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DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT & TOURISM
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Statement of
JAMES KUNANE TOKIOKA
Director
Department of Business, Economic Development, and Tourism
before the
HOUSE COMMITTEE ON FINANCE

Thursday, February 20, 2025
12:00 PM
State Capitol, Conference Room 308

In support of
HB 1020, HD1
RELATING TO A PROGRAM TO CHARACTERIZE CARBON SEQUESTRATION POTENTIAL AND UNDERGROUND WATER RESOURCES STATEWIDE.

Chair Yamashita, Vice Chair Takenouchi, and Members of the Committee.

The Department of Business, Economic Development and Tourism (DBEDT) supports its priority House Bill No. 1020, HD1, 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 Hawaiʻi 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 Hawaiʻi 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 provides that needed support.

Thank you for the opportunity to support this measure.

HAWAII STATE ENERGY OFFICE
STATE OF HAWAII

JOSH GREEN, M.D.
GOVERNOR

SYLVIA LUKE
LT. GOVERNOR

MARK B. GLICK
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Testimony of
MARK B. GLICK, Chief Energy Officer

before the
HOUSE COMMITTEE ON FINANCE

Thursday, February 20, 2025
12:00 PM
State Capitol, Conference Room 308 and Videoconference

In Support of
HOUSE BILL NO. 1020 HD1

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

Chair Yamashita, Vice Chair Takenouchi, and members of the Committee, I am writing in strong support of House Bill No. 1020 HD1, 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.

Such slim-hole test wells are a high priority of Hawai‘i’s updated energy strategy because of the 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.

The Hawai‘i State Energy Office (HSEO) supports HB1020 HD1 as our preferred bill on slim-hole resource characterization research. This bill amends chapter 196 HRS to include a carbon sequestration and underground water resource characterization program implemented by HSEO, including a statewide environmental assessment and meetings with nearby counties and communities that are crucial in local determination of how public trust resources like geothermal can be appropriately pursued.

This measure also requires HSEO to submit a progress report, findings, and any proposed legislation resulting from the research findings to the legislature. To effectively

and broadly conduct this research, HSEO requests $16,500,000 for fiscal years 2025-2026 and the same sum for fiscal years 2026-2027 to carry out this program. HSEO also requests $135,000 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, 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, the HSEO will engage energy stakeholders at the community level during 2024 and beyond to gain insight on 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 provides that needed support.

Thank you for the opportunity to testify.

Email: communications@ulupono.com

HOUSE COMMITTEE ON FINANCE
Thursday, February 20, 2025 — 12:00 p.m.

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

Dear Chair Yamashita and Members of the Committee:

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 strongly supports HB 1020 HD 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

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,

Mariah Yoshizu
Government Affairs Associate

HB-1020-HD-1
Submitted on: 2/19/2025 9:18:35 AM
Testimony for FIN on 2/20/2025 12:00:00 PM

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

Comments:

With research experience in Hawaii's groundwater resources and basalt carbon sequestration, the Hawaii Groundwater and Geothermal Resources Center at the University of Hawaii at Manoa should execute the slim-hole resource characterization under the administrative oversight of the Hawaii State Energy Office. Doing so will enable the State to further benefit from HGGRC's research and expertise.

Through HGGRC, the state'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).

HGGRC is now exploring carbon sequestration with Hawaii's basaltic rocks, which make up almost all of Hawaii's land mass. As the first organization in Hawaii to conduct this research, HGGRC is collaborating with research institutions outside of Hawaii. One of them, Lawrence Berkeley National Laboratory, has already developed considerable expertise in this type of carbon sequestration.

Please support HGGRC and UH in facilitating Hawaii's preeminent earth scientists and continuing Hawaii's cutting-edge research in geothermal and carbon sequestration.