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Testimony of
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before the
SENATE COMMITTEE ON WAYS AND MEANS

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**COMMENTS
SB 2513, SD1
RELATING TO RENEWABLE ENERGY.**

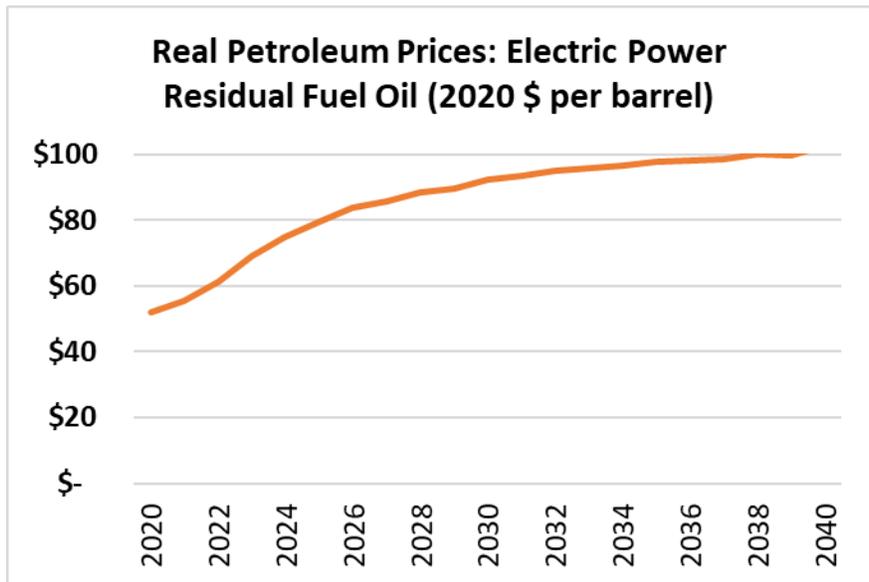
Chair Dela Cruz, Vice Chair Keith-Agaran, and Members of the Committee, the Hawai'i State Energy Office (HSEO) offers comments, including several concerns, regarding SB 2513, SD1, which appears to have the effect of seriously constraining and complicating electricity production in Hawai'i and potentially interfering with and preventing the retirement and replacement of fossil-fueled power plants in Hawai'i.

Overall, HSEO is concerned that the statutory changes proposed by the bill would be difficult to interpret in their current form, may interfere with the ability of the utility to successfully contract for electricity generation, and that the combination of extreme limitations and strict requirements would ultimately result in failed procurements and significantly higher overall costs for electricity.

HSEO understands concerns exist regarding the recent rounds of procurement on O'ahu for energy to replace the retiring coal plant resulting in only solar plus battery technologies being procured. Rather than pursue restrictions on procurement with potential long-term, costly unintended consequences, however, HSEO continues to support legislative efforts to create incentives such as the renewable fuels tax credit, the Moloka'i biofuel pilot project, and the allocation for geothermal exploration on Department of Hawaiian Home Lands to promote renewable resources having many of the desired characteristics that this bill seeks to promote.

HSEO also believes the current approach to procurement, in which operational parameters are established based on the needs of the grid at the time of the procurement, offers the greatest opportunity for managing electricity costs and affordability, as it allows bids to reflect the technologies and costs that are available and complementary to the existing grid and projected resources at the time of the procurement. Both the electric utility and the Public Utilities Commission are taking steps to improve procurement while implementing these operational parameters.

Therefore, HSEO believes the changes proposed by section 2 of SB 2513, SD1, are unnecessary. The prevention of successful procurements of new renewable energy generation would have the unintended consequence of



continued reliance on current fossil fuel generating units, increasing emissions and costs of electricity¹ and negative impacts on Hawai'i's economy and environment.

In addition to the overall concerns above, specific concerns with the requirements and language of SB2513, SD1, include:

On page 6, starting on line 17, it is unclear what is meant by “the capability of the renewable energy system to be offline for a period of up to ninety-six hours due to weather but still be able to deliver, while offline, renewable energy in an amount equal to the average kilowatt hours that was delivered in the ninety-six-hour period before the

¹ The U.S. Energy Information Administration's *Annual Energy Outlook 2021* projected residual fuel oil prices would increase, in real (2020) dollars, from \$61 per barrel in 2022 to \$103 per barrel in 2040. Note: That was prior to the current situation with Russia and Ukraine.

system went offline.” Since a system that is offline is (by definition)^{2, 3} not delivering electricity to the grid, it appears that this language would require the system to be able to either:

- a. produce some other form of energy during four days of being disconnected from the grid, or
- b. provide electricity to some other customer for four days.

The reason or benefit of such a requirement is not stated. Also, the situations under which the systems would be capable of providing energy while offline “due to weather,” yet still capable of functioning at full capacity, are unclear. If this is a sincerely intended requirement, a more complete explanation would be warranted in order to fully express the Legislature’s desired objective.

Regarding the definition of “firm renewable energy” on page 7, lines 8-14, HSEO notes that a strict or narrow reading of the language (“always available and capable of being continuously produced at its contracted capacity twenty-four hours per day, three hundred sixty-five days per year, subject **only** to routine maintenance and emergency repairs”) may be interpreted to exclude any system that is also subject to the availability and receipt of certain inputs (fuel) for its operation.⁴

Taking the view that any generator that requires fuel in order to run is “subject to” the receipt of that fuel in order to be “capable of being continuously produced at its contracted capacity twenty-four hours per day, three hundred sixty-five days per year” would potentially eliminate any system using fuel (including biofuel, hydrogen, renewable natural gas, or solid fuel). As “trees and other wood products” are explicitly prohibited by the bill on page 7, lines 12-13, the net result under this interpretation is that eligible “firm renewable” technologies would be limited to geothermal and ocean energy (wave, ocean thermal) sources, which are not subject to the availability or delivery of fuel. However, as these systems are limited in location and, in some cases,

² U.S. Department of Energy, Office of Electricity Delivery and Energy Reliability. 2015. [United States Electricity Industry Primer](#).

³ Hawaiian Electric Company. 2016. [Power Supply Improvement Plan, Book 2 of 4](#).

⁴ Emphasis added.

technological maturity, HSEO is concerned about broad application of such a narrow requirement.

Another interpretation of the requirement, focusing on the specific language of “contracted capacity twenty-four hours per day, three hundred sixty-five days per year,” would be that “firm power” contracts would specify the minimum capacity required at each hour, twenty-four hours per day, three hundred sixty-five days per year. It appears that this requirement could be met (albeit at a greater cost) by a variety of technologies, including wind and solar, with batteries. However, such an unusual approach may severely constrain (have a limiting effect on) potential bids, and as an inflexible and unusual approach, would likely lead to increased costs, severely limit grid dispatch and optimization of energy use based on resource availability, and potentially result in severe and unnecessary over-building. If this is a sincerely intended requirement, a more complete explanation would be warranted in order to accurately express the Legislature’s desired objective and inform agency implementation.

HSEO is also concerned that on page 8, lines 1 through 7, the prohibition against any utility owning its own generation is an extremely broad prohibition, which may affect not only investor-owned electric utilities, but also cooperatives and non-electric utilities, including gas and water utilities owning their own renewable energy generation projects to power their equipment or pursue hydrogen production.

Regarding the assignment in Section 3 of the bill, HSEO concurs with the need for and value of studies of available resources and technologies within the overall analysis of the pathways to reaching the state’s renewable energy and net negative carbon emissions goals. HSEO requests that, due to the time required for the procurement process, any report to the Legislature be submitted prior to the convening of the 2024 regular session.

HSEO defers to the appropriate agencies on the topic of utility power procurements, potential impacts on consumers, increases in emissions, and other matters in this bill.

HSEO's comments are guided by its mission to promote energy efficiency, renewable energy, and clean transportation to help achieve a resilient, clean energy, decarbonized economy.

Thank you for the opportunity to testify.