

# Solar power generation in northern Chile

Where is solar energy produced in Chile?

Much of Chile's solar energy is captured in the Atacama Desert. This region, in Northern Chile, receives the highest level of sunlight exposure in the world and is home to Latin America's first solar thermal plant. Explore data on energy production and sources, country by country ->

Why is solar power important in Chile?

Solar power in Chile is an increasingly important source of energy. Total installed photovoltaic (PV) capacity in Chile reached 8.36 GW in 2023. Solar energy provided 19.9% of national electricity generation in Chile in 2023, compared to less than 0.1% in 2013.

Where is the best place to install solar power plants in Chile?

We found that the best location (from a private point of view) for installing solar power plants in northern Chile is Calama, result that is consistent with . This is because a solar power plant installed in this location gives more electrical generation and more monetary income than in the other locations studied. Table 6.

Do solar energy potential maps exist in Chile?

Solar energy potential maps have already been created in Chile (Escobar et al. 2014; Ministry of Energy, Chile 2013 ). Despite the importance of environmental and social criteria to sustainable site selection, physical solar energy potential still is the prime criterion.

Is solar energy a risk factor in northern Chile?

Given the high potential of solar energy in northern Chile, risk of getting insufficient amount of solar radiation is small. Therefore, some trade-off between the physical factor and intermediate risk with OWA weights was used. Considering the environmental criteria, water and vegetation are scarce in northern Chile.

How much does a solar power plant cost in Chile?

Because of its good solar resource several international companies have bid record low prices for solar thermal power plants in Chile, including the Copiapó Solar Project bid at \$63/MWh by SolarReserve in 2017. If realized this would have been the lowest ever price for a CSP project in the world.

In the Atacama Desert, the driest in the world located in northern Chile, the only Concentrated Solar Power tower in Latin America operates, a symbol of an energy revolution in the making against climate ...

Nevertheless, northern Chile is home for many endemic species with 40 different vegetation types. The thesis presents studies of ecological effects (I-II) and location optimization of PV ...

Construction and operation of a new solar power plant in the Huatacondo district of the Tarapacá Region in northern Chile Generating capacity: 98 MW (solar) Project duration: Approximately ...

The integration between solar energy and seawater desalination is an interesting option in northern Chile due to a high solar potential in the Atacama Desert, where most of the mining ...

MCDA-GIS method was found to be useful and applicable to the 27 optimization of solar power plant locations in northern Chile. 28 29 KEYWORDS: AHP\_OWA -method, GIS, Multi-criteria ...

solar power generation in the desert region of northern Chile to empirically quantify some of the health benefits of solar energy. Fossil fuel power generation, particularly that from coal ...

1 Energy Systems Analysis Unit, Environmental, Energetic and Technological Research Center, CIEMAT, Avenida Complutense 40, 28040 Madrid, Spain 2 Management of Agricultura and ...

First of all, this area in the North of the country is among one of the sunniest (i.e. with the highest Direct Normal Irradiation) in the World, according to Global Solar Atlas ...

Downloadable (with restrictions)! Chile has one of the best worldwide conditions for the generation of electrical energy from solar resources, having an annual average Direct Normal Irradiation ...

In terms of solar energy for electricity generation, northern Chile has a very low ... This study aims to build a potential map for the installation of a central receiver concentrated solar power ...

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The Chilean Energy Policy calls for 15 percent of new power generation capacity to come from renewable energy sources from 2006 to 2010, and then a 5% of electric energy ...

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