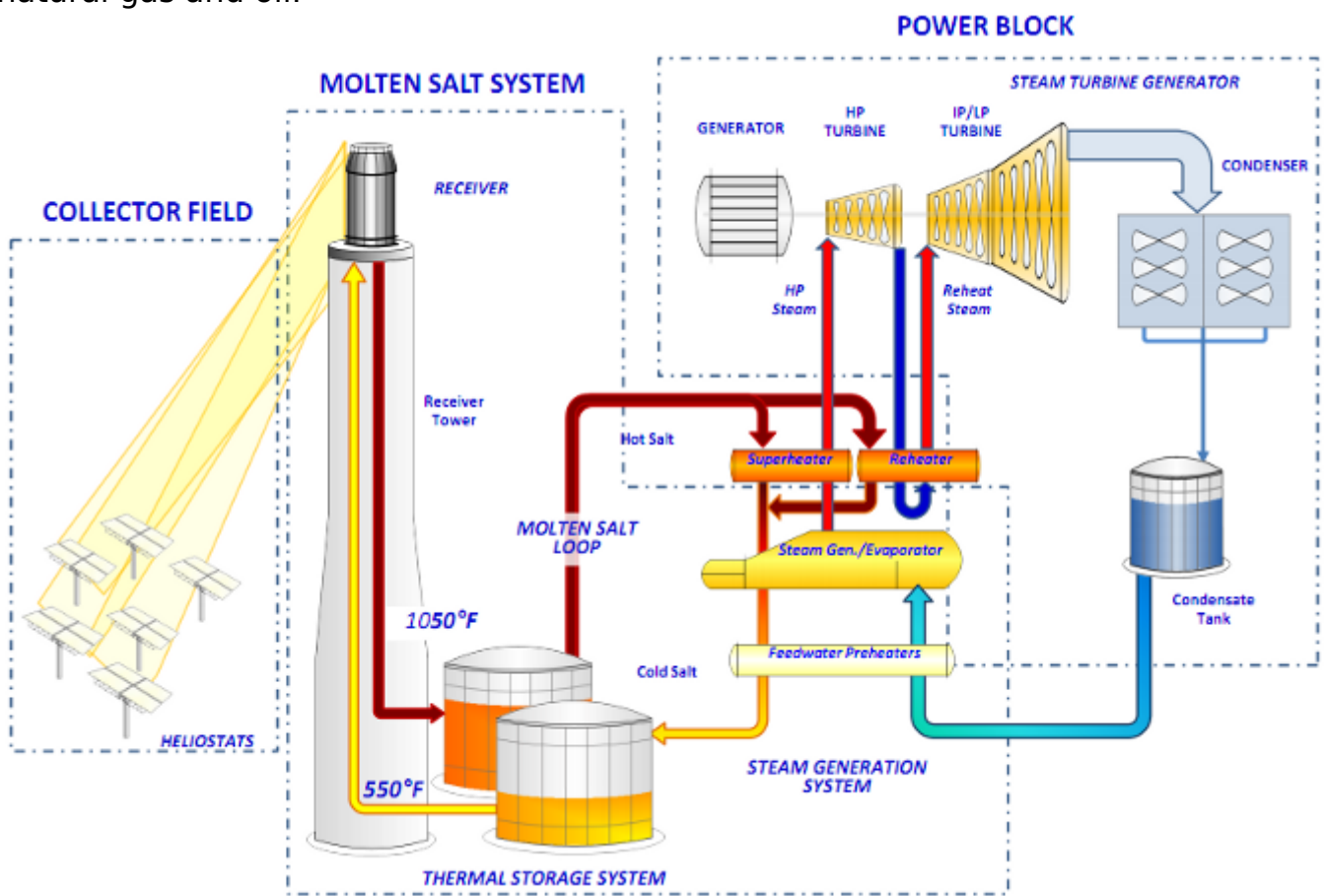


Molten Salt Solar Reactor Approved by California

Curious Cat Science and Engineering Blog

California has [approved a molten salt solar reactor](#) [1] project. The plan is for a 150-megawatt solar power tower project. From the press release: the “Solar Energy Project has the ability to collect and store enough thermal energy each morning to operate at full power all afternoon and for up to 8 hours after sunset. The game-changing technology featuring inherent energy storage affords utilities with a generator that performs with the reliability and dispatchability of a conventional power generator without harmful emissions that are associated with burning coal, natural gas and oil.”



[2]
molten salt solar system diagram

The heliostats focus concentrated sunlight on a receiver which sits on top of the tower. Within the receiver, the concentrated sunlight heats molten salt to over 1000 degrees Fahrenheit. The heated molten salt then flows into a thermal storage tank where it is stored, maintaining 98% thermal efficiency, and eventually pumped to a steam generator. The steam drives a standard turbine to generate electricity. This process, also known as the “Rankine cycle” is similar to a standard coal-fired power plant, except it is fueled by clean and free solar energy.

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This is another green energy project that has a great deal of potential. There is a great need for such new energy sources and hopefully quite a few of these projects will let us enjoy a greener and more sustainable way to meet our future energy needs.

For those interested in the business aspects of this energy project: United Technologies provided SolarReserve with an exclusive worldwide license to develop projects using the proprietary molten salt power tower technology, which has been in development for nearly three decades.

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Links:

- [1] <http://solarreserve.com/pressReleases/SolarReserveRiceSolarCECAApprovalPressRelease121510.pdf>
- [2] <http://www.solar-reserve.com/technology/ProcessFlowDiagram.pdf>
- [3] <http://engineering.curiouscatblog.net/2008/05/26/solar-thermal-in-desert-to-beat-coal-by-2020/>
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- [6] <http://engineering.curiouscatblog.net/2006/08/03/solar-tower-power-generation/>
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