

Geothermal Assessment as Part of California's Renewable Energy Transmission Initiative (RETI)

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Abstract

Geothermal assessments and cost estimates were performed as part of California's Renewable Energy Transmission Initiative (RETI) to help guide transmission planning. The RETI assessments identified approximately 5,300 gross megawatts (MW) of additional electrical-generation capacity that could be brought on line from geothermal sites within 10 years, including 2,440 gross MW within California. The RETI study area spanned 5 western states and parts of Canada and Mexico. Geothermal assessments were performed for 116 sites in California, Nevada, Oregon, and southern British Columbia. MW capacity estimates were made on a regional basis for Arizona, Washington, and the northern portion of the Mexican state of Baja California Norte ("Baja"). Capital costs and costs for Operations and Maintenance (O&M) were estimated primarily as a function of MW capacity. For most sites, estimated capital costs ranged from \$3,000 to \$5,500 per gross MW installed, and estimated O&M costs ranged from \$22 to \$35 per gross MWh (2008 dollars). These costs were converted to a net-MW basis in the RETI analysis for purposes of comparison with other renewable energy sources. The Levelized Cost of Energy (LCOE) for most geothermal sites ranged from \$65 to \$130 per net MWh.

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