

Date of Hearing: April 21, 2025

ASSEMBLY COMMITTEE ON NATURAL RESOURCES

Isaac G. Bryan, Chair

AB 526 (Papan) – As Amended April 10, 2025

SUBJECT: Energy: in-state geothermal energy generation

SUMMARY: Requires the California Energy Commission (CEC), in consultation with other agencies, to develop a strategic plan for new geothermal energy in California, as specified.

EXISTING LAW:

- 1) The Renewables Portfolio Standard (RPS) requires utilities and other retail sellers of electricity to procure 60% of their retail electricity sales from eligible renewable energy resources by 2030 and thereafter, including interim targets of 33% by 2020, 44% by 2024, and 52% by 2027. (Public Utilities Code (PUC) 399.11 *et seq.*)
- 2) Provides that RPS-eligible generation facilities must use biomass, solar thermal, photovoltaic, wind, *geothermal*, renewable fuel cells, small hydroelectric, digester gas, limited non-combustion municipal solid waste conversion, landfill gas, ocean wave, ocean thermal, or tidal current. (PRC 25741)
- 3) Establishes a policy that RPS-eligible renewable energy resources and zero-carbon electric generating facilities will supply 100% of electricity procured to serve California customers by December 31, 2045, and directs the Public Utilities Commission (PUC), CEC, and Air Resources Board (ARB) to incorporate this policy into all relevant planning and programs. (PUC 454.53)
- 4) Requires the PUC to identify a diverse and balanced portfolio of resources needed to ensure a reliable electricity supply that provides optimal integration of renewable energy in a cost-effective manner. Requires the portfolio to rely upon zero carbon-emitting resources to the maximum extent reasonable and be designed to achieve any statewide greenhouse gas (GHG) emissions limit. (PUC 454.51)

THIS BILL:

- 1) Requires the CEC, in coordination with the Department of Conservation, the State Lands Commission, the Office of Land Use and Climate Innovation, the Department of Fish and Wildlife, the Governor's Office of Business and Economic Development, the Independent System Operator, the Public Utilities Commission, and any other relevant federal, state, and local agencies, as needed, to develop a strategic plan for the development of new in-state geothermal energy in California.
- 2) Requires the CEC to submit the strategic plan to the Natural Resources Agency and the Legislature on or before June 30, 2027.
- 3) Requires the plan to include, at minimum, all of the following:

- a) Identification of suitable and recommended locations for the development of new in-state geothermal energy.
- b) Economic and workforce development, including an analysis of occupational safety requirements, the need to require the use of a skilled and trained workforce to perform all work, and the need for the Division of Apprenticeship Standards to develop curriculum for in-person classroom and laboratory advanced safety training for workers.
- c) An assessment, in consultation with the PUC and California Independent System Operator (CAISO), of transmission investments and upgrades necessary to support new in-state geothermal energy.
- d) Recommendations on geothermal permitting, including identifying opportunities to work with the Bureau of Land Management and other relevant federal agencies on the timing, scope, and prioritization of geothermal lease sales to support geothermal development on federal lands within California; making recommendations regarding potential significant adverse environmental impacts and use conflicts; and specified considerations in identifying suitable locations.
- e) An assessment of the level at which geothermal rentals and royalties would best support California's long-term renewable energy and GHG emissions reduction goals, while maintaining competitiveness with rentals and rates on federal lands and in other states.
- f) Assessment of known impacts to Native American and indigenous peoples and biological resources, and strategies for addressing those impacts.

- 4) Requires the CEC in coordination with the Department of Conservation, the Department of Fish and Wildlife, the State Lands Commission, other relevant federal, state, and local agencies, as needed, California load-serving entities, interested Native American tribes, and the geothermal energy industry, to develop and produce a permitting roadmap that describes timeframes and milestones for a coordinated, comprehensive, and efficient permitting process for new in-state geothermal energy exploration and field development and associated electricity and transmission infrastructure.
- 5) Requires the permitting roadmap update relevant rules and regulations to reflect emerging next-generation technologies and include goals for relevant permitting timeframes, clearly define local, state, and federal agency roles, responsibilities, and decision-making authority, and include interfaces with federal agencies, including timing, sequence, and coordination with federal permitting agencies, and coordination between reviews under the California Environmental Quality Act.
- 6) Requires the CEC provide an opportunity for stakeholder input in the development and communication of the permitting roadmap and an opportunity for public comment on a draft permitting roadmap.

FISCAL EFFECT: Unknown

COMMENTS:

- 1) **Background.** Geothermal is a form of renewable energy defined as heat energy from the earth. Geothermal resources are reservoirs of hot water that are naturally occurring or are manufactured to operate at varying temperatures and depths below the earth's surface. Wells, ranging from a few feet to several miles deep, can be drilled into underground reservoirs to tap steam and hot water that can be brought to the surface for use in electricity generation, direct heating, and industrial processes. The United States is the world's largest producer of geothermal electricity and California has the highest geothermal capacity of all states. "The Geysers" geothermal steam field, located within Lake, Mendocino, and Sonoma Counties, contains 349 out of California's 563 high-temperature geothermal wells within the state. Imperial County (including the Salton Sea) houses 194 of these wells, and the remaining 20 are located in Lassen, Modoc, and Mono Counties. California has installed 2,627 MW of geothermal nameplate capacity—accounting for 72% of the total geothermal plant capacity in the United States.

- 2) **Author's statement:**

Geothermal energy is essential to California's carbon-free and renewable future. Unfortunately, the state does not have enough geothermal facilities. They require substantial investment and infrastructure. Without state direction as to a geothermal plan, these challenges are hindering the growth of geothermal and developers are shifting their attention to other states.

AB 526 is about doing the necessary planning to facilitate the growth of geothermal energy. It requires the Energy Commission to develop a statewide strategic plan that will guide the expansion of geothermal energy. By setting clear objectives and providing a roadmap for future geothermal projects, the plan will help attract investment, spur job creation, and stimulate economic development in California's clean energy sector.

- 3) **Double referral.** This bill was heard by the Utilities and Energy Committee on April 2 and passed, with amendments, by a vote of 18-0.

REGISTERED SUPPORT / OPPOSITION:**Support**

Sonoma Clean Power (sponsor)
350 Humboldt
350 Sacramento
Active San Gabriel Valley
American Clean Power Association
California Community Choice Association
California Environmental Voters
California Nurses for Environmental Health & Justice
California State Association of Electrical Workers
California State Pipe Trades Council
Citizens' Climate Lobby, Santa Rosa and North Chapter
City of Cloverdale

Clean Air Task Force
Climate Action California
Climate Center
Climate Reality Project
County of Imperial
County of Sonoma
Eavor
Elder's Climate Action NorCal
Environmental Defense Fund
Facts: Families Advocating for Chemical & Toxics Safety
Fervo Energy
Geothermal Rising
International Brotherhood of Boilermakers, Western States Section
International Union of Operating Engineers, Cal-Nevada Conference
Move LA
Northern Sonoma County Air Pollution Control District
Ormat Technologies
Physicians for Social Responsibility - San Francisco Bay
Santa Cruz Climate Action Network
Sierra Club California
State Building and Construction Trades Council
The Climate Reality Project: Silicon Valley
The Nature Conservancy
USGBC California
Western States Council Sheet Metal, Air, Rail and Transportation
XGS Energy

Opposition

None on file

Analysis Prepared by: Lawrence Lingbloom / NAT. RES. /