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AB-526 Energy: in-state geothermal energy generation. (2025-2026)

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AMENDED IN ASSEMBLY APRIL 10, 2025

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CALIFORNIA LEGISLATURE— 2025–2026 REGULAR SESSION

ASSEMBLY BILL

NO. 526

**Introduced by Assembly Member Papan
(Coauthor: Assembly Member Rogers)**

February 10, 2025

An act to add Chapter 16 (commencing with Section 25993) to Division 15 of the Public Resources Code, relating to energy.

LEGISLATIVE COUNSEL'S DIGEST

AB 526, as amended, Papan. Energy: ~~new~~ in-state geothermal energy generation.

Existing law establishes a state policy that eligible renewable energy resources and zero-carbon resources supply 90% of all retail sales of electricity to California end-use customers by December 31, 2035, 95% of all retail sales of electricity to California end-use customers by December 31, 2040, 100% of all retail sales of electricity to California end-use customers by December 31, 2045, and 100% of electricity procured to serve all state agencies by December 31, 2035, as provided. Existing law requires the Public Utilities Commission (PUC), State Energy Resources Conservation and Development Commission (Energy Commission), and State Air Resources Board to issue a joint report to the Legislature by January 1, 2021, and every 4 years thereafter, that includes specified information relating to the implementation of that state policy.

Existing law requires the PUC and the Energy Commission to undertake various actions in furtherance of meeting the state's clean energy and pollution reduction objectives.

This bill would require the Energy Commission, in coordination with specified agencies, to develop a strategic plan for new in-state geothermal energy in California, as specified. The bill would require the Energy Commission to submit the strategic plan to the Natural Resources Agency and the Legislature on or before June 30, 2027.

The bill would require the Energy Commission, in coordination with specified agencies, to work with stakeholders, other relevant federal, state, and local agencies, interested Native American tribes, California load-serving entities, and the geothermal energy

industry to identify suitable and recommended locations for the development of new in-state geothermal energy, to establish state lands leasing goals for new in-state geothermal energy development for 2035 and 2045, as specified, and to identify opportunities to work with federal agencies on the timing, scope, and prioritization of geothermal lease sales to support geothermal development on federal lands within California, as specified. The bill would require the Energy Commission, in consultation with the PUC and the Independent System Operator (ISO), to assess the transmission investments and upgrades necessary to support new in-state geothermal energy. The bill would require the PUC to designate new in-state geothermal energy as a long lead-time resource in its recurring input to the ISO's system need scoring for the interconnection and transmission planning process. The bill would require the Energy Commission, in coordination with specified entities, 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, as provided. The bill would require the Energy Commission, in coordination with the State Lands Commission, the Department of Conservation, and the Governor's Office of Business and Economic Development, to assess the level at which *new and existing* geothermal rentals and royalties would best support California's long-term renewable energy and greenhouse gas emissions reduction goals while maintaining competitiveness with rentals and rates on federal lands and in other states, as provided. The bill would require the information described in this paragraph, an assessment of known impacts to Native American and Indigenous peoples and biological resources, and strategies for addressing those impacts, and an assessment, led by the Geologic Energy Management Division, using the best available data, of the in-state geothermal resource potential, to be included in the strategic plan, as specified.

Vote: majority Appropriation: no Fiscal Committee: yes Local Program: no

THE PEOPLE OF THE STATE OF CALIFORNIA DO ENACT AS FOLLOWS:

SECTION 1. The Legislature finds and declares all of the following:

- (a) The need for ~~reliable~~ *clean* firm energy was the driving force behind recent extensions of the lifespan of the Diablo Canyon Power Plant and a number of natural gas-fired powerplants in southern California.
- (b) In recognition of this need, the Public Utilities Commission issued Decision 21-06-035 (June 24, 2021), Decision Requiring Procurement to Address Mid-Term Reliability (2023-2026), which directed California's load-serving entities to procure significant amounts of new geothermal energy over the years to come.
- (c) If developed and deployed at scale, new in-state geothermal energy can advance California's progress toward its statutory renewable *and zero-carbon* energy and climate mandates and providing air quality benefits.
- (d) The recent United States Department of Energy report from March 2024, Pathways to Commercial Liftoff: Next-Generation Geothermal Power, highlighted research that found that aggressive deployment of next-generation geothermal energy technologies could lower the cost of eliminating carbon emissions in the Western Interconnection by as much as 25 percent compared to a decarbonization strategy relying on solar and storage resources.
- (e) Many of the geothermal resources being procured by load-serving entities to meet procurement mandates are out of state, which exports California ratepayer wealth.
- (f) The first commercial-scale next-generation geothermal energy resources are currently under development in the States of Nevada and Utah, but nearly all of that power is anticipated to be sold to buyers in the State of California.
- (g) The State of California must take an active role in ensuring that *existing and conventional geothermal resources in the state remain viable while also ensuring that* new geothermal energy projects built to supply the California market lead to investment and job creation in California and do not lead to the export of investment, industry knowledge, and the California geothermal, oil, and gas workforce to neighboring states.
- (h) New in-state geothermal energy development presents a significant opportunity to attract investment capital and realize community economic development and workforce development benefits in California, including the development and preservation of a skilled and trained construction workforce to carry out projects, long-term apprenticeship and job creation, and the development of a next-generation geothermal energy supply chain.
- (i) California has the geologic resources, workforce, and clean energy economy to advance geothermal energy in-state production if decisive state action is taken today. The National Renewable Energy Laboratory estimates that there could be 27.9 gigawatts of next-generation geothermal resources deployed in California by 2050, over double that of any other state.
- (j) Since ~~many next-generation~~ geothermal energy projects *may* take a decade or more to *develop, permit, and* construct, a comprehensive planning process must begin now to ensure an adequate in-state supply of geothermal energy when it is needed.

Given the geographic constraints on geothermal energy resources, it is also critical that planning begin now in order to ensure that adequate transmission capacity is in place to ensure interconnection once projects are completed.

SEC. 2. Chapter 16 (commencing with Section 25993) is added to Division 15 of the Public Resources Code, to read:

CHAPTER 16. New In-State Geothermal Energy Generation

25993. (a) (1) The commission, 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, shall develop a strategic plan for new in-state geothermal energy in California.

(2) Development of the strategic plan shall incorporate, but not delay, progress to advance development of new in-state geothermal energy in other relevant policy ~~venues~~ *venues and shall not negatively impact existing geothermal resources.*

(3) The strategic plan shall include, but not be limited to, conventional hydrothermal resources and nascent technologies such as advanced closed-loop and enhanced geothermal systems at a range of temperatures, supercritical heat geothermal systems, integrating thermal energy storage with geothermal resources, and geologic thermal energy storage.

(4) The strategic plan is intended to serve an advisory function and shall not form the sole basis of new procurement mandates or requirements.

(b) (1) The commission shall submit the strategic plan to the Natural Resources Agency and the Legislature on or before June 30, 2027.

(2) The plan submitted to the Legislature pursuant to paragraph (1) shall be submitted in compliance with Section 9795 of the Government Code.

(c) The strategic plan shall include, at minimum, all of the following chapters:

(1) Identification of suitable and recommended locations for the development of new in-state geothermal energy. This shall include state lands leasing goals for new in-state geothermal energy development for 2035 based on the resource needs identified pursuant to subdivision (a) of Section 454.51 of the Public Utilities Code and paragraph (4) of subdivision (a) of Section 454.52 of the Public Utilities Code, and for 2045 based on the in-state geothermal resource potential identified pursuant to paragraph (8), and identification of the necessary levels of exploratory well drilling, technology piloting, and other data acquisition to derisk potential opportunities.

(2) Economic and workforce development, including, but not limited to, 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.

(3) Ratepayer benefits and cost impacts.

(4) Transmission planning, including the findings and recommendations resulting from activities undertaken pursuant to Section 25993.2.

(5) Permitting, including the findings and recommendations resulting from activities undertaken pursuant to Section 25993.3.

(6) Rentals and royalties, including the findings and recommendations resulting from activities undertaken pursuant to Section 25993.4.

(7) Assessment of known impacts to Native American and Indigenous peoples and biological resources, and strategies for addressing those impacts.

(8) Assessment, led by the Geologic Energy Management Division, using the best available data, of the in-state geothermal resource potential, inclusive of all resources listed in paragraph (3) of subdivision (a).

(d) The strategic plan shall emphasize and prioritize near-term actions, particularly related to workforce development and costs.

(e) The development of the strategic plan regarding workforce development shall include consultation with representatives of key labor organizations and apprenticeship programs that would be involved in dispatching and training the workforce.

(f) The commission shall provide an opportunity for public review and comment on a draft strategic plan.

25993.1. (a) The commission, in coordination with the Department of Conservation, the Department of Fish and Wildlife, the Governor's Office of Tribal Affairs, and the State Lands Commission, shall work with stakeholders, other relevant federal, state,

and local agencies, as needed, interested Native American tribes, California load-serving entities, and the geothermal energy industry to identify suitable and recommended locations for the development of new in-state geothermal energy.

(b) The State Lands Commission, in coordination with the commission, the Department of Conservation, the Department of Fish and Wildlife, stakeholders, other relevant federal, state, and local agencies, as needed, California load-serving entities, and the geothermal energy industry, shall establish state lands leasing goals for new in-state geothermal energy development for 2035 based on the resource needs identified pursuant to subdivision (a) of Section 454.51 of the Public Utilities Code and paragraph (4) of subdivision (a) of Section 454.52 of the Public Utilities Code, and for 2045 based on the resource potential identified pursuant to paragraph (8) of subdivision (c) of Section 25993, and shall identify 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.

(c) In identifying suitable locations, the commission and the State Lands Commission shall consider all of the following:

- (1) Existing data on geothermal energy resource potential and commercial viability.
- (2) Existing and necessary transmission infrastructure.
- (3) Protection of cultural and biological resources with the goal of prioritizing least-conflict areas.
- (4) With regards to future transfers of land from the federal government to the state, opportunities to prioritize transfers of land that include significant geothermal resources.

(d) The commission, in coordination with the Department of Conservation, the Department of Fish and Wildlife, the State Lands Commission, stakeholders, other relevant federal, state, and local agencies, as needed, California load-serving entities, and the geothermal energy industry, shall make recommendations regarding potential significant adverse environmental impacts and use conflicts, such as avoidance, minimization, monitoring, mitigation, and adaptive management, consistent with California's long-term renewable energy, greenhouse gas emissions reduction, and biodiversity goals.

(e) This section does not modify the authority of state agencies over project-specific siting and permitting.

(f) The findings and recommendations resulting from activities undertaken pursuant to this section shall be included in the chapter of the strategic plan related to identification of suitable and recommended locations for the development of new in-state geothermal energy, as specified in paragraph (1) of subdivision (c) of Section 25993.

25993.2. (a) The commission, in consultation with the Public Utilities Commission and the Independent System Operator, shall assess the transmission investments and upgrades necessary to support new in-state geothermal energy.

(b) The Public Utilities Commission, in consultation with the commission, the Independent System Operator, and the Department of Water Resources, shall designate new in-state geothermal energy as a long lead-time resource in its recurring input to the Independent System Operator's system need scoring for the interconnection and transmission planning process.

(c) The commission, in coordination with the Public Utilities Commission, the Independent System Operator, the Department of Conservation, the Department of Fish and Wildlife, the State Lands Commission, stakeholders, other relevant federal, state, and local agencies, as needed, California load-serving entities, and the geothermal energy industry, shall make recommendations regarding potential significant adverse environmental impacts and use conflicts, such as avoidance, minimization, monitoring, mitigation, and adaptive management, consistent with California's long-term renewable energy, greenhouse gas emissions reduction, and biodiversity goals.

(d) This section does not modify the authority of state agencies over project-specific siting and permitting.

(e) The findings resulting from activities undertaken pursuant to this section shall be included in the chapter of the strategic plan related to transmission planning as specified in paragraph (4) of subdivision (c) of Section 25993.

25993.3. (a) The commission, 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, shall 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.

(b) The permitting roadmap shall identify needed updates to 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 decisionmaking 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

(Division 13 (commencing with Section 21000)) and the federal National Environmental Policy Act of 1969 (42 U.S.C. Sec. 4321 et seq.).

(c) The commission shall 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.

(d) The findings resulting from activities undertaken pursuant to this section shall be included in the chapter of the strategic plan relating to permitting as specified in paragraph (5) of subdivision (c) of Section 25993.

25993.4. (a) The commission, in coordination with the State Lands Commission, the Department of Conservation, and the Governor's Office of Business and Economic Development, shall assess the level at which *new and existing* geothermal rentals and royalties would best support California's long-term renewable energy and greenhouse gas emissions reduction goals, while maintaining competitiveness with rentals and rates on federal lands and in other states.

(b) The findings resulting from activities undertaken pursuant to this section shall be included in the chapter of the strategic plan related to rentals and royalties as specified in paragraph (6) of subdivision (c) of Section 25993.

25993.5. (a) This chapter does not create a technology set-aside or mandatory minimum for any type of eligible renewable energy resource.

(b) This chapter does not require or mandate procurement of any type of eligible renewable energy resource by load-serving entities, including, but not limited to, electrical corporations and community choice aggregators.