



Valle 1 and 2

Cadiz, Spain

Valle 1 and 2 are adjacent concentrated solar power (CSP) plants located in Cadiz, Spain that feature parabolic trough solar technology combined with thermal storage system.

The construction of the plants started in late 2009 and became operational in 2011. The plants have a combined power capacity of 100 megawatts (MW). The footprint of the solar field covers 510,000 square metres. The molten salt storage system allows for seven to eight hours of power generation after sunset, becoming one of the pioneering CSP power plants to provide dispatchable and reliable baseload supply.

Valle 1 and 2 are the two first thermo-solar plants in the province of Cadiz, representing a total capital investment of EUR 700 million – the largest private outlay made to date in the province. The plants produce approximately 300 gigawatt-hours (GWh) per year, which is equivalent to an average consumption of 45,000 households a year, or the entire city of Cadiz, and displaces more than 96,000 tonnes of carbon dioxide a year.

Both plants utilise the latest parabolic trough technology developed by Torresol Energy, a joint venture between Spanish engineering firm Sener (60%) and Masdar (40%).

This technology has unique mechanical characteristics, including a collector design that has a significantly lower steel weight and fewer assembly hours compared to similar collectors.

Quick facts

- Operational since 2011
- The first CSP plants in the province of Cadiz, Spain
- Produce approximately 300GWh/year, equal to an average consumption of 45,000 households, or the entire city of Cadiz
- Displace more than 96,000 tonnes of CO₂ each year
- Provides the entire province with reliable baseload supply that extends up to eight hours after sunset
- Combined installed capacity of 100MW