JOSH GREEN, M.D.
Governor

SYLVIA LUKE
Lt. Governor

SHARON HURD
Chairperson, Board of Agriculture

MORRIS M. ATTA
Deputy to the Chairperson

State of Hawai'i
DEPARTMENT OF AGRICULTURE
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TESTIMONY OF SHARON HURD
CHAIRPERSON, BOARD OF AGRICULTURE

BEFORE THE SENATE COMMITTEES ON WATER AND LAND, AND ENERGY, ECONOMIC DEVELOPMENT AND TOURISM

TUESDAY, FEBRUARY 14, 2023
ROOM 229
1:00 P.M.

SENATE BILL NO. 91
RELATING TO SUSTAINABLE LAND USE

Chairpersons Inouye and DeCoite and Members of the Committees:

Thank you for the opportunity to testify on Senate Bill No. 91 that requires the Office of Planning and Sustainable Development (OPSD) to conduct a study to assess the possible implementation of widescale agrivoltaic adaptation and use statewide. The Department of Agriculture (Department) offers comments.

Agrivoltaics is a practice that combines solar energy facilities with crop or livestock production under solar energy panel arrays. The Hawaii Revised Statutes contain varying requirements and restrictions when solar energy facilities (SEF) are being proposed on agricultural land. In brief, an SEF proposed for agricultural land with soil productivity ratings of "D" and "E" (poor to very poor agricultural productivity potential) is a permissible use. On "B" and "C" rated soils (good to fair agricultural productivity potential), there are conditions, restrictions, permits and the requirement of a "compatible agricultural activity" along with the SEF. SEFs are not permitted on "A" rated soils (very good agricultural productivity potential).

The majority of SEFs (existing and proposed) on Oahu are on "B" and "C" rated agricultural land. The land rent possible from SEFs make it difficult if not impossible for agricultural operations to outbid their competitors. To comply with existing laws, operating SEFs contract with sheep ranching operations to control weed growth.

Unfortunately, State law does not require that the production from the “compatible agricultural activity” be sold.

The Department has long maintained that it is the generation of revenue by agricultural operators selling their agricultural products such as livestock, vegetables, melons, fruits, honey, and so forth that will ensure continued agricultural activity under and alongside SEFs. Furthermore, substantial agricultural production would be in synch with the State’s constitutional and statutory mandates and goals of increasing food self-sufficiency and conserving, protecting, and promoting the use of our important agricultural lands.

There is local research to identify what crops or livestock situations work best with SEFs in Hawaii. Department staff have yet to come across research indicating that commercial agricultural operations can produce crops under SEF arrays that will generate income sufficient to support an economic agricultural operation. Local research on a wide variety of crops under an existing SEF field array is being conducted by the Hawaii Agricultural Research Center.

Thank you for the opportunity to present our comments on this measure.

STATE OF HAWAI'I
OFFICE OF PLANNING
& SUSTAINABLE DEVELOPMENT

JOSH GREEN, M.D.
GOVERNOR

SCOTT J. GLENN
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Statement of
SCOTT GLENN, Director

before the
SENATE COMMITTEES ON WATER AND LAND
AND ENERGY, ECONOMIC DEVELOPMENT, AND TOURISM
Tuesday, February 14, 2023, 1:00 PM
State Capitol, Conference Room 229

in consideration of
SB 91
RELATING TO SUSTAINABLE LAND USE.

Chairs Inouye and DeCoite, Vice Chairs Elefante and Wakai, and Members of the Senate Committees on Water and Land and Energy, Economic Development, and Tourism:

The Office of Planning and Sustainable Development (OPSD) supports the intent and offers the following **comments** on SB 1521, which requires the OPSD to conduct a study to assess the possible implementation of widescale agrivoltaic adaptation and use statewide. Requires the OPSD to submit a report to the Legislature. Appropriates funds.

The OPSD understands the need for such legislation. Hawai'i is challenged by the need to address the scarcity of land and the issue of competing uses and needs for development, production, and preservation within Hawai'i's Agricultural District. Agrivoltaics, or the simultaneous use of areas of land for both solar photovoltaic power generation and agriculture, is a potential solution to accommodate and help meet the State's agriculture and renewable energy goals as a part of the State Climate and Sustainability Statutory Targets.

OPSD supports a study to assess the implementation of widescale agrivoltaic adaptation and use statewide, and recommends the following amendments and appropriations to SB 91 to assist with the execution of this proposed study; provided that its passage does not replace or adversely impact priorities indicated in OPSD Executive Budget:

1) Extending the length of time to perform this study by revising the 2024 deadline to 2025, on Page 2, line 2. This extension will allow OPSD to add the findings from the

and the Soil Classification Study required by Act 189, Session Laws of Hawai'i 2022,[1] and the 2022 State Land Use Review of Districts.[2]

2) Recommending an appropriation of $400,000.00 and 1 FTE over the performance period to contract for services, interisland travel, stakeholder consultation, and other implementation requirements.

Thank you for the opportunity to testify on this measure.

[1] The comprehensive Soil Classifications Study was charged by the Legislature in the 2022 Legislative Session to study the suitability of soil classification systems, including the soil overall (master) productivity rating system and detailed land classification of the land study bureau, for the regulation of agricultural lands by the State and counties; and is due to the Legislature in December 2023.

[2] The State Land Use Review of Districts was published in 2022 by the Office of Planning & Sustainable Development. Available online: https://files.hawaii.gov/dbedt/op/lud/20220128%20State%20Boundary%20ReviewFinal/SLUReviewofDistricts1-28-22Final3.pdf

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February 91, 2023

HEARING BEFORE THE
COMMITTEE ON WATER AND LAND
SENATE COMMITTEE ON ENERGY, ECONOMIC, AND TOURISM

TESTIMONY ON SB 91
RELATING TO SUSTAINABLE LAND USE

Room 229 & Videoconference
1:00 PM

Aloha Chairs Inouye and DeCoite, Vice-Chairs Elefante and Wakai, and Members of the Committees:

I am Brian Miyamoto, Executive Director of the Hawaiʻi Farm Bureau (HFB). Organized since 1948, the HFB is comprised of 1,800 farm family members statewide and serves as Hawaiʻi's voice of agriculture to protect, advocate and advance the social, economic, and educational interests of our diverse agricultural community.

The Hawaiʻi Farm Bureau supports SB 91, which requires the Office of Planning and Sustainable Development to conduct a study to assess the possible implementation of widescale agrivoltaic adaptation and use statewide and requires the Office of Planning and Sustainable Development to submit a report to the Legislature.

We are concerned about the loss of Hawaiʻi's farmland. Nationwide, there is an ongoing struggle between solar developers and farmers. Land that is best for solar installations is often land needed to grow crops or raise animals. The ideal tract of land for solar development is flat, dry, unshaded, close to transmission infrastructure and customers, accessible to installers and maintenance, and in an area with plenty of sunshine. All of these characteristics are associated with farmland. Prime farmland may be particularly attractive for solar development.

When a piece of land is developed for a solar installation, it is very unlikely to be reverted to agricultural land, even when the lease to a solar company eventually runs out. Flattening and compacting the land, as well as other changes, tend to ruin the land for future farming. Rising demand for solar energy could swallow up huge swaths of farmland as struggling farmers may be coerced into selling or leasing to these developments. This is because leasing land for solar development can be more profitable, per acre, than producing any crop. Furthermore, the consistent revenue stream from solar leases may

be an attractive alternative to the typical risks that farmers take to produce food; i.e. insects, diseases, floods, drought, fickle market, transportation costs, etc.

Acknowledging this potential crisis, some states and counties have banned new solar developments on agricultural lands. Others have implemented strict policies such as tax penalties and permit hurdles to ensure no, or minimal impact on farmland. In some states, the state Department of Agriculture must certify that the project will not materially affect the status of any prime farmland. California, the national leader in both solar production and crop sales, imposes an expensive conversion penalty for converting farmland to solar. California policy is to favor solar development on "land that is not valuable habitat, open space, or farmland."

Currently, Hawaiʻi law allows solar development on B, C, D, or E-classified land. The Hawaiʻi Farm Bureau believes that solar energy facility development on agricultural lands is allowed provided that the primary activity of the agricultural energy enterprise is agricultural activity.

Thank you for the opportunity to testify on this measure.

Email: communications@ulupono.com

SENATE COMMITTEES ON WATER & LAND AND ENERGY, ECONOMIC DEVELOPMENT, & TOURISM
Tuesday, February 14, 2023 — 1:00 p.m.

Ulupono Initiative supports SB 91, Relating to Sustainable Land Use.

Dear Chair Inouye, Chair DeCoite, and Members of the Committees:

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 supports SB 91, which requires the Office of Planning and Sustainable Development (OPSD) to conduct a study to assess the possible implementation of widescale agrivoltaic adaptation and use statewide and require a report to the Legislature.

Ulupono supports the State's efforts to meet both its local food and renewable energy goals. While our goals continue to chart us on a course toward greater sustainability and resiliency, Hawai'i remains an island state with finite land. In Hawai'i, agriculture production and solar energy projects compete for similar land. Producers and developers alike seek land with access to utilities and little-to-no slope. As such, strategic, fact-based planning will be essential for our state. Agrivoltaics, a nascent land-use concept, includes agricultural and renewable energy production on the same plot of land. It represents a food AND solar approach rather than a food OR solar approach to land use. Especially in a state with so many competing demands for land, studying the potential for agrivoltaics presents an opportunity to find a balance between our agricultural and renewable energy goals—and even a mutually beneficial relationship.

Through the passage of Act 189, SLH 2022, OPSD will be studying the soil classifications systems and the use of such systems across state agricultural lands, with a report expected to the Legislature by the next legislative session. This study should support the land-use effort described in this measure.

In 2021, amid a rise of "food OR solar" narratives in media and elsewhere, Ulupono conducted research into the potential balance that can exist between our food and energy

goals—to double local food production by 2030 and reach a 100% renewable portfolio standard by 2045—to foster more productive discussion. In our October 2021 white paper titled "SWITCHing the Paradigm," we share how using an electricity system planning model called SWITCH (Solar and Wind Energy Integrated with Transmission and Conventional Sources), which was developed former University of Hawai'i Associate Professor of Electrical Engineering Dr. Matthias Fripp, can be used to evaluate how different land-use assumptions would affect land availability and our ability to achieve State goals.[1] The analysis showed that there are scenarios where there is relatively low impact on customer energy costs even when protecting the most productive ag lands on O'ahu.[2] In addition to supporting Ulupono's supportive positions in the Performance-Based Regulation and Integrated Grid Planning regulatory dockets, the findings in this paper highlight the important decisions on land-use policy that must be considered when determining which state or county goal (or initiative) should receive preference, and also when a feasible balance can be struck.

We appreciate the Legislature's efforts to support sound land-use policy with data-based planning.

Thank you for the opportunity to testify.

Respectfully,

Micah Munekata
Director of Government Affairs

[1] https://ulupono.com/media/5eclolht/switching-the-paradigm-12-06-21.pdf
[2] The electricity production cost for the unlimited use of Class B and Class C agricultural lands at 20% slope is 11.7 cents per kWh. The electricity production cost when restricting Class B lands to 1.8% and Class C lands to 1.1% at 20% slope is 12.3 cents per kWh.

SB-91
Submitted on: 2/10/2023 5:30:48 PM
Testimony for WTL on 2/14/2023 1:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Douglas Perrine	Individual	Support	Written Testimony Only

Comments:

SB91 is a good bill with potential benefits for both our agricultural sector and the environment.