



GEYSERS OVERVIEW

North America's Largest Geothermal Operation

Calpine Corporation is the nation's largest renewable geothermal power producer. The company operates 13 geothermal power plants in The Geysers region of northern California and is capable of generating up to 725 megawatts of green energy around the clock. Calpine uses a natural, clean energy source — heat from the earth's interior — to produce electricity. Because geothermal power plants do not burn fossil fuel, they have an inherent environmental advantage and are helping meet California's clean air goals.

Located north of San Francisco in the Mayacamas Mountains, The Geysers is the single largest geothermal electrical operation in the world. A geothermal resource occurs when water deep below the earth's surface is heated by exposure to hot, porous and permeable rock resulting in dry steam or hot water. At The Geysers, dry or superheated steam is produced. Steam production wells, some deeper than two miles, are drilled to tap this naturally occurring steam. Once the steam reaches the surface, it is piped overland to a network of interconnected power plants, where it spins conventional steam turbines that drive generators to produce clean, reliable electricity for California.

Benefitting the Community and the Environment

The Geysers provides substantial long-term support to local economies through wages, the purchase of supplies and services, property taxes and royalties. Calpine also provides support to community improvement projects and local 911 services and encourages its employees to participate in many volunteer efforts.

Recognizing the importance of The Geysers, Calpine is expanding and sustaining production from this renewable resource through wastewater recharge projects in which clean, reclaimed wastewater from local municipalities is recycled into the geothermal resource where it is converted into steam for electricity production. This provides an environmentally sound wastewater discharge solution for neighboring cities and increases the long-term productivity of The Geysers resource. Calpine is also working with the U.S. Department of Energy on a demonstration project using Enhanced Geothermal System (EGS) technology. The results to date are very encouraging. A positive outcome will be beneficial for not only The Geysers but for potential EGS sites around the world that require this water-injection reservoir technology for successful geothermal resource development.

ABOUT CALPINE

Calpine Corporation is America's largest generator of electricity from natural gas and geothermal resources with operations in competitive power markets. Our fleet of 80 power plants in operation or under construction represents more than 26,000 megawatts of generation capacity. Through wholesale power operations and our retail businesses, we serve customers in 24 states, Canada and Mexico. Our clean, efficient, modern and flexible fleet uses advanced technologies to generate power in a low-carbon and environmentally responsible manner. We are uniquely positioned to benefit from the secular trends affecting our industry, including the abundant and affordable supply of clean natural gas, environmental regulation, aging power generation infrastructure and the increasing need for dispatchable power plants to successfully integrate intermittent renewables into the grid.

Creating power for a sustainable future

QUICK FACTS

World's single-largest geothermal resource developed for electric generation:

- 13 geothermal plants
- 725 megawatts of generation capacity

For the past decade, generated about 6 million MWh per year

In 2017, Calpine's Geysers plants provided:

- About 10% of California's renewable electric generation
- About 34% of U.S. geothermal generation

Approximately 300 Calpine employees

First commercial steam well drilled in 1955

- 322 steam wells
- 54 injection wells

Steam fields cover more than 45 square miles

80 miles of steam lines

For more information:

- www.geysers.com
- Free plant tours available

www.calpine.com

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