Concentrating Solar Power

In 2015, Nevada had two major concentrating solar power plants in operation. The Crescent Dunes plant near Tonopah has a 125 MW capacity. It uses molten salt to store the solar energy. The molten salt flows from the central tower to a storage tank where it is used to generate steam and produce electricity. Nevada Solar One in Boulder City, has a capacity of 64 MW. Parabolic troughs are used heat a fluid that is then used to produce steam that drives a steam turbine.

The solar resource in Nevada is much larger than Nevada's consumption could ever be.

Level 1

We assume that no new concentrating power plants are built in Nevada. We have 70MW of electricity production.

Level 2

Add one plant like Crescent Dunes (50MWe) every ten years .

Level 3

Add one plant like Crescent Dunes every five years. 0.4 GW of electricity are produced by 2050.

Level 4

Increase to one GW of electricity production by 2030 and then to12 GW by 2050, a truly massive investment and effort that would require about 1500 km² of land.



The Crescent Dunes Solar Energy Project near Tonopah, Nevada.

0.07 GW(e)	0.07 GW(e)
2015	Level 1 2050

12 GW(e)

0.2 GW(e) 0.4 GW(e) Level 2 Level 3 Level 4 2050 2050 2050