

JOSH GREEN, M.D.
Governor

SYLVIA LUKE
Lt. Governor



SHARON HURD
Chairperson, Board of Agriculture

DEAN M. MATSUKAWA
Deputy to the Chairperson

State of Hawai'i
DEPARTMENT OF AGRICULTURE
KA 'OIHANA MAHI'AI
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TESTIMONY OF SHARON HURD
CHAIRPERSON, BOARD OF AGRICULTURE

BEFORE THE SENATE COMMITTEE ON AGRICULTURE AND ENVIRONMENT

WEDNESDAY, JANUARY 29, 2025
1:00 PM
CONFERENCE ROOM 224

SENATE BILL NO. 661
RELATING TO PLANT-BASED BUILDING MATERIALS

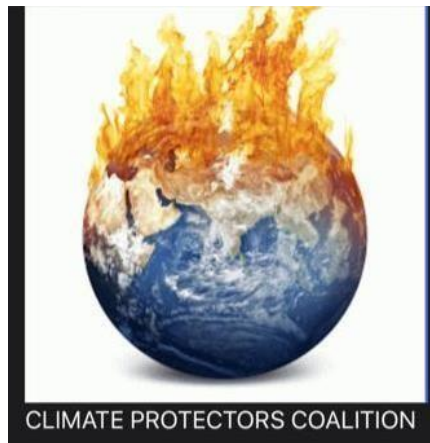
Chair Gabbard, Vice Chair Richards and Members of the Committee:

Thank you for the opportunity to offer testimony on Senate Bill 661. This bill aims to appropriate funds to the Department of Agriculture (Department) to support the establishment and operation of programs focused on the development of hemp- and bamboo-based building materials. The Department supports this measure.

The Department agrees with the language in this bill, emphasizing that the establishment and operation of programs for developing hemp- and bamboo-based building materials should include educational seminars, equipment fairs, and approved seed sales.

Thank you for the opportunity to testify on this measure.





To: The Honorable Representative Mike Gabbard, Chair the Honorable Herbert M. “Tim” Richards, III, Vice Chair, and Members of the Committee on Agriculture and Environmental Protection.

From: Climate Protectors Hawai'i and Hawai'i Reef and Ocean Coalition (by Ted Bohlen)

Re: Hearing **SB661 RELATING TO PLANT-BASED BUILDING MATERIALS**

Hearing: Thursday January 30, 2025, 1:00 p.m. Rm. 224

Aloha Chair Gabbard, Vice Chair Richards, and Agriculture and Environment Committee Members:

The mission of the Climate Protectors Hawai'i is to educate and engage the local community in climate change action, to help Hawai'i show the world the way back to a safe and stable climate.

The Hawai'i Reef and Ocean Coalition (HIROC) is a group of scientists, educators, filmmakers and environmental advocates who have been working since 2017 to protect Hawaii's coral reefs and ocean.

The Climate Protectors Hawai'i and Hawai'i Reef and Ocean Coalition and STRONGLY SUPPORT SB661 and propose it be amended to add development of "biocements."

Hawaii's climate, with a year-round growing season and ample rain in many areas, has several potential advantages for growing materials that can be processed into structural plant-based building materials. **Plant-based building materials could bring green agriculture jobs to Hawaii. These plant-based building materials could also help Hawaii meet its net negative carbon and greenhouse gas goals because they sequester carbon, whereas production of traditional building materials such as timber, steel, and cement emit very large amounts of greenhouse gases.**

The development of plant-based building materials in the State is a matter of statewide concern.

For example, with sufficient water, there are types of clumping bamboo that can grow very rapidly and can be processed into building materials that are stronger, more flexible, and lighter than timber or steel and can be made more fire- and termite-resistant than wood. "Hempcrete" developed from industrial hemp can substitute for building blocks.

We recommend that the bill be amended to also include the development of "biocements," within the Department of Agriculture's program charge. Biocements can substitute for Portland cement, which is a huge emitter of greenhouse gases worldwide. Biocements can be produced from several sources including cyanobacteria, a blue-green algae also known as "pond scum."

This Act appropriates funds to the Department of Agriculture for the establishment and operation of programs relating to the development of hemp- and bamboo-based building materials.

Please pass this bill, with the proposed amendment to add biocements, to create green jobs in Hawaii, while sequestering carbon and other greenhouse gases to help reach the State's climate target.

Mahalo!

Climate Protectors Hawai'i and Hawai'i Reef and Ocean Coalition (by Ted Bohlen)



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January 29, 2025

HEARING BEFORE THE
SENATE COMMITTEE ON AGRICULTURE AND ENVIRONMENT

TESTIMONY ON SB 661
RELATING TO AGRICULTURE

Conference Room 224 & Videoconference
1:00 PM

Aloha Chair Gabbard, Vice-Chair Richards, and Members of the Committee:

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

The Hawai'i Farm Bureau supports SB 661, which appropriates funds to the Department of Agriculture for the establishment and operation of programs relating to the development of hemp- and bamboo-based building materials.

Hemp and bamboo are fast-growing, renewable resources with a lower environmental footprint compared to traditional construction materials like concrete and steel. These materials have the potential to reduce greenhouse gas emissions and waste while supporting Hawaii's sustainability and climate resiliency goals.

Hempcrete, bamboo panels, and other materials derived from these crops are lightweight, durable, and energy-efficient. Using locally sourced building materials can reduce shipping costs and support Hawaii's transition to greener, more affordable housing solutions.

SB 661 is a forward-thinking measure that combines support for local agriculture with sustainability and economic development. By establishing programs for developing hemp—and bamboo-based building materials, we can strengthen Hawaii's agricultural sector, promote innovation, and support the state's agricultural and housing goals.

Thank you for the opportunity to testify on this matter.



Officers

Kaipo Kekona
State President

Anabella Bruch
Vice-President

Maureen Datta
Secretary

Reba Lopez
Treasurer

Aloha Chair Gabbard, Vice Chair Richards, and Members of the Senate Agriculture and Environment Committee,

Chapter Presidents

Clarence Baber
Kohala, Hawai'i

Tony Vera
East Hawai'i

Puna, Hawai'i

Andrea Drayer
Ka'u, Hawai'i

Maureen Datta
Kona, Hawai'i

The Hawaii Farmers Union is a 501(c)(5) agricultural advocacy nonprofit representing a network of over 2,500 family farmers and their supporters across the Hawaiian Islands. **HFUU supports SB661.**

By investing in the establishment and operation of programs focused on these versatile and eco-friendly materials, the bill not only promotes agricultural diversification but also supports the state's commitment to reducing carbon footprints and enhancing environmental stewardship. Hemp and bamboo are rapidly renewable resources with the potential to revolutionize Hawaii's building industry. These materials offer significant advantages, including improved energy efficiency, durability, and resistance to pests and mold, making them ideal for our climate. Furthermore, cultivating these crops can provide new revenue streams for farmers, reduce dependency on imports, and create green jobs within our communities.

Fawn Helekahi-Burns
Hāna, Maui

Mason Scharer
Haleakalā, Maui

Mahalo for the opportunity to testify.

Kaiea Medeiros
Mauna Kahālāwai,
Maui

Kaipo Kekona
Lahaina, Maui

Kaipo Kekona, President HFUU/HFUF

Kilia Avelino-Purdy
Moloka'i

Negus Manna
Lāna'i

India Clark
North Shore, O'ahu

Christian Zuckerman
Wai'anae, O'ahu

Ted Radovich
Waimānalo, O'ahu

Vincent Kimura
Honolulu, O'ahu

Natalie Urminska
Kaua'i



Hawaii Environmental Change Agents' Building Decarbonization and Carbon Sequestration
Task Force

January 27, 2025

Position: Support of SB661

Dear Chair Gabbard, Vice Chair Richards and members of the AEN Committee,

On behalf of the Hawaii Environmental Change Agents' Building Decarbonization and Carbon Sequestration Task Force, I am submitting testimony in **strong support** of SB661. This bill will do the following:

- Lead to a reduction in greenhouse gas emissions associated with the production of buildings by providing resources to develop more sustainable building materials;
- Increase carbon sequestration and thus help the state to meet its 2030 and 2045 emission targets; and
- Provide needed seed money to help a Hawaii start up a based plant-based materials industry that has a competitive advantage because of Hawaii's year-round growing season and ample rain in many areas. This competitive advantage would hopefully allow the industry to stand on its own after the initial investment by the State.

Please pass SB 661 out of your committee.

Mahalo,

Paul Bernstein

Chair of HECA's Building Decarbonization and Carbon Sequestration Task Force

SB-661

Submitted on: 1/26/2025 1:39:34 PM

Testimony for AEN on 1/29/2025 1:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Jacqueline S. Ambrose	Individual	Support	Written Testimony Only

Comments:

YES to - Appropriates funds to the Department of Agriculture for the establishment and operation of programs relating to the development of hemp- and bamboo-based building materials.

SB-661

Submitted on: 1/27/2025 1:40:51 PM

Testimony for AEN on 1/29/2025 1:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Keith Neal	Individual	Support	Written Testimony Only

Comments:

Aloha Chair Gabbard, Vice Chair Richards, and members of the committee,

I support SB661.

Hawaii's isolation and remoteness necessitates we use resources wisely. Constructing residential and commercial buildings from locally grown and indigenous materials makes economic and cultural sense for Hawaii.

Keith Neal

Waimea

SB-661

Submitted on: 1/27/2025 7:39:28 AM

Testimony for AEN on 1/29/2025 1:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Ronald "Ron" Reilly	Individual	Support	Written Testimony Only

Comments:

Dear Chair Gabbard, Vice Chair Richards and members of the AEN Committee,

Strong support for SB 661

It's my understanding that there is a chicken and egg dilemma that is prohibiting the development of a bamboo industry on Hawaii Island.

Without a bamboo processing facility farmers have no incentive to plant or harvest bamboo. And without a steady supply of mature bamboo there is no incentive to invest in a bamboo processing facility.

SB 661 can provide necessary funding to break this stalled situation and begin a virtuous cycle of planting, harvesting, processing and utilization of this amazing cash crop.

The environmental and economic benefits of bamboo to provide locally grown building materials, and to sequester atmospheric carbon dioxide, and provide a revenue stream to local farmers are well known.

I urge your support for SB 661.

Sincerely, Ron Reilly Volcano Village

SB-661

Submitted on: 1/27/2025 10:29:04 PM

Testimony for AEN on 1/29/2025 1:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Sherry Pollack	Individual	Support	Written Testimony Only

Comments:

I support SB661 that would appropriate funds to the Department of Agriculture for the establishment and operation of programs relating to the development of hemp- and bamboo-based building materials. Hemp and bamboo are ideal for eco-friendly construction because they are sustainable, cost-effective, and have low environmental impact.

This measure will help reduce greenhouse gases, which is critically needed in our fight against the climate crisis. Plant-based products such as industrial hempcrete and structural bamboo are excellent alternatives to replace carbon-intensive materials used today such as concrete and steel. We need to target all emission sources, especially cost-effective low hanging fruit like this.

Please pass SB661.

Thank you for the opportunity testify.

SB-661

Submitted on: 1/28/2025 11:53:26 AM

Testimony for AEN on 1/29/2025 1:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Andrea Nandoskar	Individual	Support	Written Testimony Only

Comments:

Support! I am also a Board Member of the American Bamboo Society, Hawaii Chapter.

SB-661

Submitted on: 1/28/2025 12:35:37 PM

Testimony for AEN on 1/29/2025 1:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Zachary Mermel	Individual	Support	Written Testimony Only

Comments:

To: The Honorable Representative Mike Gabbard, Chair; the Honorable Herbert M. “Tim” Richards, III, Vice Chair; and Members of the Committee on Agriculture and Environmental Protection.

From: Zach Mermel

RE: Hearing SB661 (RELATING TO PLANT-BASED BUILDING MATERIALS)

Hearing: Thursday January 30, 2025, 1:00 p.m. Rm. 224

Aloha e Chair Gabbard, Vice Chair Richards, and Agriculture and Environment Committee Members:

I write to enthusiastically support the passage of SB661. As a longstanding aficionado of bamboo (colloquially known as "the plant of a thousand uses"), this remarkable plant (with a tensile strength greater than steel), has proven itself across hundreds of years to be a stellar plant-based building material. More recently, carbon capture studies have validated that giant timber bamboo is exemplary in sequestering carbon in its shafts. These poles can be managed and harvested in a rotational scheme (known as coppicing) across many decades, yielding high quality building materials as well as superb carbon sequestration.

The Hawaiian archipelago, with its year-round growing conditions and ample windward-side rainfall, is particularly well suited to growing giant timber bamboo. Plant-based building materials have the potential to grow a new green agriculture sector (and corresponding jobs) for Hawai‘i.

Further studies by the University of Hawai‘i

This Act appropriates funds to the Department of Agriculture for the establishment and operation of programs relating to the development of hemp- and bamboo-based building materials.

Please do everything in your power to ensure passage of this important bill.

Respectfully submitted,

~Zach Mermel