

**Statement of  
Michael Nedd  
Deputy Director, Operations  
Bureau of Land Management  
U.S. Department of the Interior**

**House Natural Resources  
Subcommittee on Energy and Mineral Resources  
H.R. 5350, Enhancing Geothermal Production on Federal Lands Act**

**July 19, 2022**

Thank you for the opportunity to provide testimony on H.R. 5350, Enhancing Geothermal Production on Federal Lands Act. The bill amends the Geothermal Steam Act of 1970 ([30 U.S.C. §§ 1001-1028](#)) by creating a new categorical exclusion for “geothermal test projects” on Federal geothermal leases. The bill would also create new geothermal leasing priority areas where the production of geothermal energy has been determined to be economically viable.

The efficient deployment of renewable energy from our nation’s public lands is crucial in achieving the Biden Administration’s goal of a carbon pollution-free power sector by 2035, as outlined in Executive Order (EO) 14008; as well as Congress’ direction in the Energy Act of 2020 (P.L. 116-260) to permit 25 gigawatts (GW) of solar, wind, and geothermal production on public lands by 2025. In following this direction, the Bureau of Land Management (BLM) is engaging our tribal partners, industry, stakeholders, and the states to increase opportunities for renewable energy development on public lands. Geothermal energy production is an important component of this strategy, with 67 percent of the nation’s geothermal electricity generation capacity coming from BLM-managed public lands.

H.R. 5350 aligns with the Administration’s goal to promote and expedite the responsible development of geothermal energy projects. We support the goals of the bill and would like to work with the sponsors on a number of technical modifications.

**Increasing Renewable Energy Development on Public Lands**

Executive Order 14008 and Congressional direction provide the BLM a clear mandate to support and prioritize expanding renewable energy development on public lands. To further these priorities and to implement the Energy Act of 2020, in May 2022, the BLM established Renewable Energy Coordination Offices (RECOs) to facilitate improved permitting coordination for renewable energy projects and issued interim guidance that reduced rents and fees to incentivize responsible wind and solar energy development on public lands. Additionally, the BLM and its Federal agency partners entered into a Memorandum of Understanding to enhance interagency coordination and prioritization for renewable energy-related activities. The BLM is also working on updating the land use plans for the “West-wide” or “Section 368” Energy Corridors. This update will maintain key energy pathways in environmentally preferable locations and unlock new opportunities for solar, wind, and geothermal energy development.

While undertaking this effort, the BLM continues to permit renewable energy projects. In FY 2021, the BLM permitted 12 wind, solar, and geothermal energy and associated transmission projects that once constructed will support a generation capacity of 2,890 MW, a 35 percent increase from FY 2020. The BLM has prioritized the processing and permitting of 64 proposed renewable energy projects on Federal and non-Federal land by FY 2025, which have a potential cumulative capacity of nearly 41,000 MW. The BLM is advancing three transmission projects in Arizona, New Mexico, Nevada, and Utah that have the potential to deliver roughly 10,000 MW of renewable energy and help build a reliable, resilient electric grid. In April 2022, BLM held its first competitive solar lease sales in the Milford Flats South Solar Energy Zone in Utah, and in the Dry Lake East Designated Leasing Area in Nevada. So far this Fiscal Year, the BLM has held competitive geothermal lease sales in three states (NV, NM, and UT) that brought in over \$2.4 million in bonus bids and rentals. These significant efforts underscore the Administration's commitment to expand and modernize our energy infrastructure, decarbonize our energy grid, and transition to a clean energy future.

### **Existing Geothermal Regulatory Framework**

Replenished by heat sources deep within the Earth, geothermal energy is an important energy resource that generates baseload electricity with minimal carbon emissions. In addition, geothermal energy is used to heat buildings, operate greenhouses, and to support aquaculture operations. It is an abundant resource, especially in the western United States.

Until the passage of the Geothermal Steam Act of 1970 (30 U.S.C. 1001), geothermal energy was regarded legally as a groundwater resource. The law defined geothermal resources as steam, hot water, and hot brines, indigenous to the geology or generated from introduced fluids, associated heat energy, and any byproducts. It also authorized the Secretary of the Interior to issue leases for the development and utilization of geothermal resources on lands managed by the Department and U.S. Forest Service.

The Geothermal Steam Act directed the Secretary to perform an assessment and establish areas known to have geothermal resource potential as "Known Geothermal Resource Areas (KGRAs)." The law established two types of leasing: 1) competitive leasing in the KGRAs, and 2) noncompetitive leasing for lands outside of the KGRAs. This placed geothermal in the context of Federal mineral leasing, like oil and gas. Amendments to this regulatory system were made in the 1980s and the 2000s. Of particular note, the Energy Policy Act of 2005 made all geothermal leasing competitive with few exceptions, did away with the KGRAs, and directed those revenues from geothermal production on Federal public lands be shared, with 50 percent going to the State, 25 percent going to the county, and the remainder to the U.S. Treasury.

### **Geothermal Operations on Public Lands**

The BLM has the authority for leasing geothermal resources on 245 million acres of public lands and 700 million acres of subsurface mineral estate, making up nearly a third of the nation's mineral estate. This includes 104 million acres of National Forest System Lands managed by the U.S. Forest Service, U.S. Department of Agriculture. As of FY 2020, there are nine BLM State offices administering 388 geothermal leases encompassing approximately 710,000 acres. Currently, there are 47 operating geothermal electrical generation facilities (e.g., power plants) operating on 84 leases in four states: Nevada (46), California (29), Utah (7), and New Mexico

(2). Together these power plants have a gross installed capacity of approximately 2,500 MW. In 2020, these power plants generated 9.75 million megawatt hours of electricity, enough to power 1.3 million homes. In FY 2021, the geothermal program generated \$18.5 million dollars in revenue from rents, bonus bids, and royalties. In FY 2019, the Federal geothermal program contributed 6,900 jobs and \$2.05 billion in total economic contributions to the US economy.

The BLM maintains a program for leasing these lands for geothermal development and regulates geothermal operations on Federal leases. Geothermal energy projects are authorized as leases rather than rights-of-way and as such differ from most solar and wind energy projects on public lands. Nearly all the potential for development of Federal geothermal energy is located in 11 western States and Alaska. California leads the nation in geothermal energy production. Most notable is the Geysers, located in northwestern California, which is the largest geothermal field in the world, with a complex of 16 power plants that have a gross installed capacity of more than 1,500 MW. In recent years, Nevada has led the nation in geothermal leasing and development on public lands. Currently, the BLM administers 21 geothermal power plants in Nevada with Federal interest, totaling approximately 700 MW of installed capacity.

Technologies currently being researched and developed include Enhanced Geothermal Systems and Advanced Geothermal Systems (also known as "closed-loop deep geothermal"), which would allow for the responsible development of geothermal almost anywhere, as opposed to specific areas where there are easily accessible, naturally occurring hydrothermal resources as is currently the situation.

### **H.R. 5350, Enhancing Geothermal Production on Federal Lands Act**

H.R. 5350 would amend the Geothermal Steam Act of 1970 by creating a new category for "geothermal exploration test projects" on existing geothermal leases and by creating a new categorical exclusion (CX) for reviewing these projects under the National Environmental Policy Act. This new CX would allow the drilling of a well with a diameter of less than 12 inches for test projects with less than 5 acres of soil and vegetation disruption for each "geothermal exploration well" and no more than 5 additional acres of soil and vegetation disruption to access the test site. Under the bill, the CX would not allow new road building activities, but would allow for "upgrading of existing drainage crossings for safety purposes." H.R. 5350 requires that leaseholders give the Secretary only 30 days of notice prior to conducting a test project and specifies that the Secretary must review and determine within 10 days after receipt of the notice if the project meets the criteria of the CX provided under this bill. Finally, the bill allows the Secretary to consider whether a programmatic environmental impact statement for geothermal leasing would be sufficient to authorize geothermal lease sales without additional analysis under NEPA.

The bill would also require the Secretary to designate new geothermal leasing priority areas on public lands. Within five years of the bill's enactment, the Secretary would be required to designate these new geothermal leasing priority areas on public lands that are determined to be economically viable for geothermal production and have access to energy transmission infrastructure. The Secretary would then be required to complete a programmatic environmental impact statement to cover all leasing activity within these priority areas within a year after they are designated.

The BLM supports the goals of H.R. 5350 to enhance and expedite the permitting for geothermal energy production, such as developing a new CX where appropriate. However, the Department believes that new categorical exclusions are better developed through the traditional agency process than through legislation. We would appreciate the ability to provide technical assistance on the scope of the CX in the legislation, such as the amount of surface disturbance allowed and diameter size of the test wells, to ensure any geothermal activities authorized under this bill will yield the necessary information to determine whether there is a viable geothermal resource that can be developed. Additionally, we would like to work with the sponsors to clarify their intent for the application of extraordinary circumstances to the CX.

We would also like to work with the sponsors to clarify a number of terms used in the bill to ensure they are consistent with BLM's geothermal resource program. For example, the Department notes the activities intended to be categorically excluded involve the confirmation of a commercial geothermal resource by a leaseholder. The BLM recommends replacing the term "exploration test" with "resource confirmation" throughout the bill for consistency with BLM regulations.

The BLM also has concerns with the provisions requiring the review and determination of a request for a CX within 10 days after receipt of a notice of intent from the leaseholder. We would like to work with the sponsors to develop more achievable timeframes to accomplish their goal and ensure the Secretary maintains discretion to ensure geothermal operations are conducted safely and follow all applicable environmental laws.

Further, the BLM appreciates the sponsor's efforts aimed at expediting geothermal leasing by creating "geothermal leasing priority areas" as outlined in section 3. For geothermal leasing, challenges exist in determining what areas to prioritize, and therefore designating priority areas may not result in the intended goal of expediting geothermal development on public lands. The BLM notes that, as required by the Energy Policy Act of 2005, and in accordance with the 2008 Programmatic Environmental Impact Statement for geothermal leasing, the BLM and U.S. Forest Service are continuing to analyze geothermal resources as land use plans are amended by the agencies. We have also announced our intention in the Spring 2022 Unified Agenda to update our geothermal regulations to leasing and operations. The BLM recognizes that as technology advances within the geothermal industry, new opportunities to identify focused development areas may occur in the future, and we look forward to working with the sponsors and the Committee on opportunities to maximize agency resources to provide efficiencies in geothermal development.

### **Conclusion**

The Department and the BLM are committed to responsibly mobilizing the tremendous renewable energy resources of our nation's public lands, and we share the Committee's interest in identifying efficiencies in the development of those resources. The BLM looks forward to continuing to work with the sponsors and the Committee on our shared goals to enhance geothermal exploration and development on public lands. Thank you for the opportunity to testify today and I would be happy to answer any questions.