



Valle 1 and 2

Cadiz, Spain

Valle 1 and 2 are adjacent solar plants located in Cadiz, Spain that feature parabolic trough solar technology combined with molten salt storage facilities.

The construction of the plants started in late 2009 and was completed in 2011. Operational since then, the plants have a combined power capacity of 100MW. The footprint of the solar field covers 510,000 m² and the molten salt storage system allows for seven to eight hours of power generation without sunlight.

Valle 1 and 2 are the two first thermo-solar plants in the province of Cadiz, representing a total capital investment of 700 million euros, the largest private outlay made to date in the province. The plants produce approximately 300GWh/year, which is equivalent to an average consumption of 45,000 households a year, or the entire city of Cadiz and displace more than 96,000 tonnes of CO₂ 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, an appreciably lower steel weight and fewer assembly hours compared to similar collectors. These advantages are significant given that conventional 50MW solar plants include 90km of parabolic trough mirrors requiring about 15,000 tonnes of steel.

Quick facts

- Operational since 2011, the Valle 1 and 2 plants are the two first thermo-solar plants in the province of Cadiz, Spain
- The plants produce approximately 300GWh/year, equal to an average consumption of 45,000 households, or the entire city of Cadiz
- The plants displace more than 96,000 tonnes of CO₂ each year
- Combined installed capacity of 100MW