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GRA Letter to CEC Re 2026 IEPR Update and 2-Day Geothermal Workshop

Additional submitted attachment is included below.



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July 23rd, 2026

California Energy Commission
Docket Unit, MS-4
Docket No. 26-IEPR-04
715 P Street,
Sacramento, CA 95814

Re: 2026 Integrated Energy Policy Report Update - Geothermal Section

On behalf of Geothermal Rising Action (GR Action, or GRA), an affiliate of Geothermal Rising—the trade association representing the American geothermal industry—we respectfully submit comments in support of and appreciation for the inclusion of a dedicated geothermal energy section in the 2026 Integrated Energy Policy Report (IEPR). GR Action is dedicated to advancing geothermal energy development and commends the California Energy Commission (CEC or Commission) for recognizing the increasingly important role geothermal resources will play in achieving the state's energy goals.

California has adopted some of the nation's most ambitious clean energy and decarbonization objectives, including achieving 100 percent clean electricity by 2045. Meeting these goals will require not only significant expansion of renewable generation, but also reliable, around-the-clock clean firm resources capable of supporting grid reliability and resilience. Geothermal energy is uniquely positioned to provide these essential services while creating high-quality jobs, supporting rural economies, strengthening domestic supply chains, and delivering long-term energy affordability. California state policymakers have increasingly recognized the need to address systemic barriers to geothermal development, including a cost-share funding opportunity for exploration wells through the 2026 Governor's budget. The IEPR should build upon this momentum by identifying complementary planning, permitting, transmission, and financing strategies that support responsible geothermal deployment.

We would also like to thank the CEC, Commissioner Noemí Gallardo, her staff, and the many workshop participants for hosting a thoughtful and collaborative two-day geothermal workshop. Bringing together technical experts, Tribal representatives, labor organizations, policymakers, developers, and community stakeholders demonstrated the Commission's commitment to developing a comprehensive understanding of geothermal's role in California's future energy system. Building upon those discussions, GR Action respectfully offers the following recommendations for consideration.

1. Ensure the Expanded Opportunities of Next-Generation Geothermal Technologies Are Fully Reflected

Historically, Known Geothermal Resource Areas (KGRAs) have been delineated based on naturally occurring hydrothermal reservoirs. While these areas remain important, they no longer represent the full extent of California's geothermal potential. Next-Generation Geothermal technologies include: Enhanced



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Geothermal Systems (EGS), Advanced Geothermal Systems (AGS), closed-loop geothermal, and superhot rock technologies. These are fundamentally expanding the geographic and geologic opportunities for geothermal development by enabling access to heat resources well beyond conventional hydrothermal reservoirs.

Accordingly, GR Action encourages the Commission to pursue updated statewide geothermal resource assessments and mapping that reflect the capabilities of next-generation geothermal technologies rather than relying solely on legacy KGRA designations. The IEPR should evaluate geothermal potential across California using current technology assumptions and identify areas where these resources could support future electricity generation, thermal applications, and industrial development. A modern resource assessment will provide policymakers, utilities, and developers with a more accurate understanding of California's long-term geothermal opportunity while supporting strategic planning and informed investment decisions.

2. Ensure Permitting and Transmission Challenges Are Adequately Addressed

Successfully expanding geothermal deployment will require not only resource identification but also a regulatory and infrastructure framework that enables timely project development. GR Action encourages the Commission to identify opportunities to improve coordination among state, federal, Tribal, and local permitting agencies while maintaining California's high environmental standards. Greater regulatory certainty, coordinated agency review, efficient permitting processes, and predictable timelines will reduce project risk, attract private investment, and accelerate the deployment of geothermal projects.

Equally important is proactive transmission planning. In evaluating California's geothermal resource potential, the Commission should assess transmission capacity and future interconnection needs in regions with significant geothermal resources. Unlike many renewable technologies, geothermal development is constrained by the location of the underground heat resource and cannot be relocated to areas with existing transmission capacity. As a result, the availability of transmission infrastructure and interconnection planning will directly influence the pace, scale, and economic feasibility of future geothermal development.

In addition, transmission planning should occur in parallel with geothermal resource planning rather than after projects have been fully developed. Because geothermal resources are location-dependent and require significant upfront exploration investments before commercial viability is established, developers face unique risks if transmission availability remains uncertain. Coordinated long-term transmission planning, aligned with geothermal resource assessments and procurement strategies, will significantly reduce project risk and accelerate deployment.

Geothermal developers already assume significant exploration and resource confirmation risk before project viability is established. Requiring developers to simultaneously bear substantial interconnection



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uncertainty creates an additional barrier that can delay or prevent otherwise viable projects. Coordinated transmission planning, aligned with resource assessments and long-term procurement strategies, will be essential to unlocking California's geothermal potential.

GR Action also encourages the Commission to recognize the importance of long-term procurement signals for geothermal resources. Stable procurement mechanisms that appropriately value geothermal's capacity, reliability, and grid services will provide the market certainty necessary to attract private investment and accelerate deployment of clean firm generation throughout California.

3. Ensure the Full Geothermal Ecosystem Is Represented

Geothermal should be evaluated not solely as an electricity resource, but as an integrated energy solution capable of supporting multiple sectors of California's economy. The IEPR should recognize geothermal's contributions to electricity generation, building decarbonization, industrial process heat, thermal energy storage, critical mineral production, workforce development, and long-term community resilience. Evaluating geothermal through this broader lens will provide a more complete picture of its value to California's energy future.

Direct-use and low-temperature geothermal systems provide one of the most efficient methods of heating and cooling buildings, campuses, and industrial facilities while reducing electricity demand and easing pressure on the grid during periods of peak consumption. Geothermal Thermal Energy Networks (TENs) and district heating systems offer significant opportunities to decarbonize the building sector while improving long-term energy resilience.

Geothermal Thermal Energy Storage (GeoTES) also represents an emerging opportunity to improve grid flexibility by storing thermal energy for later use. In many cases, these systems can leverage existing oil and gas infrastructure and workforce expertise, providing a pathway for responsible energy transition while maximizing the value of existing assets.

Additionally, geothermal brines present an important domestic source of critical minerals, including lithium and other materials essential for battery manufacturing and clean energy technologies. Responsible extraction of these resources can strengthen domestic supply chains, reduce dependence on foreign mineral imports, support California's clean transportation goals, and generate significant economic opportunities for local communities while complementing geothermal energy production.

Expanding geothermal development also presents significant workforce opportunities. California's geothermal industry supports high-quality construction, operations, drilling, engineering, and skilled trades careers while providing opportunities for workers transitioning from related industries such as oil and gas. Continued investment in workforce development, apprenticeship programs, and partnerships with community colleges and universities will help ensure California has the skilled workforce necessary to support long-term geothermal deployment.



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Recognizing the full geothermal ecosystem within the IEPR will provide a more complete assessment of geothermal's contributions across the electricity, buildings, industrial, transportation, manufacturing, and critical minerals sectors. This will ensure that California fully leverages this versatile resource in achieving its long-term energy and climate objectives.

4. Ensure Funding Opportunities are Included

While geothermal provides long-term reliability, grid resilience, and stable energy costs, significant upfront capital requirements and exploration risk remain among the primary barriers to deployment. Early stage exploration work, confirmation drilling, resource modeling, and project development all come with unavoidable costs. Unlike many other renewable energy technologies, geothermal developers must invest substantial capital before confirming the commercial viability of a resource, creating financial risk that can limit investment and slow project deployment. This financing gap is often referred to as the "valley of death" between exploration and commercial development, and it can prevent otherwise promising projects from advancing despite their significant long-term public benefits.

GR Action encourages the CEC to identify existing and emerging funding opportunities that can help reduce early-stage project risk and accelerate geothermal development. This may include state and federal grant programs, loan guarantees, revolving loan funds, public-private partnerships, exploration risk mitigation programs, and other financing mechanisms designed to support resource confirmation and infrastructure development.

The IEPR should also recognize that strategic public investment during the exploration and development phases will unlock significant private capital. By identifying pathways to reduce upfront financial barriers, California can strengthen its geothermal industry and accelerate progress toward its long-term clean energy and decarbonization goals.

5. Ensure Geothermal Supports Long-Term Energy Planning

As California continues updating its long-term energy planning, the IEPR should evaluate how geothermal resources contribute to statewide resource adequacy, grid resilience, and long-term reliability. Unlike weather-dependent renewable resources, geothermal provides continuous, dispatchable clean energy capable of complementing solar and wind generation while reducing dependence on fossil-fueled generation during periods of system stress. Integrating geothermal more fully into California's long-term planning and procurement strategies will improve reliability while supporting achievement of the state's clean energy objectives.

6. Concluding Remarks

California has an extraordinary opportunity to build upon its longstanding leadership in geothermal energy and become the national and global leader in next-generation geothermal development. Creating



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a comprehensive statewide geothermal resource assessment, strategically planning transmission infrastructure, evaluating permitting improvements, strengthening workforce development, expanding funding opportunities, and recognizing the full range of geothermal applications will provide a clear roadmap for responsible growth.

By taking these steps, California can unlock decades of reliable, carbon-free energy, strengthen grid reliability, create high-quality jobs, support rural communities, enhance domestic critical mineral production, and accelerate progress toward its clean energy and economic development goals.

GR Action appreciates the opportunity to provide these comments and looks forward to continued collaboration with the Commission as California works to realize the full potential of its geothermal resources.

Respectfully,

Caity Smith
Geothermal Rising Action, Board President