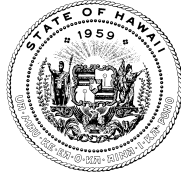


JOSH GREEN, M.D.
GOVERNOR
STATE OF HAWAII
*Ke Kia'āina o ka Moku'āina 'o
Hawai'i*

SYLVIA J. LUKE
LT. GOVERNOR
STATE OF HAWAII
*Ka Hope Kia'āina o ka Moku'āina
'o Hawai'i*



KALI WATSON
CHAIRPERSON, HHC
Ka Luna Ho'okele

KATIE L. LAMBERT
DEPUTY TO THE CHAIR
Ka Hope Luna Ho'okele

STATE OF HAWAII
DEPARTMENT OF HAWAIIAN HOME LANDS
Ka 'Oihana 'Āina Ho'opulapula Hawai'i

P. O. BOX 1879
HONOLULU, HAWAII 96805

TESTIMONY OF KALI WATSON, CHAIR
HAWAIIAN HOMES COMMISSION
BEFORE THE SENATE COMMITTEES ON HAWAIIAN AFFAIRS AND
ENERGY AND INTERGOVERNMENTAL AFFAIRS
HEARING ON JANUARY 28, 2025 AT 3:00PM IN CR 016

SB 151, RELATING TO THE DEPARTMENT OF HAWAIIAN HOME LANDS

January 27, 2025

Aloha Chairs Richards and Wakai, Vice Chairs San Buenaventura and Chang, and Members of the Committees:

The Department of Hawaiian Home Lands (DHHL) **strongly supports** this bill which would 1) appropriate funds to DHHL to continue geophysical data collection, investigation, exploration, and identification of geothermal resources on Hawaiian Home Lands and 2) authorize DHHL to hire consultants.

This legislative proposal was approved by the Hawaiian Homes Commission (HHC). The appropriation request is for follow-up funds to the initial funds appropriated to DHHL through Act 205, Session Laws of Hawaii 2022, which was successfully expended by DHHL. This appropriation of funds would be used for geophysical data collection, drilling of slim holes at previously examined sites, water well development, and hiring consultants to help DHHL navigate the intricacies of geothermal development.

The HHC requested that a permitted interaction group (P.I.G.) be established to study, evaluate, and recommend strategies related to geothermal exploration, feasibility, extraction, and/or use on Hawaiian Home Lands. Please see attachment. The P.I.G. continues to work with the University of Hawai'i's – Hawaii Groundwater and Geothermal Resource Center, including Dr. Nicole Lautze who also serves at the University of Hawai'i's - Hawai'i Institute of Geophysics and Planetology. The P.I.G. has participated in several listening sessions with beneficiaries and intends to host more community meetings. The P.I.G. is the most appropriate entity to represent both the beneficiaries of the Hawaiian Homes Commission Act, 1920, as amended, and Hawaiian Home Lands concerning this initiative. The P.I.G. is scheduled to have its eighteenth meeting on February 11, 2025.

Thank you for your consideration of our testimony.

DEPARTMENT OF HAWAIIAN HOME LANDS



Geothermal Development Project

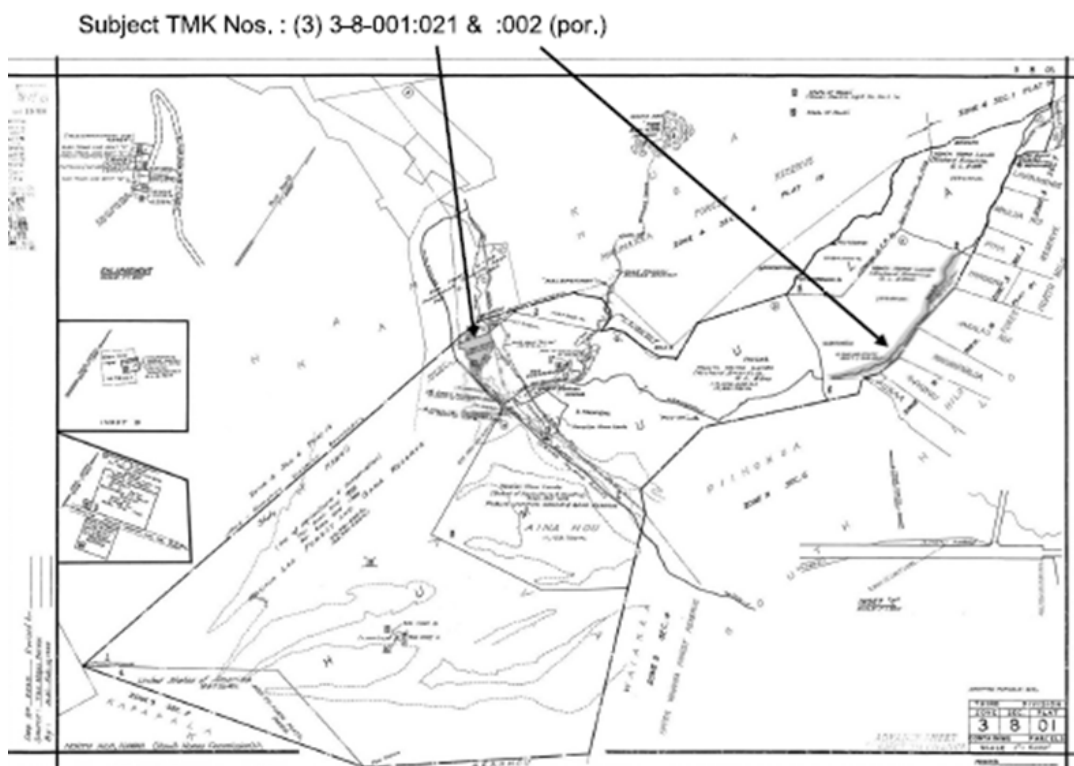
Summary

The Hawaii Department of Hawaiian Home Lands (DHHL), under the governance of the Hawaiian Homes Commission, through its Geothermal Permitted Interaction Group, continues to investigate the viability of geothermal production on Hawaiian Home Lands. The main sites under current consideration are on Hawaii Island: Humu'ula, Kawaihae, and South Point (Ka'ū). Humu'ula is the preferred development site, located directly next to lands leased by the Department of Defense for the Pōhakuloa Training Area.

DHHL is pursuing a multi-faceted approach to achieve its objectives, collaborating with the Hawaii State Energy Office (SEO) and the University of Hawaii's School of Ocean and Earth Science and Technology, specifically the Hawaii Institute of Geophysics and Planetology's Hawaii Groundwater and Geothermal Resources Center (HGGRC). DHHL has met with staff from the Hawaii Congressional Delegation and the U.S. Department of Energy (DOE). Additionally, the National Renewable Energy Laboratory (NREL), under contract with the US DOE's Geothermal Technologies Office, is conducting community-based listening sessions across the state, in which DHHL has been actively involved.

As this represents DHHL's initial effort to commercialize its geothermal resources, the Department continuously seeks guidance from geothermal specialists to assist in its mission. DHHL recognizes that establishing commercial energy projects is complex and capital-intensive. Therefore, the Department is exploring funding opportunities at both federal and state levels and seeking private industry partners who can facilitate third-party investments in a public-private partnership (PPP) to develop and operate the project.

Recently, DHHL collaborated with HGGRC to have magnetotelluric (MT) testing and data collection take place at multiple sites within the DHHL's lands at Humu'ula and on the East Flank of Mauna Kea (see map below). This MT testing will further confirm or disprove the respective sites' suitability for geothermal power production. If this MT testing produces positive results, DHHL will move forward to financing and conducting exploratory slim-hole drilling. This step is crucial for further establishing the viability of the chosen site(s) for commercial geothermal production. The collected data will facilitate entering into a PPP with an experienced geothermal developer/operator.





Next Steps

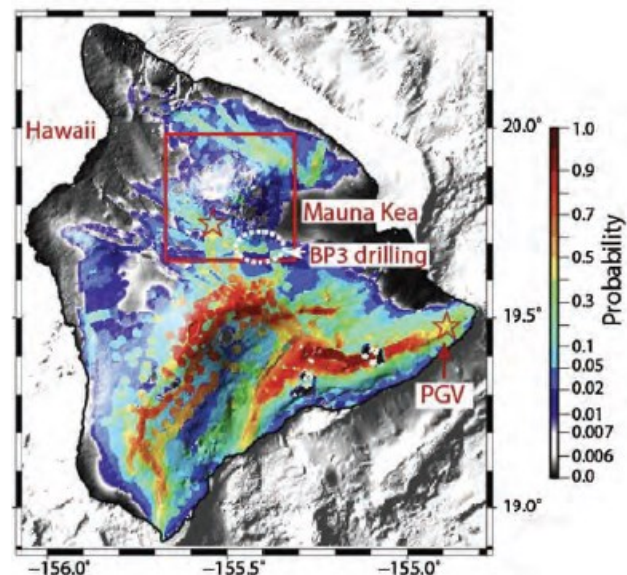
The aforementioned MT testing on DHHL's lands commenced in October 2024. Contingent on securing funding, DHHL would like to commence slim-hole water well drilling in 2025.

State and Federal Policy and Funding

State: DHHL will request \$20,000,000 in the state fiscal year 2025-2026 to develop slim-hole water wells for geophysical investigation, exploration, and identification of geothermal resources on Hawaiian home lands.

Federal: DHHL is considering policy proposals for submission to the Hawaii Congressional Delegation and is exploring USDOE funding opportunities to conduct MT testing and slim-hole water well drilling on various DHHL properties. In the long term, DHHL estimates that up to \$200M of non-competitive federal funding is ultimately needed: (i) to determine which DHHL site(s) provides the "best" opportunity for commercial production of geothermal power, and (ii) to position such site(s) for PPP development.

Resource probability map for Hawaii Island. Red box outlines area of geophysical surveying. Stars indicate a Saddle Drill site where high temperatures were found (north) and Hawaii's only geothermal production site Puna Geothermal Venture (south) (Lautze et al., 2020)



Other Information

Findings from the December 9, 2016, geothermal investigation suggest the following:

- Information found to date at the DHHL sites investigated supports the elements required for a blind (no surface features) geothermal system to exist are present
- Further exploration is needed to determine if the elements combine sufficiently to create a viable geothermal resource at depth
- Blind, high enthalpy systems do exist in volcanic settings elsewhere globally
- Analysis of the PTA-1 core log from 1,000m showed zones of highly fractured rock & geothermal fluid-rock interaction occurred in the core
- Same core section saw a temperature increase from 40° C - 140°C (104°F - 284°F)
- Important information on 2 key control variables for the geothermal resource. Relevant for “ground-truthing” the apparent resistivity values from the Magnetotelluric (MT) survey
- Additional testing & exploration are needed to justify any exploration drilling (slim hole) at sites
- Sufficient information to warrant & justify moving forward to undertake further MT surveys to create a robust 3D subsurface model at a number of potential locations



Hydrothermally altered ground at Kilauea. Various alteration clays, discharging steam, silica residue, sulphur vents and areas of bare ground all indicate the presence of a subsurface steam zone.

Image by Gary Smith





Email: communications@ulupono.com

SENATE COMMITTEES ON HAWAIIAN AFFAIRS
AND ENERGY & INTERGOVERNMENTAL AFFAIRS
Tuesday, January 28, 2025 — 3:00 p.m.

Ulupono Initiative supports SB 151, Relating to Geothermal Resources.

Dear Chair Richards, Chair Wakai, and Members of the Committees:

My name is Mariah Yoshizu, and I am the Government Affairs Associate at Ulupono Initiative. We are a Hawai'i-focused impact investment firm that strives to improve the quality of life throughout the islands by helping our communities become more resilient and self-sufficient through locally produced food, renewable energy and clean transportation choices, and better management of freshwater resources.

Ulupono supports SB 151, which appropriates funds to the Department of Hawaiian Home Lands (DHHL) to continue geophysical data collection, investigation, exploration, and identification of geothermal resources on Hawaiian home lands.

Hawai'i needs all viable forms of renewable energy to meet the 100% renewable portfolio standard by 2045. New data underscores the widespread support among residents for this transition. Between October 2023 and January 2024, Ulupono Initiative partnered with Anthology Research to conduct a statewide public opinion survey on energy in Hawai'i involving 1,985 surveys across all four counties. With a margin of error +/- 2.21%, this is arguably the most extensive and comprehensive study on the topic to date. The findings are compelling.

A staggering 91% of respondents expressed their support for the expansion of renewable energy resources throughout the islands. Moreover, the importance of developing Hawai'i's own energy resources was emphasized across all counties by residents. This resounding endorsement from the community validates the strong support for continued investment and advancement in renewable energy solutions to meet our collective energy goals.

The proposed legislation to appropriate additional funding for geothermal resource exploration and development on Hawaiian home lands represents a forward-thinking approach to renewable energy development and community empowerment. Geothermal energy, a proven and stable renewable resource, has already provided significant benefits in other regions, such as California, Nevada, and Iceland. In Hawai'i, where energy costs are among the highest in the nation and the dependence on imported fuels creates economic

Investing in a Sustainable Hawai'i

vulnerability, investing in geothermal energy can reduce reliance on external resources and promote energy self-sufficiency. Additionally, similar measures across the country have demonstrated that geothermal projects can catalyze local economic development, provide job opportunities, and generate sustainable revenue streams for communities.

This legislation also reaffirms a commitment to the stewardship of Hawaiian home lands by enabling DHHL to develop a natural resource that could bring long-term economic and environmental benefits to Native Hawaiian beneficiaries. These efforts reinforce the importance of community engagement and equitable benefits in geothermal projects, ensuring that local populations directly experience the advantages of locally produced clean energy. This worthy investment offers the potential to not only enhance energy security but also support the DHHL's broader mission of improving the welfare of Native Hawaiians.

Finally, the legislation is a vital step in advancing Hawai'i's renewable energy and climate goals. It supports the state's ambitious target of achieving 100% renewable energy by 2045 while maintaining sensitivity to community priorities. By allocating resources for the exploration and potential development of geothermal energy, the state ensures the diversification of its renewable energy portfolio. Through this appropriation, Hawaii positions itself as a leader in sustainable development while addressing critical environmental and economic challenges.

Thank you for the opportunity to testify.

Respectfully,

Mariah Yoshizu
Government Affairs Associate

Attachment

Beneath the Surface: Support for Geothermal Energy Emerges as Residents See Direct Benefits

For Hawai'i to provide secure, resilient and sustainable electricity for its residents and businesses, we need a diverse mix of renewable energy sources. Geothermal energy can play a greater, vital role in helping our state achieve our renewable and decarbonization goals.

Geothermal Benefits

RELIABLE

Unlike other renewables like solar and wind, geothermal provides firm power – meaning it can generate electricity consistently, day or night, regardless of weather conditions. This reliability makes it invaluable in ensuring a stable and continuous energy supply, especially since the electric grids serving each island are not interconnected.

SMALL FOOTPRINT

According to the U.S. Department of Energy, a geothermal facility is much smaller in size than a fossil-fuel coal plant or a solar farm. For a land-constrained place like Hawai'i, the footprint of a structure significantly affects its community and residents.

ENVIRONMENTAL BENEFITS

Over its lifetime, a modern geothermal plant produces among the lowest greenhouse gas emissions of any energy source and typically uses less water compared to most other power generation technologies.

Geothermal in Hawai'i

With only one geothermal energy plant on Hawai'i Island, the state's geothermal potential remains largely untapped, highlighting the need for increased exploration, funding, and communication efforts to understand this resource. In addition, investing in locally produced geothermal energy can ensure that the economic benefits of this sustainable power source remain within the state, contributing to a more resilient and self-sufficient energy future.



Public Perception of Geothermal

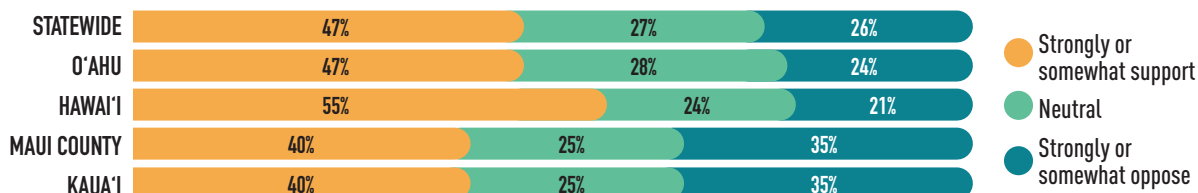


In 2023, Ulupono Initiative commissioned what is believed to be the most extensive and complete public opinion survey on the topic of energy in Hawai'i. The survey was designed to rank how residents perceive various forms of energy technologies, including geothermal.

Overall, 91% of respondents say they support the expansion of renewable energy resources in Hawai'i. Below are some highlights from the geothermal-specific survey questions.

QUESTION: *In general, how do you feel about a utility-scale geothermal power plant as a way to generate electricity on ...?*

- 47% of respondents say they strongly or somewhat support geothermal energy
- Hawai'i Island is the most supportive of utility-scale geothermal plant in their town



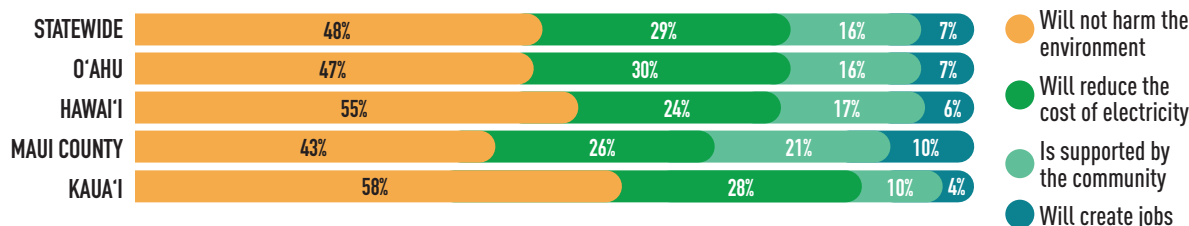
QUESTION: *How would you feel about a utility-scale geothermal power plant being built in your town/community if it meant your electricity bill would be, at least \$30/\$65/\$98 lower each month?*

- Support for geothermal rises dramatically when potential electricity bill savings increase

		SUPPORT PERCENTAGE INCREASE				
SAVINGS PER MONTH		STATEWIDE	O'AHU	HAWAI'I	MAUI COUNTY	KAUA'I
	\$30	+19%	+36%	+21%	+18%	+21%
	\$65	+30%	+29%	+32%	+30%	+31%
	\$98	+35%	+36%	+40%	+34%	+40%

QUESTION: *Which one of the following is most important to you in deciding whether to support a utility-scale geothermal plant in your town/community?*

- Environmental impact was the most important factor in support of geothermal



Resources

To learn more about Ulupono Initiative's Energy Survey and geothermal, see below:

Ulupono Initiative's Energy Survey

ulupono.com/project-list/statewide-energy-survey/

Hawai'i State Energy Office

energy.hawaii.gov/what-we-do/energy-landscape/renewable-energy-resources/

U.S. Department of Energy

www.energy.gov/eere/geothermal/geothermal-basics



Scan QR code for link to survey results online.

SB-151

Submitted on: 1/26/2025 1:27:29 PM

Testimony for HWN on 1/28/2025 3:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Alice Kim	Individual	Support	Written Testimony Only

Comments:

Currently, the Kilauea East Rift Zone on Hawaii Island is the only geothermal system in the Hawaiian archipelago from which geothermal electric power is being produced. Preliminary research by the Hawaii Groundwater and Geothermal Resources Center at the University of Hawaii at Manoa shows that all of the major Hawaiian Islands hold geothermal potential and that much of Hawaii's geothermal resources is unknown. Please support SB151.

THE SENATE
THE THIRTY-THIRD LEGISLATURE
REGULAR SESSION OF 2025
Tuesday, January 28, 2025, 3:00 p.m.
Conference Room 016 & Videoconference State Capitol
415 South Beretania Street, Honolulu, Hawai'i 96813
Hearing on SB 151 (Relating to The Department of Hawaiian Home Lands)

Senator Herbert M. Tim Richards, III, Chair, Senator Joy A. San Buenaventura, Vice Chair,
COMMITTEE ON HAWAIIAN AFFAIRS (HWN)

Senator Glenn Wakai, Chair, Senator Stanley Chang, Vice Chair, COMMITTEE ON ENERGY AND
INTERGOVERNMENTAL AFFAIRS (EIG)

Aloha Chair Richards, Chair Wakai and respected committee members of the Committee on
Hawaiian Affairs and the Committee on Energy and Intergovernmental Affairs, respectively:

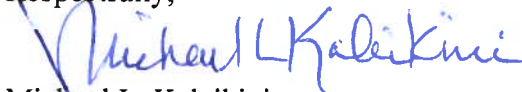
Thank you for the opportunity to provide this testimony on SB 151. My name is Mike
Kaleikini, a life long Hawai'i resident and a long time resident of Hilo, Hawai'i.

I support the purpose and intent of this bill:

1. Appropriate funding for the Department of Hawaiian Home Lands to continue its efforts to collect geothermal resources data on Hawaiian Home Lands.
2. Funding would be utilized to:
 - a. Hire consultants to help navigate the intricacies of geothermal development.
 - b. Collect geophysical data.
 - c. Develop water wells.
 - d. Drill slim holes at sites on Hawaiian Home Lands.
3. Ultimately, a commercial grade geothermal resource located on Hawaiian Home Lands, would provide the opportunity for the Department of Hawaiian Home Lands to garner much needed firm revenue. Revenues from a geothermal development on Hawaiian Home Lands would go a long way with executing the purpose and intent of the Hawaiian Homes Act 1920, which is to get Hawaiians back to the aina.

I appreciate the continued support from our State legislators for the Native Hawaiian community and want to express my gratitude for the opportunity to provide this testimony. Mahalo a nui loa.

Respectfully,



Michael L. Kaleikini
1134 Ainalako Road
Hilo, Hawai'i

Please contact me at 808.936.8161 with any questions.



**Hawaiian
Electric**

LATE

**TESTIMONY BEFORE THE COMMITTEES ON HAWAIIAN
AFFAIRS & ENERGY AND INTERGOVERNMENTAL AFFAIRS**

**SB 151
Relating to the Department of Hawaiian Home Lands**

Tuesday, January 28, 2025
3:00 PM
State Capitol, Conference Room 016

Rebecca Dayhuff Matsushima
Vice President, Resource Procurement
Hawaiian Electric

Dear Chairs Richards and Wakai, Vice Chairs San Buenaventura and Chang, and
Members of the Committees,

My name is Rebecca Dayhuff Matsushima and I am testifying on behalf of
Hawaiian Electric in **support** of SB 151, which seeks to appropriate funding for the
continued investigation, exploration, and identification of geothermal resources on
Hawaiian home lands so these resources could potentially be used in the production of
renewable energy.

Hawaiian Electric supports the exploration of geothermal resources as a means
to help accelerate the development of renewable energy projects, achieve the State's
Renewable Portfolio Standards (RPS), reduce reliance on imported fossil fuels, help
stabilize customers' bills, and reduce greenhouse gas emissions.

Hawaiian Electric defers to policy makers on the appropriateness of funding
allocations stipulated in the bill, yet generally supports the intent of identifying and
developing the State's geothermal resources and renewable energy potential.

Thank you for this opportunity to testify in support of SB 151.

LATE

SB-151

Submitted on: 1/27/2025 4:28:16 PM

Testimony for HWN on 1/28/2025 3:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Master Shelby "Pikachu" Billionaire	Testifying for Kingdom of The Hawaiian Islands	Oppose	Written Testimony Only

Comments:

Subject: Testimony Against S.B. No. 151 - Misallocation of Funds and Potential Missteps

Dear Members of the Hawaii State Senate,

I am writing to express my strong opposition to Senate Bill No. 151, which proposes to allocate an additional \$40 million from the state's general funds towards geothermal exploration on Hawaiian Home Lands. Here are my primary concerns:

Unjustified Financial Burden:

This bill represents a significant financial commitment from the state, yet there's little evidence provided that this investment will yield sustainable or even viable energy solutions. The return on investment for such speculative projects is uncertain, potentially leading to wasted taxpayer money.

Environmental Risks:

Geothermal drilling can lead to numerous environmental issues, including induced seismicity, contamination of groundwater, and disruption of local ecosystems. The bill does not specify how these risks will be mitigated, particularly on lands that hold cultural significance to Native Hawaiians.

Cultural Disregard:

Hawaiian Home Lands are not just plots for development; they are imbued with cultural, historical, and spiritual significance. The bill lacks any mention of cultural consultation or impact studies, which are crucial before proceeding with such invasive activities.

Lack of Accountability:

Given the history of management issues within DHHL, there's a significant concern about how these funds will be managed. There's no clear mechanism in the bill for ensuring transparency or accountability in how this money is spent or how the projects are executed.

Prioritization of Funds:

The allocation of such a large sum to geothermal exploration seems misaligned with more pressing needs of the beneficiaries, like housing, infrastructure, or direct community support programs. This bill could divert resources from where they are most needed.

Consultant Costs:

While hiring consultants is authorized, there's no cap or oversight mentioned on consultant fees, which could lead to inflated costs without guaranteed outcomes. #Corruption

Technological and Practical Concerns:

The bill does not address potential technical challenges or the feasibility of geothermal energy in all designated areas, which could result in funds being spent on projects that may never become operational or beneficial.

In conclusion, I urge you to reconsider this bill or at least amend it to include:

Environmental impact assessments.

Cultural consultations and protections.

Stronger accountability measures for fund management.

A clearer justification for why this significant investment is prioritized over other beneficiary needs.

Thank you for considering this testimony against what I view as an ill-considered use of public funds.

Sincerely,

Master Shelby "Pikachu" Billionaire

Kingdom of The Hawaiian Islands

LATE

SB-151

Submitted on: 1/28/2025 8:54:59 AM

Testimony for HWN on 1/28/2025 3:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Keith Neal	Individual	Support	Written Testimony Only

Comments:

Aloha Chairs Wakai, Richards and Vice Chairs Chang, Buenaventura and members of the Committee,

I strongly support SB151.

There are only two technologies that provide firm, baseload power; Geothermal and nuclear. The Geothermal resource is available, on all Hawaii islands. However, we don't have the necessary subsurface geological data to develop the geothermal resource. We must get the data!

This bill is critical to the work needed to develop our abundant, local, clean energy resource.

Furthermore, I recommend that the bill be amended to specify that the Hawaii Groundwater and Geothermal Resource Center (HGGRC) at the University of Hawaii, Manoa be identified as the organization performing the Slim-Hole subsurface characterization. We have expertise within the University of Hawaii, at Manoa. I strongly urge the legislature appropriate funds to research entities with proven scientific expertise in Hawaii.

Respectfully submitted,

Keith Neal

Waimea