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Testimony of
MARK B. GLICK, Chief Energy Officer

before the
**SENATE COMMITTEE ON
WAYS AND MEANS**

Monday, March 31, 2025
10:02 AM
State Capitol, Conference Room 211 and Videoconference

In Support of
HOUSE BILL NO. 1020 HD1 SD1

**RELATING TO A PROGRAM TO CHARACTERIZE CARBON SEQUESTRATION
POTENTIAL AND UNDERGROUND WATER RESOURCES STATEWIDE.**

Chair Dela Cruz, Vice Chair Moriwaki, and members of the Committee, I am writing in support of House Bill No. 1020 HD1 SD1, a Green Administration and DBEDT Priority Bill which conducts statewide research to identify the location and temperature of underground water resources as well as the potential for carbon sequestration.

HB 1020 HD1 SD1 is a vital part of Hawai'i's updated energy strategy because it offers potential to clearly identify where geothermal resources might exist 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. Such exploratory slim-hole test wells and commercial feasibility assessments for utility-scale geothermal projects, funded through HB 1020 HD1 SD1, are a key element in advancing Hawai'i's geothermal energy potential. This bill ensures:

- Further geoscience exploration to refine geothermal site viability.
- Comprehensive community outreach to align development with public concerns.
- Commercial feasibility studies to attract investment and ensure sustainable implementation.

The Hawai'i State Energy Office (HSEO) and the Department of Business, Economic Development & Tourism (DBEDT) collaborate on geothermal resource

characterization work and, with assistance from the University of Hawai‘i (UH), are committed to better understand the geothermal resource base in the state. Resource characterization consists of identifying the precise location, depth, pressure and heat content of underground water resources as a practical precursor to development. In addition to the water resource characterization, core samples can also determine other things like carbon sequestration, a secondary consideration.

To date, Governor Green has provided \$5 million to the HSEO for geothermal resource characterization work, and Congress has provided nearly \$1 million for outreach and community engagement under the HSEO’s Clean Energy Wayfinder Program. Funding, under HB 1020 HD1 SD1, along with the appropriate community engagement, can build transparency, trust, and perspective on the role of geothermal vis-a-vis the HSEO’s statewide energy strategy and county-level renewable energy framework for each of the six independent electricity grids in Hawai‘i, while illustrating the diverse energy projects necessary to achieve the 100% Renewable Portfolio Standard (RPS) by 2045.

The HSEO also notes the alignment of the intent of HB1020 HD1 SD1 with the ongoing collaboration between DBEDT and UH. This partnership, formalized through a Memorandum of Agreement (MOA) between the Hawai‘i Technology Development Corporation (HTDC) and UH, is actively developing a commercially viable geothermal energy framework consistent with other work to expand geothermal resources in the state conducted by the HSEO and advocated in Executive Order 25-01.

The Integrated Geothermal Development Roadmap outlines a structured, phased approach to scaling geothermal energy in Hawai‘i. This effort includes:

1. Program Management & Stakeholder Outreach – Ensuring community engagement and regulatory coordination.
2. Surface & Subsurface Exploration – Identifying viable geothermal sites through geoscience assessments.
3. Commercial Development & Investment Decision (2027-2029) – Securing funding and private-sector partnerships.
4. Construction & Commissioning – Delivering a 50-100MW geothermal power station as a stable baseload energy source.
5. Steady-State Operations & Future Expansion – Evaluating inter-island transmission and hydrogen production opportunities.

These efforts are critical in reducing Hawai‘i’s reliance on fossil fuels, ensuring firm renewable power availability, and stabilizing energy costs for consumers.

This measure also requires submission of a progress report, findings, and any proposed legislation resulting from the research findings to the legislature. To effectively and broadly conduct this research, \$16,500,000 is requested for fiscal years 2025-2026 and the same sum for fiscal years 2026-2027 to carry out this program. In addition, \$135,000 is requested for fiscal year 2025-2026 and the same sum for fiscal year 2026-2027 to support one full-time equivalent permanent position to be dedicated to coordinate this program.

In 2023, the HSEO analyzed market gaps in firm renewable resources and long duration storage, especially geothermal and pumped hydro, and developed policies and pursued funding opportunities to fill those gaps. Geothermal energy is heat that was generated during the planet’s formation stored in rocks and fluids and brought as steam to the earth’s surface using deep wells. The steam drives turbines to generate electricity. The slim-hole research of water resources through this measure can reveal where hot water sufficient to power electricity generation may be present in key areas throughout the state. This program will also deliver core samples that may reveal the potential for carbon sequestration.

The Center for Strategic and International Studies notes that, like solar and wind energy, modern geothermal power plants have 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, this would involve energy stakeholder engagement at the community level during 2024 and beyond to gain insight into how and where geothermal development can appropriately take place in ways that meaningfully benefit the affected communities.

Several obstacles have limited Hawai‘i from fully developing its geothermal potential. Geothermal exploration is commercially risky and expensive. Developers have to drill multiple exploration wells before finding a reliable geothermal resource, and sometimes they do not find one at all. Private investors usually cannot mitigate and manage this risk independently.

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. HB1020 HD1 SD1 provides that needed support.

Thank you for the opportunity to testify.



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

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SYLVIA LUKE
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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 31, 2025
10:02 AM
State Capitol, Conference Room 211

LATE

HB 1020, HD1, SD1
**RELATING TO A PROGRAM TO CHARACTERIZE CARBON SEQUESTRATION
POTENTIAL AND UNDERGROUND WATER RESOURCES STATEWIDE.**

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

The Department of Business, Economic Development and Tourism (DBEDT) supports its priority House Bill No. 1020, HD1, SD1, a Governor Green Administration Package Bill. This bill establishes a statewide underground water and carbon sequestration characterization program via slim hole bores and a related statewide environmental assessment.

This measure serves to overcome obstacles that have limited Hawai'i from fully developing its geothermal potential. It takes into consideration that geothermal exploration is commercially risky and expensive, with developers investing in multiple exploration wells before finding a reliable geothermal resource, often without success. Since private investors usually cannot mitigate and manage this risk independently without first having confidence in where such resources can be found, the absence of that knowledge means that the geothermal resource will continue to not be developed outside of the few areas in Puna where tests have proven it exists.

Understanding that geothermal power plants have insignificant greenhouse gas (GHG) emissions and that geothermal plays an important role in helping Hawai'i meet its firm renewable needs, DBEDT believes government support to identify areas of geothermal potential is an appropriate first step toward incentivizing private sector investment and development of state-of-the-art geothermal resources. HB 1020, HD1, SD1 provides that needed support.

DBEDT acknowledges its designation as the lead agency, previously held by the Hawai'i State Energy Office (HSEO). We have been closely collaborating on geothermal

exploration and will continue to rely on HSEO's technical expertise, particularly in carbon sequestration. Their continued involvement is critical to the program's success. Given the extensive scope of statewide slim-hole boring, environmental assessments, and community engagement, adequate resources will be essential for effective implementation.

Thank you for the opportunity to support this measure.



Testimony of Ryan Matsumoto on behalf of Waikā Consulting
Before the Senate WAM Committee
Monday, March 31, 2025 Conference Room 211

HB 1020 HD1 SD1: RELATING TO A PROGRAM TO CHARACTERIZE CARBON SEQUESTRATION
POTENTIAL AND UNDERGROUND WATER RESOURCES STATEWIDE.

Chair Dela Cruz and the members of the Committee,

Waikā Consulting, LLC submits this testimony in support of HB1020 HD1 SD1, and would like to highlight the following:

- DBEDT should be the lead agency in relation to the activities defined in the bill as it already has a geothermal initiative in progress which includes a completed commercially focused roadmap exploring Hawaii Island.
- Allocate the full funding appropriation of \$6M to continue the exploratory work needed to proceed responsibly while mitigating as much project risk as possible for a 50-100MW Power Station on Hawaii Island.
- Please consider AMENDING the bill with the language from SB1269 SD1. If this cannot be done, we request the addition of the words, "AND GEOTHERMAL EXPLORATION" to all instances where "CARBON SEQUESTRATION POTENTIAL AND UNDERGROUND WATER RESOURCES" are mentioned in the bill.

Sincerely,

Ryan Matsumoto
President, Waikā Consulting



Email: communications@ulupono.com

SENATE COMMITTEE ON WAYS AND MEANS
Monday, March 31, 2025 — 10:02 a.m.

Ulupono Initiative strongly supports HB 1020 HD 1 SD 1, Relating to a Program to Characterize Carbon Sequestration Potential and Underground Water Resources Statewide.

Dear Chair Dela Cruz and Members of the Committee:

My name is Micah Munekata, and I am the Director 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 strongly supports HB 1020 HD 1 SD 1, which establishes a Carbon Sequestration and Underground Water Resource Characterization Program via slim hole bores and requires a related statewide environmental assessment.

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.

The bill also emphasizes robust community engagement, which is essential for building trust and ensuring that local concerns and priorities are considered throughout the program. Engaging with counties, individuals, and civic organizations allows for the incorporation of valuable insights, ensuring the program aligns with community needs and aspirations. This commitment to collaboration can foster public support, create opportunities for education about renewable energy and carbon sequestration, and pave the way for sustainable resource management. Effective community engagement has been shown to enhance the success of similar initiatives by promoting transparency and inclusivity.

Finally, the legislation's provision for progress and final reports to the legislature, as well as making findings publicly accessible, highlights its dedication to accountability and knowledge-sharing. The use of mapping software and publicly available data ensures that the information gathered will be a resource for policymakers, researchers, and the public. This transparency will strengthen public confidence in the program and provide a foundation for informed decision-making. The proposed funding and staffing allocations are essential to make certain that the program is adequately supported, enabling Hawai'i to advance its renewable energy and sustainability goals effectively for the benefit of its residents.

Thank you for the opportunity to testify.

Respectfully,

Micah Munekata
Director of Government Affairs

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

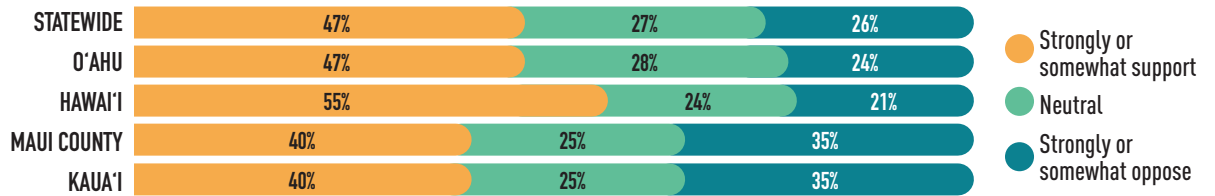


In 2023, Ulupono Initiative commissioned what is believed to be the most extensive and complete public opinion survey on the topic of energy in Hawai'i. The survey was designed to rank how residents perceive various forms of energy technologies, including geothermal.

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?*

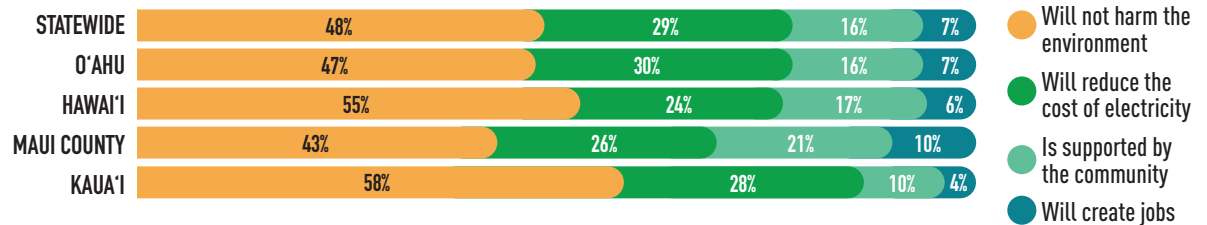
- Support for geothermal rises dramatically when potential electricity bill savings increase

SUPPORT PERCENTAGE INCREASE

	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/



Scan QR code for link to survey results online.

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



Sustainable Energy Hawai'i

sustainableenergyhawaii.org
info@sustainableenergyhawaii.org

LATE

March 30, 2025

TESTIMONY in SUPPORT of HB1020 HD1 SD1

PROGRAM TO CHARACTERIZE CARBON SEQUESTRATION POTENTIAL AND UNDERGROUND WATER RESOURCES STATEWIDE.

Dear Chair Dela Cruz, Vice Chair Moriwaki, and members of the committees,

This testimony is submitted on behalf of **Sustainable Energy Hawai'i (SEH)**, a 501(c)3 non-profit dedicated to improving the quality of life for all of Hawai'i's residents. Our mission is to enable an economic, social, and environmental revival in Hawai'i through a just transition to sustainable, 100% locally sourced, renewable energy and the creation of a thriving clean economy.

SEH supports HB1020 HD1 SD1, which "*Establishes a Carbon Sequestration and Underground Water Resource Characterization Program via slim hole bores and requires a related statewide environmental assessment.*"

Hawai'i likely has accessible water and geothermal resources statewide. According to the Hawai'i Groundwater and Geothermal Resource Center (HGGRC) at UH Manoa, the detailed characterization of its subsurface geology remains virtually unknown outside of Hawai'i Island's East Rift Zone. Historically, this has been due to lack of financial support. If passed, HB1020 HD1 SD1 will fund some, but not all, of the data acquisition needed to inform development decisions in Hawaii. We encourage our state legislature to appropriate this funding furthering our progress toward developing water and geothermal resources. The collecting of subsurface geophysical data, such as temperature, subsurface composition, and the presence of water will further inform geothermal development decisions in Hawai'i.

Additionally, SEH supports a broad statewide policy for the funding of cost effective, qualified geophysical and geothermal research entities such as HGGRC to characterize our subsurface and geological resources for the purpose of effectively supporting commercial development.

Hawaiian self-sufficiency in regard to water, food, and energy is an urgent goal, one that will benefit all who call Hawai'i home for generations to come.

Thank you for this opportunity to testify.

Respectfully,

Keith Neal
Policy Lead
Sustainable Energy Hawai'i

LATE



SENATE COMMITTEE ON WAYS AND MEANS

MARCH 31, 2025

**HB 1020, HD1, SD1, RELATING TO A PROGRAM TO CHARACTERIZE CARBON SEQUESTRATION
POTENTIAL AND UNDERGROUND WATER RESOURCES STATEWIDE**

POSITION: SUPPORT

Coalition Earth **supports** HB 1020, SD1, HD1, relating to a program to characterize carbon sequestration potential and underground water resources statewide, which establishes a Carbon Sequestration and Underground Water Resource Characterization Program via slim hole bores and requires a related statewide environmental assessment; requires a report to the legislature; establishes positions; and appropriates funds.

According to a report produced by the Hawai'i Climate Change Mitigation and Adaptation Commission, global sea levels could rise more than three feet by 2100, with more recent projections showing this occurring as early as 2060. In turn, over the next 30 to 70 years, approximately 6,500 structures and 19,800 people statewide will be exposed to chronic flooding. Additionally, an estimated \$19 billion in economic loss would result from chronic flooding of land and structures located in exposure areas. Finally, approximately 38 miles of coastal roads and 550 cultural sites would be chronically flooded, on top of the 13 miles of beaches that have already been lost on Kaua'i, O'ahu, and Maui to erosion fronting shoreline armoring.

As we work to reduce carbon emissions and stave off the worst consequences of climate change, we must begin preparing for the adverse impact of sea level rise on our shores. We are now quantifying the speed at which we must act. We cannot continue to develop the 25,800-acre statewide sea level rise exposure area—one-third of which is designated for urban use—without risking massive structural damage and, potentially, great loss of life.

Just two years ago, we witnessed the impact of the climate emergency on our shores. On August 8, 2023, wildfires swept across Maui and killed at least 100 people, making it one of the nation's deadliest natural disasters. The spread of the fires has been attributed to climate change conditions, such as unusually dry landscapes and the confluence of a strong high-pressure system

to the north and Hurricane Dora to the south. The wildfires destroyed over 2,200 structures, including numerous residential buildings, historic landmarks, and school facilities. In September 2023, a report from the United States Department of Commerce estimated the total economic damage of the wildfires to be roughly \$5.5 billion. Investing in renewable energy generation could not be more urgent, given the growing threat of climate catastrophes to our island home.

Therefore, **our state should take steps to hasten our transition to a clean energy economy and continue our fight against climate change, including by investing in the potential of geothermal resources, a nearly unlimited source of renewable energy.** The Earth's inner core is as hot as the surface of the sun. As that heat radiates, it heats the rocks and water just beneath the Earth's surface and the steam that process generates can be used to generate heat and electricity. Harnessing geothermal energy can be accomplished at any time, since geothermal resources are reliably available 24 hours a day, 365 days a year.

Notably, analysts have found that geothermal power plants have life-cycle emissions six to twenty times lower than natural gas. Relatedly, an article by researchers from the University of Kayseri published in the journal *Geothermics* in January of 2025, entitled "Comparative analysis of hybrid geothermal-solar systems and solar PV with battery storage: Site suitability, emissions, and economic performance," stated, "In terms of environmental impact, hybrid geothermal-solar systems exhibit significantly lower carbon emissions, averaging 44.6 kg CO₂/MWh, compared to 123.8 kg CO₂/MWh for solar PV systems with battery storage."

The Hawai'i State Energy Office has noted that stimulating private sector investment in producing safe, reliable, and affordable firm renewable energy—of which geothermal may be the paramount example—can advance our state's energy self-sufficiency. Yet, private investment in geothermal exploration is only likely if coupled with state efforts to map potential sites for geothermal development, given the opportunity costs and financial risks affiliated with privately funded efforts that lack precise knowledge of geothermal locations. As HESO has noted, slim-hole research will reveal the location of geothermal resources sufficient to generate electricity, which can concurrently highlight future carbon sequestration possibilities.

The United States leads the world in geothermal electricity capacity and generation. Yet, the U.S. has tapped less than 0.6 percent of its available geothermal electricity resources. The National Renewable Energy Laboratory estimates that there is enough geothermal potential under our nation's grounds to constantly produce 4,248,879 megawatts of energy. Geothermal energy presents an opening for an almost seamless transition of investment, technology, and personnel away from fossil fuels.

While the needed capital investment for geothermal ranges from \$3,000 to \$6,000 per kilowatt—as compared to solar and terrestrial wind, which run just \$1,700 to \$2,100 per kilowatt—this cost is declining as investments in new technology are being made. In terms of both economic and clean energy generation, we cannot afford to miss out on these opportunities.

Expanding geothermal exploration and developing utility-scale geothermal initiatives can be further accelerated through partnerships with research institutions like the University of Hawai'i's Groundwater and Geothermal Resources Center. This can, in turn, stimulate further prospects for public funding and private sector investment for geothermal power generation. Geothermal energy was identified as both a near-term and mid-term decarbonization pathway in the Hawai'i State Energy Office's *Hawai'i Pathways to Decarbonization Report*, released in 2024, for which slim-hole research is vital.

We must take steps to avoid environmental risks when exploring geothermal energy. Relatedly, we should not engage in any geothermal expansion on Hawaiian homelands without beneficiary support. As the World Resources Institute has stated, "Next-generation geothermal is a promising path to a zero-carbon power grid. It's a clean, cost-effective way to fill supply gaps when solar and wind aren't available." In that way, geothermal has the capacity to play a major role in strengthening energy independence and resilience for our island home.

*Coalition Earth is a nongovernmental organization that works to preserve the well-being of people and our planet. We champion policies that advance climate resilience, clean energy, public health, and economic fairness for working families. **Contact us at info@coalitionearth.org.***



Sustainable Energy

Hawai'i

sustainableenergyhawaii.org
info@sustainableenergyhawaii.org

LATE

March 30, 2025

TESTIMONY in SUPPORT of HB1020 HD1 SD1

PROGRAM TO CHARACTERIZE CARBON SEQUESTRATION POTENTIAL AND UNDERGROUND WATER RESOURCES STATEWIDE.

Dear Chair Dela Cruz, Vice Chair Moriwaki, and members of the committees,

This testimony is submitted on behalf of **Sustainable Energy Hawai'i (SEH)**, a 501(c)3 non-profit dedicated to improving the quality of life for all of Hawai'i's residents. Our mission is to enable an economic, social, and environmental revival in Hawai'i through a just transition to sustainable, 100% locally sourced, renewable energy and the creation of a thriving clean economy.

SEH supports HB1020 HD1 SD1, which "*Establishes a Carbon Sequestration and Underground Water Resource Characterization Program via slim hole bores and requires a related statewide environmental assessment.*"

Hawai'i likely has accessible water and geothermal resources statewide. According to the Hawai'i Groundwater and Geothermal Resource Center (HGGRC) at UH Manoa, the detailed characterization of its subsurface geology remains virtually unknown outside of Hawai'i Island's East Riff Zone. Historically, this has been due to lack of financial support. If passed, HB1020 HD1 SD1 will fund some, but not all, of the data acquisition needed to inform development decisions in Hawaii. We encourage our state legislature to appropriate this funding furthering our progress toward developing water and geothermal resources. The collecting of subsurface geophysical data, such as temperature, subsurface composition, and the presence of water will further inform geothermal development decisions in Hawai'i.

Additionally, SEH supports a broad statewide policy for the funding of cost effective, qualified geophysical and geothermal research entities such as HGGRC to characterize our subsurface and geological resources for the purpose of effectively supporting commercial development.

Hawaiian self-sufficiency in regard to water, food, and energy is an urgent goal, one that will benefit all who call Hawai'i home for generations to come.

Thank you for this opportunity to testify.

Respectfully,

Keith Neal
Policy Lead
Sustainable Energy Hawai'i

HB-1020-SD-1

Submitted on: 3/29/2025 2:03:21 PM

Testimony for WAM on 3/31/2025 10:02:00 AM

Submitted By	Organization	Testifier Position	Testify
Ann Chung	Individual	Support	Written Testimony Only

Comments:

I strongly support and urge you to support the full \$6M funding for this bill. DBEDT's geothermal initiative is already in progress and a roadmap has been completed with the goal of developing the first utility scale 50- to 100-megawatt power station on Hawai'i island.

Full funding of \$6M including \$3M originally allocated by this Legislature last session should be restored to continue the work that has been started.

DBEDT is the proper lead agency & the Big Island holds the most promise for a commercially focused geothermal project.

Please consider AMENDING the bill as I strongly prefer the language from the SENATE VERSION of this bill SB1269 SD1. If this cannot be done, request ADDITION of words "GEOHERMAL EXPLORATION" to ALL instances where "CARBON SEQUESTRATION POTENTIAL AND UNDERGROUND WATER RESOURCES" is mentioned including the bill's title.

Please support and pass this bill.

Mahalo

Ann Chung

HB-1020-SD-1

Submitted on: 3/29/2025 8:06:55 PM

Testimony for WAM on 3/31/2025 10:02:00 AM

Submitted By	Organization	Testifier Position	Testify
Alice Kim	Individual	Comments	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.

March 29, 2025

SUPPORT FOR HB1020 HD1 SD1 (RELATING TO A PROGRAM TO CHARACTERIZE CARBON SEQUESTRATION POTENTIAL AND UNDERGROUND WATER RESOURCES STATEWIDE)

Dear Chair Dela Cruz, Vice-Chair Moriwaki, and members of the Committee,

My name is Noel Morin. I support HB1020 HD1 SD1, which *Establishes a Carbon Sequestration and Underground Water Resource Characterization Program via slim hole bores and requires a related statewide environmental assessment. Requires a report to the Legislature.*

All efforts to enable a sustainable and resilient Hawaii must be explored, given the nature of our dependence on imports and the political and economic churn beyond our shores. This measure will help us better understand the valuable resources underground across the state. This includes water, heat, and the ability to capture and store minerals like carbon.

The UH Manoa Groundwater and Geothermal Resource Center has been studying these opportunities. They have local people and infrastructure that can be leveraged to accomplish this needed research and improve our ability to leverage these natural resources. With additional support, they can expedite our understanding of groundwater and mineral sequestration opportunities and help ensure that they are leveraged appropriately.

Please pass this HB1020 HD1 SD1.

Mahalo for the opportunity to testify.
Noel Morin
Climate, Sustainability, and Resilience Advocate
Hilo, Hawai'i

HB-1020-SD-1

Submitted on: 3/29/2025 11:07:32 PM

Testimony for WAM on 3/31/2025 10:02:00 AM

Submitted By	Organization	Testifier Position	Testify
Malama Solomon	Individual	Support	Written Testimony Only

Comments:

Aloha mai kakou,

I submit this testimony in support of HB 1020 HD1 SD1. I strongly support and urge you to support the full \$6M funding for this bill. This funding is critical to advancing DBEDT’s geothermal efforts, which are already underway and guided by a completed roadmap aimed at developing Hawaii Island’s first utility-scale 50-100 MW geothermal power station.

The full \$6 million allocation is essential to ensure continuity in this work, including the \$3 million previously appropriated by this Legislature last session but later reduced. DBEDT is the proper lead agency for this initiative, given its expertise and alignment with Hawaii’s renewable energy goals. Hawaii Island offers the most promise for a commercially viable geothermal project due to its robust geothermal resource potential.

I strongly recommend amending HB 1020 HD1 SD1 to reflect the preferred language from the Senate version of SB1269 SD1. Should this amendment be unfeasible, I request the addition of the phrase “AND GEOTHERMAL EXPLORATION” wherever “CARBON SEQUESTRATION POTENTIAL AND UNDERGROUND WATER RESOURCES” appears in the bill text. This inclusion would ensure that geothermal exploration remains a prioritized focus alongside other environmental assessments.

Geothermal energy represents a firm and renewable resource critical to Hawaii’s energy future. By restoring full funding and refining the bill’s language, we can maximize its impact while fostering community engagement and addressing environmental considerations.

Mahalo for your attention and support.

HB-1020-SD-1

Submitted on: 3/29/2025 11:16:05 PM

Testimony for WAM on 3/31/2025 10:02:00 AM

Submitted By	Organization	Testifier Position	Testify
Roberta Cabral	Individual	Support	Written Testimony Only

Comments:

Aloha Chair Yamashita and the members of the Committee,

I am submitting this testimony in support of HB 1020 HD1 SD1, urging the release of the full \$6 million funding for this bill. This funding is critical to advancing DBEDT’s geothermal efforts, which has already started and guided by a completed roadmap aimed at developing Hawaii Island’s first utility-scale 50-100 MW geothermal power station.

The full \$6 million allocation is essential to ensure continuity in this work, including the \$3 million previously appropriated by this Legislature last session but later reduced. DBEDT is uniquely positioned to lead this initiative due to its expertise and alignment with Hawaii’s renewable energy goals. Hawaii Island offers unparalleled promise for a commercially viable geothermal project, given its abundant geothermal resource potential and decades of exploration data that provide a solid foundation for development.

I strongly recommend amending HB 1020 HD1 SD1 to reflect the preferred language from the Senate version of SB1269 SD1. Should this amendment be unfeasible, I request adding the phrase “AND GEOTHERMAL EXPLORATION” wherever “CARBON SEQUESTRATION POTENTIAL AND UNDERGROUND WATER RESOURCES” appears in the bill text. This inclusion would ensure that geothermal exploration remains a prioritized focus alongside other environmental assessments.

Geothermal energy represents a firm and renewable resource that is vital to Hawaii’s energy future. By restoring full funding and refining the bill’s language, we can maximize its impact while fostering community engagement and addressing environmental considerations.

Mahalo for your time and thoughtful consideration.

HB-1020-SD-1

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Submitted By	Organization	Testifier Position	Testify
Pilialoha Lee Loy	Individual	Support	Written Testimony Only

Comments:

I support HB 1020 and the full \$6M funding for this bill. DBEDT's geothermal initiative is already in progress and a roadmap has been completed with the goal of developing the first utility scale 50- to 100-megawatt power station on Hawai'i island.

DBEDT is the proper lead agency & the Big Island holds the most promise for a commercially focused geothermal project.