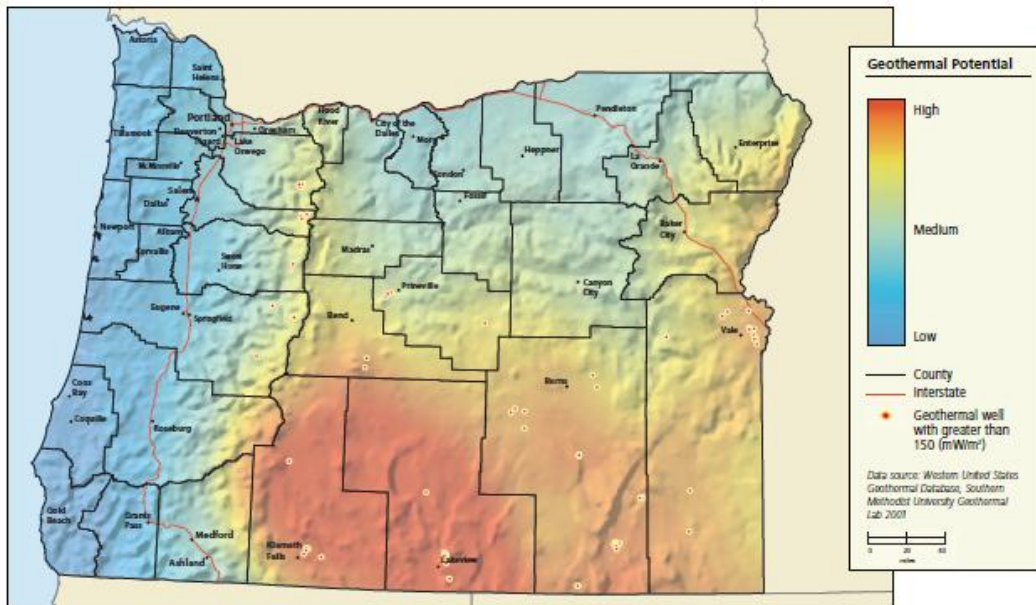


Geothermal

Geothermal Energy Potential in Oregon



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The Oregon Department of Energy defines geothermal energy as “the energy from the internal heat of the Earth, which may be residual heat, friction heat, or a result of radioactive decay. The heat is found in rocks and fluids at various depths and can be extracted by drilling or pumping,” (State of Oregon Energy Plan 2011-2013, pg. 79). Geothermal heat can be used directly, or can be used to generate electricity by producing steam.

Geothermal energy generation capacity was relatively stable between 2000 and 2010 with an average of 1.0 percent annual growth. Most of the country’s and the world’s geothermal generation is in California (Figure 1). Geothermal power typically serves as a baseload resource (available 24 hours a day, 365 days a year), and costs between five and 10 cents a kilowatt-hour. Total U.S. capacity was 3,102 MW in 2010.

Oregon has many examples of direct use of geothermal heat. The City of Klamath Falls uses geothermal energy to heat buildings, residences, pools, and even melt snow. Other examples in the state include drying agricultural products,

aquaculture (raising fish), heating greenhouses, and heating swimming pools at spas and resorts. In the past, commercial geothermal electric facilities required temperatures of 300° F and above; new technologies allow minimum temperatures of 190° F. In 2010, the state’s first geothermal power plant began operating at the Oregon Institute of Technology in Klamath Falls. In 2012, a 26 MW power plant will begin commercial operation near Vale. There are several additional power projects in development in Oregon today. Areas with the greatest geothermal resource potential are mostly located in central and southeastern Oregon.

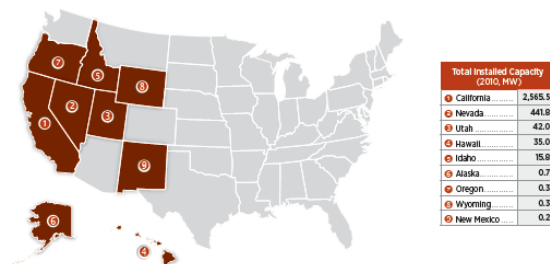


Figure 1 State Geothermal Installed Capacity, 2010