

JOSH GREEN, M.D.
Governor

SYLVIA LUKE
Lt. Governor



SHARON HURD
Chairperson, Board of Agriculture

DEXTER KISHIDA
Deputy to the Chairperson

State of Hawai'i
DEPARTMENT OF AGRICULTURE
KA 'OIHANA MAHI'AI
1428 South King Street
Honolulu, Hawai'i 96814-2512
Phone: (808) 973-9600 FAX: (808) 973-9613

**TESTIMONY OF SHARON HURD
CHAIRPERSON, BOARD OF AGRICULTURE**

**BEFORE THE SENATE COMMITTEES ON AGRICULTURE AND ENVIRONMENT
AND ENERGY, ECONOMIC DEVELOPMENT AND TOURISM**

**WEDNESDAY, FEBRUARY 14, 2024
1:46 PM
CONFERENCE ROOM 224 AND VIDEOCONFERENCE**

**SENATE BILL 2364
RELATING TO AGRICULTURE**

Chairs Gabbard and DeCoite, Vice Chairs Richards and Wakai, and Members of the Committees:

Thank you for the opportunity to testify on Senate Bill 2364. This bill establishes a Plant-Based Building Materials Working Group (PBBM) to report on how best to grow plants and develop plant-based building materials in Hawaii and provide economic development and green jobs while sequestering greenhouse gases to help achieve the State's climate target. The Department of Agriculture (Department) supports this measure with comments.

Plant-based building materials, grown in Hawaii, would support replacing building materials that are imported. Import replacement reduces the pathways for the introduction of invasive pests that include building materials. The caution with importing plants for plant-based building materials is the need to check with the Department for prior approvals to determine if the plant material is harmful to the state. Including Department Plant Quarantine Staff in the PBBM Working Group and would be important to add or include in the 10-member working group. The measure allows for additional



members with appropriate specialized expertise, for which consideration to include an industrial hemp farmer would be recommended.

The Department requests a position in AGR192 – Administration to serve as a Sustainability Advisor whose position description would include, but not be limited to advising on matters of food security, climate change, greenhouse gas sequestration, and green agriculture jobs. The recommendation would be an SR-24 position, salary of \$71,000 a year. This measure will move Hawaii to consider green alternatives for construction materials and we support this measure so long as it does not impact the budget priorities set forth in the Executive Budget Submittal.

Thank you for the opportunity to testify on this measure.



**TESTIMONY OF
THE DEPARTMENT OF THE ATTORNEY GENERAL
KA 'OIHANA O KA LOIO KUHINA
THIRTY-SECOND LEGISLATURE, 2024**

ON THE FOLLOWING MEASURE:
S.B. NO. 2364, RELATING TO AGRICULTURE.

BEFORE THE:
SENATE COMMITTEES ON AGRICULTURE AND ENVIRONMENT AND ON
ENERGY, ECONOMIC DEVELOPMENT, AND TOURISM

DATE: Wednesday, February 14, 2024 **TIME:** 1:46 p.m.

LOCATION: State Capitol, Room 224 and Videoconference

TESTIFIER(S): Anne E. Lopez, Attorney General, or
Candace J. Park, Deputy Attorney General

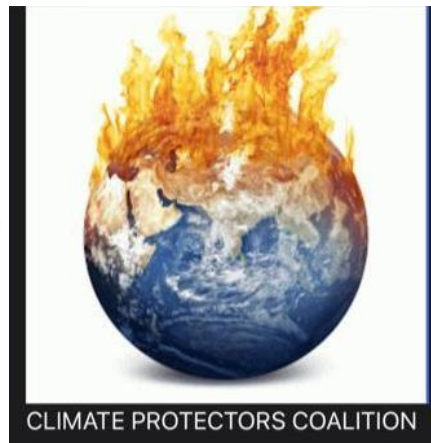
Chairs Gabbard and DeCoite and Members of the Committees:

The Department of the Attorney General provides the following comments.

This bill: (1) establishes a plant-based building materials working group to study how best to grow plants for development of plant-based building materials in Hawai'i and provide green agricultural jobs while sequestering carbon and other greenhouse gases to help achieve the State's climate target; (2) requires the Dean and Director of the University of Hawai'i at Mānoa College of Tropical Agriculture and Human Resources, or designee, to serve as Chairperson of this working group; and (3) requires the Director of the University of Hawai'i at Hilo College of Agriculture, Forestry, and Natural Resource Management, or designee, to serve as a member, along with other designated or invited members.

Article X, section 6, of the Hawai'i Constitution gives the Board of Regents of the University of Hawai'i "exclusive jurisdiction over the internal structure, management, and operation of the university." Section 6 further provides: "This section shall not limit the power of the legislature to enact laws of statewide concern. The legislature shall have the exclusive jurisdiction to identify laws of statewide concern." If the Committee decides to pass this bill, we recommend an amendment that adds a statement identifying this bill as a law of statewide concern.

Thank you for the opportunity to provide these comments.



To: The Honorable Chairs Mike Gabbard and Lynn DeCoite, the Honorable Vice Chairs Tim Richards, III, and Glenn Wakai, and Members of the Committees on Agriculture and Environment and Energy, Economic Development, and Tourism.

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

Re: **Hearing SB2364 RELATING TO AGRICULTURE**

Hearing: Wednesday February 14, 2024, 1:46p.m., CR224

Aloha Chairs Gabbard and DeCoite, Vice Chairs Richards and Wakai, and Members of the Committees on Agriculture and Environment and Energy, Economic Development, and Tourism:

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. HIROC is deeply concerned about climate change as it impacts the marine environment.

The Climate Protectors Hawai'i seek 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. Climate Protectors Hawai'i is interested in options to reduce carbon emissions and to sequester carbon.

The Hawai'i Reef and Ocean Coalition and Climate Protectors Hawai'i STRONGLY SUPPORT SB2364!

Building construction has a huge impact on the climate. Production of building materials such as steel and cement involves some of the largest carbon emissions. Cutting mature trees for buildings involves a very large loss of carbon sequestration. **We need to decarbonize our building construction!**

Plants can provide structural building alternatives that are much less harmful for the climate.

For example, there are types of **clumping bamboo** that can grow very rapidly with sufficient water. They can be processed into wood building materials that are stronger, more flexible, and lighter than timber or steel. They can be treated so they are more fire and termite-resistant than wood. They sequester ten times as much carbon as trees!

"Hempcrete" developed from industrial hemp can substitute for building blocks.

"Biocements" produced from cyanobacteria (blue-green algae or "pond scum") can substitute for Portland cement.

Hawaii's year-round growing season and areas with ample water make it ideal for development of plant-based building materials.

This may be a great opportunity for Hawai'i to lead in decarbonizing buildings while developing plant-based local industries!

Plant-based building materials have great potential to bring "green" jobs to Hawai'i!

This bill would establish a plant-based building materials working group to study how best to grow plants for development of plant-based building materials in Hawai'i and provide green agricultural jobs while sequestering carbon and other greenhouse gases to help achieve the States climate target.

The Hawai'i Reef and Ocean Coalition and Climate Protectors Hawai'i **STRONGLY SUPPORT** this bill! Please pass it!

Mahalo!

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

Citizens' Climate Lobby Hawaii
hi.ccl.lobby@gmail.com
cclhawaii.org



February 12, 2024

SUPPORT FOR SB2364 – Plant-Based Building Materials Working Group

Dear Chairs Gabbard and DeCoite, Vice Chairs Richards and Wakai, and Members of the Committees.

Citizens' Climate Lobby (CCL) Hawaii supports SB2364, which Establishes a Plant-Based Building Materials Working Group to report on how best to grow plants and develop plant-based building materials in Hawaii and provide economic development and green jobs while sequestering greenhouse gases to help achieve the State's climate target.

CCL Hawaii comprises over 1000 members across Hawaii. We advocate for effective, efficient, and fair climate legislation. We support SB2364.

Throughout Hawaii there are thousands of acres of land previously in cultivation of sugar and pineapple, much of it abandoned to wildfire prone invasive plants. These lands could support cultivation of plant-based building materials and fibers while growing green agricultural jobs. The compelling opportunity is to grow local crops that need not be imported at additional expense and creating jobs. Local crops such as clumping bamboo, hemp fiber, and blue-green algae would both sequester carbon and water, while holding Hawaii's precious soil. These benefits are worthy of study by a Plant-Based Building Materials Working Group.

Please support SB2364.

Thank you for this opportunity to testify.

Respectfully,
CCL Hawai'i

Citizens' Climate Lobby (CCL) is a nonprofit, nonpartisan, grassroots advocacy organization focused on national policies to address climate change solutions. CCL Hawaii's 1000+ members are part of a 180,000+ global organization. For more information, visit citizensclimatelobby.org.

Building Decarbonization Task Force Hawai'i Environmental Change Agents

HawaiiChangeAgents@gmail.com
hawaiichangeagents.org

February 12, 2024

SUPPORT FOR SB2364 – Plant-Based Building Materials Working Group

Aloha Chairs Gabbard & DeCoite, Vice Chairs Richards & Wakai, and Members of the Committees:

The Building Decarbonization Task Force of the Hawai'i Environmental Change Agents supports SB2364, which “Establishes a Plant-Based Building Materials Working Group to report on how best to grow plants and develop plant-based building materials in Hawai'i and provide economic development and green jobs while sequestering greenhouse gases to help achieve the State's climate target.”

Hawai'i Environmental Change Agents (HECA) consists of ten task forces; one of which is the Building Decarbonization Task Force. This task force supports **SB2364** as it is an easy and a productive first step for the State to take to do the following:

- Diversify its economy;
- Lower construction costs; and
- Reduce its greenhouse gas emissions.

By taking advantage of its year-round growing season and ample rain in many areas, Hawai'i could experience many financial benefits by developing a local plant-based building materials such as bamboo and hempcrete. Doing so would provide jobs for many residents and lower home ownership costs while also helping Hawai'i meets its greenhouse gas emission reduction goals. **SB2364** would establish a working group to study these opportunities.

Thank you for this opportunity to testify.

Please support SB2364.

Respectfully,
Building Decarbonization Task Force of HECA

SB-2364

Submitted on: 2/13/2024 10:07:08 AM

Testimony for AEN on 2/14/2024 1:46:00 PM

Submitted By	Organization	Testifier Position	Testify
Brian Miyamoto	Testifying for Hawaii Farm Bureau	Support	Written Testimony Only

Comments:

Support

SB-2364

Submitted on: 2/10/2024 10:31:30 AM

Testimony for AEN on 2/14/2024 1:46:00 PM

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

Comments:

Aloha,

RELATING TO AGRICULTURE.

Establishes a Plant-Based Building Materials Working Group to report on how best to grow plants and develop plant-based building materials in Hawaii and provide economic development and green jobs while sequestering greenhouse gases to help achieve the State's climate target.

SB-2364

Submitted on: 2/12/2024 8:42:02 AM

Testimony for AEN on 2/14/2024 1:46:00 PM

Submitted By	Organization	Testifier Position	Testify
Virginia Tincher	Individual	Support	Written Testimony Only

Comments:

Aloha Chair Gabbard and Vice Chair Richards,

I am testifying in support with comments for SB2364 - Plant-Based Building Materials Working Group; Report

This effort works best to increase Hawaii’s independence and for carbon sequestration if the goal is to make the lifecycle local to Hawaii - growing, processing and using plant-based materials. I suggest adding this as a specific goal to the bill, section 1

“The purpose of this Act is to form a working group to report on how best to grow plants, develop plant-based building materials **and sell the building materials** in Hawaii and provide green jobs, while sequestering carbon and other greenhouse gases to help reach the State's climate target.”

Mahalo for this opportunity to testify.

Virginia Tincher

Honolulu

SENATE COMMITTEE ON AGRICULTURE AND ENVIRONMENT
SENATE COMMITTEE ON ENERGY, ECONOMIC DEVELOPMENT, AND TOURISM
Hearing on Feb. 14, 2024 at 1:46 pm

SUPPORTING SB 2364

My name is John Kawamoto, and I support SB 2364.

Climate scientists say that humanity must make a rapid transition to a clean, renewable energy economy in order to avoid a global climate catastrophe. We in Hawaii must do our part.

The buildings and construction sector accounts for 37% of the greenhouse gas emissions of the global economy. Building materials contribute significantly because of the emissions resulting from the production of materials such as cement, steel, and aluminum.

The strategy to decarbonize buildings includes shifting to regenerative building materials, and this bill is consistent with that strategy. The use of plant-based building materials to replace materials currently used in urban buildings is in its infancy. This bill calls for a study to determine how best to grow plants for the development of plant-based building materials in Hawaii.

SB-2364

Submitted on: 2/12/2024 10:35:29 PM

Testimony for AEN on 2/14/2024 1:46:00 PM

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

Comments:

Dear Chair Lynn DeCoite, and members of the Committee On Energy, Economic Development, and Tourism and Chair Mike Gabbard and members of the, Committee On Agriculture And Environment

In strong support of SB2364.

Thank your for hearing SB2364 which will establishes a Plant-Based Building Materials Working Group to report on how best to grow plants and develop plant-based building materials in Hawaii.

Throughout Hawaii there are thousands of acres of land previously in cultivation of sugar and pineapple. These lands could support cultivation of plant-based building materials and fibers while growing green agricultural jobs.

Based on actual experience in the Philippines and Florida, it has been estimated that if just one fourth of Hawaii's land previously devoted to sugar and pineapple were now to be put to the cultivation of clumping, non-invasive bamboo that fully 90% of Hawaii's annual carbon emissions would be naturally sequestered by this amazing plant. And harvesting does not kill bamboo – it begins regrowth immediately after the style of lawn grass.

Please refer to <https://rizomebamboo.com/>

I respectfully urge your support of SB2364.

Sincerely, Ron Reilly
Volcano Village, Hawaii

SB-2364

Submitted on: 2/12/2024 1:04:40 PM

Testimony for AEN on 2/14/2024 1:46:00 PM

Submitted By	Organization	Testifier Position	Testify
Helen Cox	Individual	Support	Written Testimony Only

Comments:

Aloha Kakou,

I strongly support SB2364 and urge you to pass it out of your committee. Creating this working group will move the state towards resiliency as well reducing our carbon footprint. Using local building materials, some, like bamboo, which has already been proven effective, will cut the cost of construction due to the savings in shipping costs. In addition, appropriate local materials will reduce the carbon footprint of construction. Finally, local building materials will make the state more self-reliant in the case of interruptions in shipping or supply. Please pass SB2364. Mahalo!

Helen Cox

SB-2364

Submitted on: 2/13/2024 5:21:28 AM

Testimony for AEN on 2/14/2024 1:46:00 PM

Submitted By	Organization	Testifier Position	Testify
Noel Morin	Individual	Support	Written Testimony Only

Comments:

Aloha Chairs Gabbard and DeCoite, Vice Chairs Richards and Wakai, and Members of the Committees,

I support SB2364, which will allow us to determine how we might leverage our natural resources to generate locally produced building materials. This has the potential to build up our agriculture industry, reduce our dependence on imported materials, improve our local economies, and contribute to climate action. Bamboo and hemp are examples of materials that can be grown sustainably across our state and contribute to essential building materials.

Thank you for this opportunity to testify.

Noel Morin

Climate, Sustainability, and Resilience Advocate

Hilo, Hawaii

SB-2364

Submitted on: 2/13/2024 7:50:09 AM

Testimony for AEN on 2/14/2024 1:46:00 PM

Submitted By	Organization	Testifier Position	Testify
Stephanie Skow	Individual	Support	Written Testimony Only

Comments:

Throughout Hawaii there are thousands of acres of land previously used for cultivation of sugar and pineapple. These lands could support cultivation of plant-based building materials and fibers while growing green agricultural jobs. The opportunity to grow local crops that need not be imported at additional expense is great. Local crops, such as clumping bamboo, hemp fiber, and blue-green algae would sequester carbon and water, while productively holding Hawaii's precious soil.

Thank you and Happy Valentine's Day! :)

SB-2364

Submitted on: 2/13/2024 8:59:49 AM

Testimony for AEN on 2/14/2024 1:46:00 PM

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

Comments:

Aloha Chairs Gabbard and DeCoite, Vice Chairs Richards and Wakai, and Members of the Committees on Agriculture and Environment and Energy, Economic Development, and Tourism:

STRONGLY SUPPORT SB2364

Reuse and remediation of land previously in cultivation of sugar and pineapple cultivation to grow plant-based building materials and fibers while **growing green agricultural jobs** is a positive model on multiple levels. The opportunity to grow local crops that need not be imported at additional expense is great. In addition, crops such as clumping bamboo, hemp fiber, and blue-green algae would **sequester carbon and water**, while productively holding Hawaii's precious soil.

Creating a Plant-Based Building Materials Working Group is an important first step forward to further study and develop a plan to harness these crops as local climate solutions that will reap **positive benefits for the people of Hawaii, the aina and the wai.**

Mahalo for your consideration!

SB-2364

Submitted on: 2/13/2024 10:53:22 AM

Testimony for AEN on 2/14/2024 1:46:00 PM

Submitted By	Organization	Testifier Position	Testify
Christina Laney Mitre	Individual	Support	Written Testimony Only

Comments:

Throughout Hawaii there are thousands of acres of land previously in cultivation of sugar and pineapple. These lands could support cultivation of plant-based building materials and fibers while growing green agricultural jobs. The opportunity to grow local crops that need not be imported at additional expense is great. Local crops, such as clumping bamboo, hemp fiber, and blue-green algae would sequester carbon and water, while productively holding Hawaii's precious soil.

These are activities worthy of study by a Plant-Based Building Materials Working Group.



Hawai'i Forest Industry Association

7192 Kalaniana'ole Hwy
Suite A-143A, #249
Honolulu, HI 96825
Phone: 808/933/9411
Email: hfia@hawaiiiforest.org

Date: 02/13/24

TO: AEN Chair Gabbard and Vice Chair Richards, EET Chair DeCoite and Vice Chair Wakai, AEN Committee Members DeCoite, Rhoads, Awa and EET Committee Members Fukunaga, Kim, Fevella

FROM: the Hawai'i Forest Industry Association (HFIA)

SUBJECT: Testimony in Support for SB2634 Relating to Agriculture

Dear Chair Gates and Committee Members,

The Directors and members of the Hawai'i Forest Industry Association (HFIA), are supportive of SB2364 and the creation of a plant based building materials working group, however, we strongly encourage the inclusion of timber/wood products.

On page two, lines 1 and 2 of the measure, timber seems to be omitted from the portfolio of possible plant-based materials due to the emission of "large amounts of greenhouse gasses", however not only does timber production does not always have net positive emissions, and it can also offer a number of benefits.

Sustainable Forestry involves balancing the needs of the forest, ecosystem, culture, and our community by supporting a thriving forest products industry that sustainably uses the forest resources and provides significant numbers of family wage jobs. Sustainable forestry includes managing existing forests and outplanting enough trees to offset carbon emitted during the harvesting and transport process, via carbon sequestration. Additionally, harvesting and utilizing trees that are near the end of their life cycle prevents the greenhouse gasses those trees were sequestering from entering our atmosphere during the process of decomposition. When we harvest trees and turn the wood into finished wood products, those products continue to store the greenhouse gasses for years to come.

Furthermore, the inclusion of timber in this exploration of plant-based building materials would open up the opportunity for Hawaii to experience the many additional benefits of sustainable forestry: increased economic development opportunities; job creation; reduced reliance on imported materials; improved watershed health; cleaner drinking water; purified air to breathe; better access to our forests for Native Hawaiian cultural practices; and increased opportunities for recreation, such as hiking & bird watching

The HFIA recognizes and supports the value in exploring and innovating with plant based building materials but encourages you to support SB2364 *with* amendments to include timber.

Mahalo for your time and consideration,

Guy Cellier, President
Hawai'i Forest Industry Association

HFIA's mission is to promote healthy and productive forests and a sustainable forest industry through management, education, planning, information exchange, and advocacy. HFIA has over 130 members including woodworkers, landowners, sawyers, foundations, foresters, growers, educators, environmentalists, architects, millers, ranchers, and others interested in HFIA's mission and goals.

HFIA Board of Directors

Officers: President Guy Cellier, Vice President Irene Sprecher, Secretary Taylor Coons, Treasurer Wade Lee
Directors: Jeremy Campbell, Aaron Hammer, Nicholas Koch, Michael Sowards, Aileen Yeh



**STATE OF HAWAII
HAWAII CLIMATE CHANGE MITIGATION & ADAPTATION
COMMISSION
POST OFFICE BOX 621
HONOLULU, HAWAII 96809**

Co-Chairs:
Chair, DLNR
Director, OPSD

Commissioners:
Chair, Senate AEN
Chair, Senate WTL
Chair, House EEP
Chair, House WAL
Chairperson, HTA
Chairperson, DOA
CEO, OHA
Chairperson, DHHL
Director, DBEDT
Director, DOT
Director, DOH
Chairperson, DOE
Director, C+C DPP
Director, Maui DP
Director, Hawaii DP
Director, Kauai DP
The Adjutant General
Manager, CZM

**Testimony of
Leah Laramee
Coordinator, Hawaii Climate Change Mitigation and Adaptation Commission**

**Before the Senate Committees on
AGRICULTURE AND ENVIRONMENT
AND
ENERGY, ECONOMIC DEVELOPMENT, AND TOURISM**

**Wednesday, February 14, 2024
1:46 PM
State Capitol, Via Videoconference, Conference Room 224**

**In consideration of
SENATE BILL 2364
RELATING TO AGRICULTURE**

Senate Bill 2364 establishes a Plant-Based Building Materials Working Group to report on how best to grow plants and develop plant-based building materials in Hawaii and provide economic development and green jobs while sequestering greenhouse gases to help achieve the State's climate target. **The Climate Change Mitigation and Adaptation Commission (Commission) supports this bill.**

The Hawaii Climate Change Mitigation and Adaptation Commission consists of a multi-jurisdictional effort between 20 different departments, committees, and counties. According to the Intergovernmental Panel on Climate Change's 2022 report, nature-based or "green" infrastructure and ecosystem services provide significant benefits when installed in urban and infrastructure systems. Creating a strategy to increase the number of plant based building materials for green infrastructure would support the State's ability to both mitigate and adapt to climate change.

Mahalo for the opportunity to testify in support of this measure.