent of the electricity generated by the Crescent Dunes project under a 25-year power purchase agreement and is expected to dispatch the project to generate solar generated electricity until 12 midnight in order to meet its peak energy demand periods.

Last December, the South Africa Department of Energy (DOE) selected SolarReserve's 100 MW Redstone project in its latest round of solar energy projects. The Redstone project was bid into South Africa DOE's Renewable Energy Independent Power Producer Procurement Program at the lowest delivered cost of electricity of any concentrating solar power project in South Africa to date. The first of its kind in Africa, the Redstone Solar Thermal Power Project features SolarReserve's molten salt energy storage technology in a tower configuration with the capability to support South Africa's demand for energy when it's needed most - day and night. The 100 MW project with 12 hours of full-load energy storage will be able to reliably deliver a stable electricity supply to more than 200,000 South African homes during peak demand periods, even well after the sun has set.

SolarReserve is headquartered in Santa Monica, California, and maintains a global presence with seven international offices strategically located in Africa, the Americas, the Asia-Pacific region, the Middle East, and Europe to support its widespread [project development activities](#) across more than 20 countries.

For more information: www.solarreserve.com

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