



**DEPARTMENT OF BUSINESS,
ECONOMIC DEVELOPMENT & TOURISM**
KA 'OIHANA HO'OMOHALA PĀ'OIHANA, 'IMI WAIWAI
A HO'OMĀKA'IKA'I

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Statement of
JAMES KUNANE TOKIOKA
Director
Department of Business, Economic Development, and Tourism
before the
SENATE COMMITTEE ON WAYS AND MEANS

Monday, March 2, 2026
10:31 AM
State Capitol, Conference Room 211

In Support of
SENATE BILL NO. 3081, SD1
**RELATING TO A PROGRAM TO CHARACTERIZE THE POTENTIAL OF
UNDERGROUND ENERGY RESOURCES STATEWIDE.**

Chair Dela Cruz, Vice Chair Moriwaki and Members of the Committee, the Department of Business, Economic Development and Tourism (DBEDT) supports SB 3081, SD1, as a priority DBEDT and Administration measure to accelerate Hawai'i's energy transition. SB 3081, SD1, aligns with DBEDT's Economy for Resilience framework, which prioritizes firm renewable energy, economic diversification, infrastructure readiness, and long-term cost stability for Hawai'i residents and businesses. Characterizing underground geothermal and carbon sequestration resources is a foundational investment that strengthens energy security, reduces imported fuel dependency, and supports sustainable economic growth across multiple sectors including agriculture, advanced manufacturing, and the blue economy. If appropriately funded, SB 3081, SD1, would help the state reach its energy self-sufficiency targets and increase affordability by enabling DBEDT to administer a statewide Geothermal Resources Characterization Program through HSEO and supported by the Hawai'i Groundwater and Geothermal Resources Center at the University of Hawai'i.

Conducting research via slim-hole test wells is a high priority of Hawai'i's updated energy strategy because of the potential to clearly identify where geothermal resources might exist, with a focus on Maui, Hawai'i, and O'ahu. The ultimate goal is to stimulate private sector investment in producing safe, reliable, and affordable firm renewable energy that can make Hawai'i energy self-sufficient and reduce electricity costs and carbon emissions. This exploration would inform DBEDT, the Public Utilities Commission, and other policymakers about how far geothermal can take Hawai'i towards meeting its 100% renewable portfolio targets on Maui, Hawai'i and O'ahu. From an economic development standpoint, this initiative reduces exploration risk, improves market transparency, and creates conditions necessary for private capital deployment in firm renewable energy infrastructure. By lowering uncertainty through state-sponsored characterization, Hawai'i can reduce risk premiums embedded in future power purchase agreements, thereby lowering long-term electricity costs and improving business competitiveness statewide.

The measure will also inform where underground water resources can be found and the longer-term potential for subsurface carbon sequestration. Further provisions provide accountability and transparency through HSEO's preparation and submission of a progress report to the Legislature with research outcomes and any proposed legislation emanating from the research findings. The data generated through this program also supports broader resilience objectives. Improved understanding of subsurface water temperatures and geological conditions may inform agricultural irrigation planning, food security initiatives, and future industrial applications that rely on reliable energy and water access. This integrated resource mapping strengthens Hawai'i's long-term land use and infrastructure planning.

To effectively and responsibly conduct this statewide resource characterization effort, DBEDT supports the appropriation of no less than \$6,000,000 from the Energy Security Special Fund, as provided in the measure. This investment is strategic in

nature and designed to catalyze significantly larger private sector investment while preserving fiscal discipline by reducing long-term procurement and ratepayer risk.

This measure is informed by HSEO's analysis of market gaps in firm renewable resources and long duration storage, especially geothermal and pumped hydro. Hawai'i is fortunate to have subsurface heat from geothermal energy remaining from Earth's formation that is stored in rocks and fluids. Through deep wells, the heat can be brought to the surface as steam to drive turbines that generate electricity. However, it is not economically feasible to procure geothermal development through the competitive bidding process without first providing evidence of geothermal potential in specific locations. Without such evidence, developers must drill multiple, costly exploration wells with the risk that they may not discover a reliable geothermal resource, if they decide to participate at all. The uncertainty is passed on to ratepayers via a risk premium added to the developer's bid. This measure would mitigate the risk premium and increase production royalties to Hawai'i through State-sponsored slim-hole research that first identifies locations where hot water is sufficient for electric power generation. Hawai'i's renewable portfolio standard requires not only variable renewable resources such as solar and wind, but also firm, dispatchable renewable energy to stabilize the grid and avoid continued reliance on imported fossil fuels. Geothermal represents one of the few scalable, in-state firm renewable options available. Advancing characterization now ensures Hawai'i maintains optionality in its future energy mix.

In addition to the economic development and energy self-sufficiency benefits of geothermal, geothermal offers the least land-intensive renewable energy resource option in Hawai'i and the Center for Strategic and International Studies credits modern geothermal power plants as having insignificant greenhouse gas (GHG) emissions with life-cycle emissions six to twenty times lower than natural gas and four times lower than solar photovoltaic (PV) energy due to the materials used to construct the plants.

Concurrently, HSEO will engage energy stakeholders at the community level during 2026 and beyond to gain insight on how and where geothermal development can appropriately take place in ways that meaningfully benefit the affected communities. DBEDT recognizes that community engagement, cultural consultation, and environmental review under Chapter 343, HRS, are essential components of responsible development. SB 3081, SD1, appropriately requires environmental assessment or environmental impact review prior to development activities and mandates annual reporting to the Legislature, ensuring transparency and legislative oversight.

Given the importance of firm renewable energy in achieving Hawai'i's decarbonization, affordability, and energy independence goals, government-supported resource characterization is a prudent first step in advancing the State's Economy for Resilience strategy. With appropriate funding, SB 3081, SD1, provides the data-driven foundation necessary to unlock private investment, strengthen grid reliability, and position Hawai'i for long-term economic stability.

Thank you for the opportunity to testify.



Senator Donovan M. Dela Cruz, Chair
Senator Sharon Y. Moriwaki, Vice Chair
Committee on Ways and Means

Monday, March 2, 2026
10:31AM Conference Room 211

RE: SB3081 SD1 Geothermal / Identification of Underground Energy Resources -
Oppose

Dear Chair Dela Cruz, Vice Chair Moriwaki, and Members of the Committee,

On behalf of the Chamber of Sustainable Commerce, we submit this testimony to oppose SB3081 SD1. The Chamber of Sustainable Commerce represents more than 580 small businesses, entrepreneurs, creatives, and sole proprietors across Hawai'i committed to a triple bottom line: people, planet and prosperity.

While we support thoughtful, community-driven renewable energy planning, this measure establishes a new Underground Energy Resource Characterization Program within the Hawai'i State Energy Office to identify geothermal heat and carbon sequestration resources statewide using slim-hole bores. Even if characterized as "modest" exploration, these activities are not neutral. They signal state endorsement and advance infrastructure groundwork for future geothermal expansion before clear community consent, cumulative impact analysis, and long-term water protection safeguards are fully resolved.

Geothermal development on Hawai'i Island—has long raised serious concerns related to groundwater safety, seismic activity, cultural resources, Native Hawaiian traditional and customary practices, and community health. This bill directs the State to proceed with additional slim-hole characterization wells and, upon finding a viable resource, to seek funding for environmental review. That sequencing is backwards. Exploration itself carries risk and shapes future land use trajectories. Environmental review and meaningful consultation should precede—not follow—state-funded exploration activity.

Additionally, the bill appropriates funds from the Energy Security Special Fund at a time when our communities face pressing needs in affordable housing, food security, small business stabilization, grid resilience, rooftop solar access, and energy efficiency for local families. Public dollars should prioritize distributed, community-owned renewable solutions that keep wealth circulating locally, reduce household energy burden, and do not place aquifers or culturally sensitive lands at risk.

www.ChamberofSustainableCommerce.org

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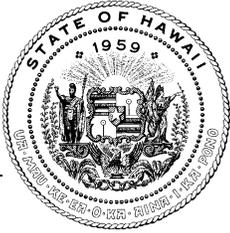
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Energy development must align with precaution, transparency, and community governance. Large-scale geothermal expansion—particularly when advanced through state-led resource characterization—can create long-term land use commitments that benefit outside capital interests more than local businesses and residents. Hawai'i's clean energy transition should strengthen small-scale, cooperative, and community-based energy models rather than centralizing extraction-based infrastructure.

We urge the Legislature to pause this program and instead invest in grid modernization that integrates distributed rooftop and balcony/plug-in solar and storage, community-owned and directed renewable cooperatives, and transparent, island-specific energy planning processes grounded in cultural and environmental stewardship. Energy security must not come at the expense of water security, cultural integrity, or community trust.

Respectfully submitted.



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Testimony of
MARK B. GLICK, Chief Energy Officer

before the
SENATE COMMITTEE ON WAYS AND MEANS

Monday, March 2, 2026
10:31 AM
State Capitol, Conference Room 211 and Videoconference

In Support of
SENATE BILL NO. 3081, SD1

**RELATING TO A PROGRAM TO CHARACTERIZE THE POTENTIAL OF UNDERGROUND
ENERGY RESOURCES STATEWIDE.**

Chair Dela Cruz, Vice Chair Moriwaki and Members of the Committee, the Hawai'i State Energy Office (HSEO) strongly supports Senate Bill No. 3081, SD1 as a priority Administration measure to accelerate Hawai'i's energy transition and stimulate economic development throughout the state. If appropriately funded, SB 3081, SD1 would enable the HSEO to administer a statewide Geothermal Resources Characterization Program supported by the Hawai'i Groundwater and Geothermal Resources Center at the University of Hawai'i.

Conducting research via slim-hole test wells is a high priority of Hawai'i's updated energy strategy because of the potential to clearly identify where geothermal resources might exist, with a focus on Maui, Hawai'i, and O'ahu. The ultimate goal is to stimulate private sector investment in producing safe, reliable, and affordable firm renewable energy that can make Hawai'i energy self-sufficient, reduce electricity costs and carbon emissions, and create jobs. HSEO's updated energy strategy indicates that better understanding of the location of geothermal potential greatly improves the potential to meet the 100% renewable portfolio targets on Maui, Hawai'i, and possibly even O'ahu.

The measure will also inform where underground water resources can be found and the longer-term potential for subsurface carbon sequestration. Further provisions provide accountability and transparency through HSEO's preparation and submission of a progress report to the Legislature with research outcomes and any proposed legislation emanating from the research findings.

To effectively and broadly conduct this research, HSEO requests no less than \$6,000,000 to carry out this program, an amount that would enable up to two slim-hole wells.

This measure is informed by HSEO's analysis of market gaps in firm renewable resources and long duration storage, especially geothermal and pumped hydro. Hawai'i is fortunate to have subsurface heat from geothermal energy remaining from Earth's formation that is stored in rocks and fluids. Through deep wells, the heat can be brought to the surface as steam to drive turbines that generate electricity. However, it is not economically feasible to procure geothermal development through the competitive bidding process without first providing evidence of geothermal potential in specific locations. Without such evidence, developers must drill multiple, costly exploration wells with the risk that they may not discover a reliable geothermal resource, if they decide to participate at all. The uncertainty is passed on to ratepayers via a risk premium added to the developer's bid. This measure would mitigate the risk premium and increase production royalties to Hawai'i through State-sponsored slim-hole research that first identifies locations where hot water is sufficient for electric power generation.

In addition to the economic development and energy self-sufficiency benefits of geothermal, the Center for Strategic and International Studies credits modern geothermal power plants as having insignificant greenhouse gas (GHG) emissions with life-cycle emissions six to twenty times lower than natural gas and four times lower than solar photovoltaic (PV) energy due to the materials used to construct the plants.

Concurrently, HSEO will engage energy stakeholders at the community level during 2026 and beyond to gain insight on how and where geothermal development can appropriately take place in ways that meaningfully benefit the affected communities.

Given the importance of geothermal in helping Hawai'i meet its firm renewable needs, government support to identify areas of geothermal potential is an appropriate first step towards incentivizing private sector investment and development of state-of-the-art geothermal resources. With the appropriate level of funding, SB 3081, SD1 would provide that needed support.

Thank you for the opportunity to testify.



Email: communications@ulupono.com

SENATE COMMITTEE ON WAYS AND MEANS
Monday, March 2, 2026 — 10:31 a.m.

Ulupono Initiative supports SB 3081 SD1, Relating to a Program to Characterize the Potential of Underground Energy Resources Statewide.

Dear Chair Dela Cruz and Members of the Committee:

My name is Micah Munekata and I am the Vice President of Government Affairs 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 3081 SD1, which establishes the Underground Energy Resources Characterization Program to identify the location and characteristics of underground energy resources through the use of slim-hole bores and requires a related environmental assessment or environmental impact statement.

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 the 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.

This bill is a forward-looking initiative that prioritizes scientific research and environmental stewardship. By identifying geothermal and carbon sequestration resources, this measure supports Hawai'i's broader goals of achieving energy resilience and combating climate change. Resource characterization through slim-hole bores offers a minimally invasive method for gathering critical data, ensuring that these activities are conducted responsibly and with

Investing in a Sustainable Hawai'i



minimal environmental disruption. This approach reflects a commitment to balancing energy development with environmental protection.

As the State advances resource exploration activities, Ulupono believes robust, early and ongoing community engagement must be a foundational element of this work. This engagement must take place in parallel with any exploration activities, as it is also important to understand the scope and potential resources to have a deeper conversation about what is at stake. Meaningful engagement—particularly with Native Hawaiian communities, cultural practitioners, and residents of nearby areas—is essential to ensuring these efforts are grounded in place-based knowledge, cultural awareness, and community priorities. Proactive outreach that clearly explains the purpose of the exploration, listens to concerns, and incorporates local perspectives helps build trust and increases the likelihood that any resulting resource development delivers real, lasting benefits to the people of Hawai‘i rather than unintended impacts. Our support is contingent upon ensuring that exploration efforts stay aligned with community priorities as well as Hawai‘i’s broader renewable energy and sustainability goals for the long-term benefit of its residents.

Thank you for the opportunity to testify.

Respectfully,

Micah Munekata
Vice President, Government Affairs

SB-3081-SD-1

Submitted on: 2/23/2026 8:17:07 PM

Testimony for WAM on 3/2/2026 10:31:00 AM

Submitted By	Organization	Testifier Position	Testify
Dana Keawe	Individual	Oppose	Written Testimony Only

Comments:

STRONGLY OPPOSE!! SB3081 SD1

Dana Keawe

Truth for the People

Moku o Keawe

SB-3081-SD-1

Submitted on: 2/24/2026 7:47:11 AM

Testimony for WAM on 3/2/2026 10:31:00 AM

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

Comments:

As I support geothermal resource development and carbon sequestration, the Hawaii Groundwater and Geothermal Resources Center (HGGRC) should execute the geothermal resource characterization. Through this University of Hawaii research unit, the State of Hawaii's most prominent earth scientists are researching Hawaii's groundwater resources. HGGRC obtained land access for research from dozens of landowners across the state. For research equipment, HGGRC has access to \$1 million worth of geophysical equipment and a \$3 million drill rig (Notably, Puna Geothermal Venture is the only other geothermal-focused organization in Hawaii that has a suitable drill rig). The State can further benefit from HGGRC and UH's research, expertise, and resources.

SB-3081-SD-1

Submitted on: 2/24/2026 9:00:08 AM

Testimony for WAM on 3/2/2026 10:31:00 AM

Submitted By	Organization	Testifier Position	Testify
Keoni Shizuma	Individual	Oppose	Written Testimony Only

Comments:

Aloha,

I am testifying in opposition to SB3081.

While I understand the need for Hawaii to become less dependent on fossil fuels and create our own energy, I do not believe geothermal is the way we should be going. Any geothermal project will take massive investment and will likely only amount to 1 or 2 additional facilities in Hawaii. This will require us to generate the electricity in one central location and transmit said energy to communities across the island or state. This will take massive additional investments to create these transmission routes. The issue with transmitting power is, as we've seen with Lahaina, we are great risk to our environment. Unless we plan on trenching thousands of miles of powerlines on the islands that will have geothermal, we'll continue to be at risk to our weather.

Aside from transmission issues, the issue with any centralized technology is that we will dependent on one central power creation. As we've seen in the past with our weather (localized high winds, heavy rains) or even our geology (earthquakes), one large event can bring down the whole system, has been the case. Heavy winds bring down lines or require HECO to emergency shut-off the power, Oahu suffered an island wide power outage with the large earthquake, and heavy rains can cause flooding which cause long power outages affecting large areas.

We need to be doing research into decentralized systems. We should use the money appropriated for "underground energy resources" instead to research decentralized energy production systems, similar those that are in other countries around the world. If communities have their own power supply – say a mid-scale wind or solar generation, then when another communities power supply goes down, their system won't be affected.

Decentralized energy systems will create safety and stability in Hawaii and help improve our reliance on energy importation. We need decentralized systems. Please either amend this measure to reflect decentralized energy systems (instead of underground energy resources – which will never be decentralized), or oppose this measure.

Mahalo for your consideration,
Keoni Shizuma

SB-3081-SD-1

Submitted on: 2/25/2026 5:40:46 PM

Testimony for WAM on 3/2/2026 10:31:00 AM

Submitted By	Organization	Testifier Position	Testify
Johnnie-Mae L. Perry	Individual	Oppose	Written Testimony Only

Comments:

I, Johnnie-Mae L. Perry, STRONGLY OPPOSE

3081 SB RELATING TO A PROGRAM TO CHARACTERIZE THE POTENTIAL OF UNDERGROUND ENERGY RESOURCES STATEWIDE.