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Testimony of
MARK B. GLICK, Chief Energy Officer

before the
HOUSE COMMITTEE ON ENERGY AND ENVIRONMENTAL PROTECTION
February 4, 2025
9:00 AM
State Capitol, Conference Room 325 and Videoconference

In Support of
HOUSE BILL NO. 349

RELATING TO RENEWABLE ENERGY.

Chair Lowen, Vice Chair Perruso and members of the Committee, I am writing in support of House Bill No. 349 which requires Hawai'i State Energy Office (HSEO) conduct a statewide environmental assessment for, and subsequently administer, a Slim-Hole Resource Characterization Program, including required reports to the Legislature and appropriates funding.

Hawai'i State Energy Office (HSEO) supports HB349 in its similarity to the Green Administration's preferred bill on slim-hole resource characterization research, HB1020. Both bills amend chapter 196 HRS to include a carbon sequestration and underground water resource characterization program conducted by HSEO, including a statewide environmental assessment and meetings with nearby counties and communities. In addition, both bills require HSEO to submit a progress report, findings, and any proposed legislation to the legislature. In HB1020 HSEO requests $16,500,000 for fiscal years 2025-2026 and the same sum for fiscal years 2026-2027 to carry out this program. In addition, HB1020 also includes HSEO's request for $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 support this program. HSEO finds geothermal essential to Hawai'i's energy self-sufficiency. Foundational to this is the better understanding of where hot water, sufficient to power electricity generation,

resides throughout the state. This program will also identify water resources and deliver core samples that may reveal the potential for carbon sequestration.

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.

As a key part of Hawai‘i’s energy strategy, HSEO seeks the State’s investment in a minimum of three slim-hole research wells on each of the Hawai‘i, Maui, and O‘ahu islands in specific geological formations where the potential for such water resources exist. Such resources are proven to exist in the Puna District on Hawai‘i island and research by the Hawai‘i Groundwater and Geothermal Resource Center to date indicates the potential exists throughout the Hawaiian Islands. The ultimate goal is to stimulate private sector investment to ensure safe, reliable, and affordable firm renewable energy throughout Hawai‘i.

Accordingly, HSEO seeks state funding as a critical first step in understanding how Hawai‘i’s greatest firm renewable energy source could help Hawai‘i, Maui, and O‘ahu islands meet their RPS goals.

Concurrently, HSEO is engaging energy stakeholders at the community level during 2025 and beyond to gain insight on how and where geothermal development can appropriately take place in ways that meaningfully benefit the affected communities.

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.

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. Therefore, it is appropriate and necessary for the State to provide this initial step in identifying potential specific resource locations that will be necessary for private sector capital to make any subsequent large-scale investments via independent power producers bidding on renewable projects under the Integrated Grid Plan’s procurement process.

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 or HB349 provide that needed support.

Thank you for the opportunity to testify.