SENATE COMMITTEE ON APPROPRIATIONS
Senator Anna Caballero, Chair
2025 - 2026 Regular Session

AB 527 (Papan) - Oil and gas: California Environmental Quality Act: geothermal exploratory projects: geothermal field development projects: enhanced geothermal system wells

Version: July 23, 2025
Urgency: No
Hearing Date: August 18, 2025

Policy Vote: E.Q. 6 - 1, N.R. & W. 7 - 0
Mandate: Yes
Consultant: Ashley Ames

Bill Summary: This bill would provide an exemption from the California Environmental Quality Act (CEQA) for geothermal exploratory projects that meet certain criteria, as provided.

Fiscal Impact:

- The Department of Conservation (DOC) estimates one-time costs of $3.28 million in year one for internal infrastructure development and ongoing costs of about $432,000 annually for two positions (the Oil, Gas, and Geothermal Administrative Fund [OGGA]) to implement the provisions of this bill, including developing and applying specialized expertise in enhanced geothermal systems; leading collaborative efforts with similarly focused agencies from other states; reviewing and permitting of advanced geothermal wells differentiated from enhanced geothermal system wells where additional methods other than hydraulic fracturing is proposed; reviewing seismic monitoring plans; reviewing disclosures of anticipated composition and disposition of well stimulation fluids; technical support for regulatory development; and administrative support. CalGEM notes OGGA is partially funded by fees assessed on geothermal operators. In the absence of an identified funding source, to fund the work required in this bill, CalGEM would need to assess fees on geothermal operators.

Background: Geothermal energy comes from heat stored in rocks and fluids in the Earth's crust, according to the Geologic Energy Management Division (CalGEM). Geothermal fluids include both hot water and steam . There are more than 650 active, high temperature wells in the state's geothermal fields. Fluids from these wells are used to generate electricity at adjacent power plants.

California is the single largest generator of electricity from geothermal energy in the country. As of 2018, there were 43 operating geothermal power plants in the state with an installed capacity of about 2.7 gigawatts (GW). In 2022, about 5% of the state's electrical energy came from geothermal resources.

Geothermal energy is considered to be a renewable energy resource, and is anticipated to be an important clean energy-producing component of the state meeting its 2045 carbon neutrality target. Geothermal energy provides baseload renewable energy which can help fill in the evening and winter gaps in renewable power generation capacity when solar and wind are not generating sufficient energy to meet the state's needs. Advances in technology suggest that many more locations will have sufficient subsurface geothermal resources in the near future to viably produce energy. New

technology may also allow geothermal power plants to provide more than baseload services.

Geothermal wells in the state – except for those on federal leases – are permitted, drilled, operated, and permanently sealed under CalGEM's auspices. Any proposed well must demonstrate compliance CEQA prior to CalGEM permitting the well. Surface activities that are supported by geothermal wells are regulated primarily by the local jurisdiction where the well is located if the power plant is less than 50 megawatts (MW) in size. The California Energy Commission (CEC) provides additional oversight for the permitting of power plants larger than 50 MW in size. Other agencies, such as the State Water Resources Control Board and Regional Water Quality Control Boards, may also have a permitting role for a geothermal project.

Geothermal energy projects generally have two phases. There is an exploratory phase – where the resource is evaluated and mapped – and a field development phase. A geothermal exploratory project is limited to wells and certain necessary surface support equipment. A geothermal field development project would be much larger in scope and include a power plant.

CEQA. CEQA provides a process for evaluating the environmental effects of applicable projects undertaken or approved by public agencies. If a project is not exempt from CEQA, an initial study is prepared to determine whether the project may have a significant effect on the environment. If the initial study shows that there would not be a significant effect on the environment, the lead agency must prepare a negative declaration (ND). If the initial study shows that the project may have a significant effect on the environment, the lead agency must prepare an environmental impact report (EIR).

Generally, an EIR must accurately describe the proposed project, identify and analyze each significant environmental impact expected to result from the proposed project, identify mitigation measures to reduce those impacts to the extent feasible, and evaluate a range of reasonable alternatives to the proposed project. If mitigation measures are required or incorporated into a project, the agency must adopt a reporting or monitoring program to ensure compliance with those measures.

CEQA streamlining for energy projects. According to the Senate Environmental Quality Committee, the Legislature has taken several measures in recent years to streamline environmental review for clean energy projects. In 2023, the Legislature passed SB 149 (Caballero, Chapter 60, Statutes of 2023), which offered CEQA judicial streamlining for certain clean energy and infrastructure projects. The CEQA judicial streamlining caps the amount of time it takes for CEQA lawsuits to move through the courts to 270 days, with all appeals, as feasible.

In the 2022 budget, the Legislature established a new, opt-in environmental review certification program at the CEC that offered streamlined CEQA environmental review of just 270 days ("AB 205"). Under existing law, EIRs much be completed in one year, except in extenuating circumstances. AB 205 only applies to certain clean energy projects, including for solar photovoltaic, terrestrial wind, geothermal, and other non-fossil, non-nuclear power plants with a generating capacity of 50 MW or more, for energy storage systems capable of storing 200-megawatt hours or more of electricity,

and for transmission lines from those facilities to a point of connection with an electrical transmission system. Before AB 205, the CEC's siting authority was limited to thermal power plants with capacities of 50 MW or more.

Geothermal projects are eligible for both CEQA judicial and environmental streamlining established in SB 149 and AB 205, respectively, if the specific projects meet the eligibility criteria established in those laws.

Proposed Law: This bill would provide an exemption from CEQA for geothermal exploratory projects that meet certain criteria, as provided. Specifically, this bill would:

1. Expressly include as part of a geothermal exploratory project, among other things, equipment and activities necessary to establish interconnectivity between wells and reservoirs.

2. Exclude certain wells connecting to geothermal reservoirs from the one-half mile limit described above.

3. Until January 1, 2031, exempt from CEQA geothermal exploratory projects that meet specified conditions and for which the county is the lead agency. Before the lead agency determines that a geothermal exploratory project is exempt from CEQA, the bill would require a project developer to supply the lead agency with a survey that includes specified information.

4. Authorize the lead agency to require the project applicant to file an indemnity bond, as specified, before the lead agency determines that a geothermal exploratory project is exempt from CEQA.

5. Require the lead agency, at least 30 days before making a determination to approve or carry out a change in use pursuant to this exemption, to post a written notice on its internet website and at the project site.

6. Require the lead agency to post the entire project application on its internet website.

7. If the lead agency determines that the project is exempt from CEQA, the bill would require the lead agency to file a notice with the State Clearinghouse in the Office of Land Use and Climate Innovation and with the county clerk of the county in which the project is located, as provided, and to provide a copy of the notice to specified entities.

8. Because the exemption would apply to projects where the county is the lead agency and the county would be required to determine if a project qualifies for this exemption, the bill would impose a state-mandated local program.

9. Require a geothermal field development project located on a site where a geothermal exploratory project was deployed pursuant to the above-described CEQA exemption to use a baseline for CEQA review that reflects the site before the geothermal exploratory project occurred..

10. Require, on or before January 1, 2029, the Geologic Energy Management Division to promulgate regulations for enhanced geothermal system wells, as provided. Before the promulgation and implementation of those regulations, the bill would require an operator to provide specified information to the supervisor when the operator files the notice of intent to commence drilling for a well in a CEQA-exempt geothermal exploratory project that employs enhanced geothermal system technology.

Related Legislation:

AB 531 (Rogers, 2025) would expand the definition of "facility" for purposes of prescribing the types of projects for which the project proponent may request the CEC permit on an expedited basis, to include a geothermal powerplant or a geothermal field development project.

AB 1359 (Papan, Chapter 678, Statutes of 2024) authorizes CalGEM to delegate lead agency authority under CEQA for geothermal exploratory projects, as provided

SB 149 (Caballero, Chapter 60, Statutes of 2023) makes a broad swath of energy, transportation, water, and semiconductor projects eligible for expedited judicial review under CEQA. Projects must meet certain environmental and labor criteria to be eligible for certification. The streamlining certification ends January 1, 2033.

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