How much solar energy does Chile need?

Chile's DNI is 3,800 kWh/m2 in the Atacama desert, the world's highest solar resource for CSP projects. The region is not subject to sandstorms. Variable renewables, PV and wind, increasingly supply the grid, and to complement these renewables, flexible dispatchable generation, such as is provided by CSP with thermal energy storage, is needed.

Does SolarReserve have a CSP project in Chile?

SolarReserve developed three large tower CSP projects in Chilebetween 2015 and 2018, all central tower CSP, all fully permitted (contemporaneous interview with then SolarReserve CEO Kevin Smith). Due to technical problems at Crescent Dunes storage tanks closing its Nevada project, SolarReserve was unable to move ahead with the projects in Chile.

What was the lowest price submitted in Chile's energy auction?

In Chile's previous energy auction, held in August 2021, the CNE assigned 2.31TWh of renewable energy. The lowest price submitted was \$0.01332/kWh

When will Chile start supplying electricity to the National System?

The Chilean energy regulator concluded an auction to supply electricity to the national system over a period of 15 years from 2027. Chile's Calama Solar 3 PV plant, said to be the first industrial-scale solar plant in South America, with a total installed capacity of 1.1 MWp. Image: CVE Chile From pv magazine Latam

Could Chilean manufacturing benefit from CSP?

A study assessing the benefits to Chilean manufacturing estimated that Chilean industries could supply between 18% and 56% of the parts needed for CSP overalland could supply most of the thermal energy storage between building the tanks and providing the molten salts.





2 ? The Oasis de Atacama project is set to have a total storage capacity of 11 GWh alongside 2 GW of photovoltaic generation. It is structured in seven phases that will produce around 5.5 TWh of

The winning developers are Zapaleri, which secured 126 GWh for a solar-plus-storage facility at a price of \$0.03836/kWh, and FRV Development Chile I, which was awarded 651 GWh for a hybrid



4 ? Key insights into Chile's power market. Chile's power market is at a pivotal moment, undergoing transformations that will shape its future. Unprecedented hourly and locational ???



<image><image><image><image>

The company is presumably banking on solar-plus-storage costs falling far enough to make money on its projects when they enter operation in 2024. The lowest bid in Chile's auction reached



Here's what dispatchable solar looks like. This gigantic solar thermal energy storage tank holds enough stored sunlight to generate 1,100 MWh/day from stored solar power. The cheapest way to store solar energy over many hours, such as the five to seven hour evening



The project has seen its capacity increase ??? from the original 4.1GWh of storage and 1GW of solar ??? last month when the Spanish IPP acquired 1GW of solar PV capacity and 1GW of energised line from gas and ???





2 ? The Oasis de Atacama project is set to have a total storage capacity of 11 GWh alongside 2 GW of photovoltaic generation. It is structured in seven phases that will produce ???



These prices are determined by Power Purchase Agreements (PPAs) and include subsidies or incentives specific to solar and BESS projects in Chile, expressed in \$/MWh. IRR for the Solar+BESS project located in the North part of Chile as a function of subsidized daytime and nightime energy sale prices.



With a capacity of 4.1GWh in storage and about 1GW of solar, once operational Oasis de Atacama will provide green energy to over 145,000 homes, avoiding 147,000 tonnes of annual CO2 emissions. According to estimates of the national electric system of Chile (SEN) cited by Americas Market Intelligence, the country will have 13.2 GWh/ 2 GW (6???8



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4 ? Key insights into Chile's power market. Chile's power market is at a pivotal moment, undergoing transformations that will shape its future. Unprecedented hourly and locational price fluctuations, coupled with an 81% rise in curtailment from 2022 to 2023, highlight the growing challenges driven by intermittent renewables like solar and wind, which comprised 37% of total ???