

## **L. Findings & Recommendations**

### **Introduction to Each Section is the Same:**

#### **1. Current Status and Required Support:**

There is currently no existing Industrial Hemp industry in Hawai'i. Pacific Biodiesel is prepared to grow and has the infrastructure to process 1000s of acres of industrial hemp for the purpose of making renewable biodiesel. Agripelago is in start-up mode for developing an anaerobic digester to convert hemp biomass into RNG renewable natural gas. Ohana Nui Ventures has planted 4 acres of seed trials to help move things forward. The University of Hawai'i is preparing for additional cultivation trials. Hemp Homes Hawai'i is importing hemp hurd for the purpose of developing a market for homes built from hempcrete. We are distinguishing between Industrial Hemp and Cannabinoid Hemp and are recommending that a new Cannabinoid Task Force be set up to advance the Cannabinoid industry in the State.

#### **Our recommendations are based on our interpretation of:**

- extensive interviews, task force meetings, emails and in person meetings with the members of the task force
- visits to operating hemp farms
- visits to operating hemp processors in both Canada and The Netherlands
- visits and zoom conversations with hemp processing equipment manufacturers
- internet research
- communicating with manufacturers for quotes
- our background in mechanized agriculture and food security issues

#### **2. The Purpose of this report:**

Is to make recommendations based on the potential we have observed from other parts of the world that are benefiting from a hemp industry. We are attempting to tell the State of Hawai'i that they should support this industry not based on what is currently in Hawai'i but on the potential given the assets we have and our tremendous need for local industry and food security. We recognize that this is a heavy lift but one that is essential for the future of our State. This is an industry that can supply jobs and food while being paid by carbon credits to reduce our imports.

### **3. For more details:**

These findings and recommendations were written in a condensed format to make it easy for the Hemp Task Force to read and vote upon. More details can be found in the full report. The details in the report follow the outline we were given.

## **Findings General Fiber Sector (Straw):**

**1. Current status of the General Fiber sector:** There are currently no general fibers being produced in Hawai'i other than a 4 acre test plot being grown by Ohana Nui Ventures on Friends of Waimanalo land on Oahu. Our recommendations are meant to kick start this industry.

### **2. To develop this industry, State support is necessary for:**

- University of Hawai'i's selection of the best hemp varieties and cultivation practices.
- Subsidies to encourage farmers to grow hemp.
- Development of a primary processing plant.
- Use of hemp for biofuels, including both biodiesel and RNG.
- Development of hemp-based construction materials.

### **3. Primary Processing Plant:**

The key to starting an Industrial Hemp industry is establishing a primary hemp processing plant, known as a "Decorticator." Without a buyer, farmers will not risk growing hemp. Processing hemp straw into hurd and bast fiber is essential for producing construction materials in Hawai'i.

### **4. Processing Equipment Placement:**

The island chosen for the first processing plant must have at least 3000 acres of land with access to water available for lease.

### **5. Infrastructure Assessment:**

To assess infrastructure needs for an Industrial Hemp industry in Hawai'i, we attended Hawai'i Task Force meetings and conducted interviews with:

- Task Force members.
- Local farmers and prospective hemp growers.
- Experts in hemp construction and biofuel production.
- Potential buyers of hemp hurd and bast fiber.
- Hemp entrepreneurs and non-profits conducting hemp research.

## 6. Visits and Research:

Visits and interviews were conducted with:

- [Canadian Greenfield Technologies](#) and [Hemp Alta](#) in Calgary, BC.
- [Dunn Agro](#), a fully integrated company in The Netherlands.
- [Formation Ag.](#) a manufacturer of decortication equipment.
- The [Hemp Museum](#) in Amsterdam.
- Various international experts in hemp equipment and product development.
- Andrew Oscar from [United Fiber](#) and internet research.
- [Kauai Hemp Company](#)
- Recently completed Kula, Maui hempcrete home

## 7. Products from Industrial Hemp:

- Industrial Hemp farmers have four primary products to sell: seeds, mature straw (once seeds are removed), green straw (before seed setting), and carbon credits.
- The primary hemp straw processor can sell fiber, microfiber, hurd, and micro hurd. The proportions of these products depend on the hemp variety and harvest age.

## 8. Local Initiatives:

- [Ohana Hui Ventures, Inc.](#) (OHV), in partnership with the non-profit [Friends of Waimanalo](#) (FOW), has a 430-acre farm in Wahiawa on Oahu with 40% of the acreage licensed to grow hemp.
- Initiatives include partnerships for seed genetics, soil remediation, R&D on

innovative hemp processors, and extensive education and outreach programs.

## Recommendations General Fiber Sector:

### 1. Processing Plant Development:

- Recommend a public competition for grants, loans, loan guarantees, tax incentives, and expertise to support building and operating a 1.5-ton-per-hour decorticator plant for processing hemp straw into hurd and bast fiber.
- Consider the first plant using the [Hemp Train](#), with the [Formation Ag Fiber Track 660](#) as an alternative.
- Avoid early-stage hammer mill European-style equipment.
- Estimated cost for the initial 1.5-ton/hour processing plant:

Item	Cost
Equipment	\$3,300,000
	0
Shipping	\$40,000
Industrial setup (10,000 sq ft, partially enclosed)	\$2,500,000
	0
Small equipment for factory and office	\$250,000
Indirect and management costs	\$500,000
<b>Total</b>	<b>\$6,590,000</b>

- Consider structuring the grant/loan for state ownership, with a potential transfer to the factory's workforce over time.

### 2. Subsidies for Growing Hemp:

- State subsidies for selling hemp straw at \$300/ton and seeds at \$0.40/lb for at least five years to encourage hemp and food crops rotation.
- Support for farmers needing equipment purchase assistance.

### 3. Hemp is Grown in a 3 Crop Rotation:

To increase Hawaiian food security, we recommend that corn and soybeans be

subsidized crops as well as a new poultry industry all of which will ultimately support the hemp industry.

#### **4. University of Hawai'i Support:**

Grant for specialty equipment for hemp research, including:

- 1st Products No-Till 96-inch Grain Drill with corn plates.
- Roller crimper.
- [Formation Ag FiberTrack 118](#) Micro mobile decorticator.
- Used hay baler, rake, and mower.

#### **5. Support for Ohana Hui Ventures and Friends of Waimanalo**

Grants for equipment similar to the University of Hawai'i, plus a hempcrete mixer, to continue collaboration with Kanda Hemp on seed variety testing, demonstration plots, hempcrete building, and public education.

#### **6. Seed Variety Research:**

- State-supported University of Hawai'i and Ohana Hui Venture research on hemp seed varieties tailored to Hawai'i's climate.
- Support for Jari Sugano and Dr. Li's USDA application for hemp research at the Waimanalo Research Station, including a processing area and lab.

### **Findings Building Sector:**

**1. Status in the Building Sector:** Hemp Home Hawai'i is importing hemp hurd for the purpose of developing a market for hempcrete homes by building demonstration homes on Maui. Ohana Nui Ventures and Friends of Waimanalo have been holding classes and demonstrating to their students that homes can be built with this locally grown material. Kauai Hemp Solutions is a startup looking to develop a hemp block production facility on the island of Kauai as well as a hemp block construction company.

#### **2. Uncertainty Surrounding Hempcrete:**

Commercial contractor Joseph Smith of [Hemp Home Hawai'i](#), River Young of [Hemp](#)

[Solutions Kauai](#), and Scotty Wong of Ohana Hui Ventures note uncertainty around hempcrete construction in Hawai'i. Although some hempcrete homes have been built, investors and banks are cautious. Hemp Solutions Kauai is looking to partner with Ohana Hui Ventures to grow 1,000 acres of industrial hemp on Kauai for construction.

### **3. Building Code Integration:**

David Sellers, Principal Architect at [Hawai'i Off-Grid Architecture and Engineering](#) highlighted that hempcrete has been added to the 2024 International Residential Code<sup>1</sup> (IRC), but it has not yet been adopted by Hawai'i. State adoption would streamline local code updates, providing stability to the hempcrete industry and encouraging investment. Current emergency housing proclamations also limit actions by the state building code council. Adoption at the state level would facilitate county-level adoption and provide clarity and stability for hempcrete investors.

### **4. State Support for Hemp Products:**

To develop a hemp industry, the State must encourage demand for hemp-based products. The primary large-scale uses of hemp in Hawai'i will be for biofuels and construction materials.

### **5. Housing Shortage Solution:**

Hemp-based products could significantly replace building materials needed for Hawai'i's housing shortage. Hemp straw processed into construction materials offers zero waste. Given the urgent housing needs, experts advocate for developing hemp-based building products, infrastructure, plans, and demo houses. The development of a statewide industrial hemp industry would significantly benefit Hawai'ian housing needs.

### **6. Secondary Construction Products:**

It is important to support the early development of building materials made from hurd and bast fiber, such as:

- Pre-made hemp building blocks

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<sup>1</sup> 2024 International Residential Code: <https://codes.iccsafe.org/content/IRC2024P1/appendix-bl-hemp-lime-hempcrete-construction>

- A prefab hempcrete factory
- A hybrid hemp/concrete block factory using existing infrastructure
- Research by companies like [HPM Building Supply](#) into locally made hemp products such as:
  - § Hemp fiberboards
  - § Hemp insulation
  - § Hemp sub-flooring
  - § Hemp roofing materials
  - § Hemp wall boards
  - § Hemp plastics
  - § Hemp flooring and trim boards
  - § Wood replacement materials

## **Recommendations Building Sector:**

For a thriving hemp industry, primary raw materials must be in demand even before they are produced. This requires state investment in secondary industries to transform primary hemp products into value-added items. We recommend the following steps:

- 1. Convene a Task Force:** Assemble architects, engineers, and builders to:
  - Review and update Hawai'i's building codes for hempcrete structures.
  - Design three sets of [hempcrete house plans](#) and two accessory buildings for pre-permitted state-wide construction.
  - Design one 500 to 1000 sq ft agricultural building using hempcrete and locally grown, borate-treated structural bamboo from [Whispering Winds Bamboo](#) of Maui.
  - Work with Hawaiian company, [Bamboo Living](#) to permit some hybrid ICC permitted structural bamboo with hempcrete panels for shed construction.
  - Develop a system of interchangeable panels for prefab housing using locally produced hempcrete.
  
- 2. Prefab Panel Demo Building:**
  - Issue an RFP for a company to develop a prefab hempcrete building factory in collaboration with the Hemp Task Force and local truss companies.

- Turn the prefab panel designs into a demo building.
- Develop a comprehensive plan for a hemp prefab panel factory, detailing the support needed from the State.

### **3. Hemp Block Company:**

- Support a hemp block company on the same island as the hemp processing plant.
- Issue an RFP to develop interlocking hemp blocks with an internal structural system for rapid construction.
- Partner with existing technology to construct a demonstration building for state approval.

### **4. Hemp Cinder Block Company:**

- Support an existing concrete block company to license technology for structural hemp/concrete hybrid blocks from the [University of Nebraska](#) and Global Fibers.
- These blocks, 50% lighter than standard CMUs, would replace some cement and aggregates with hemp.
- Prepare a company for production through an RFP process as soon as locally produced hemp is ready.

### **5. Support Local Construction Material Manufacturers:**

Encourage local manufacturers like HPM Building Supply to develop techniques for producing the following from locally grown hemp:

- Hemp fiberboards
- Hemp insulation
- Hemp sub-flooring
- Hemp roofing materials
- Hemp wall boards
- Hemp plastics
- Hemp flooring and trim boards
- Wood replacement materials

All these products are currently found in the marketplace and existing technology could be



licensed by a Hawaiian production facility for local sale.

#### **6. Support Equipment Acquisition:**

Ensure builders have access to hempcrete mixers and hempcrete spray equipment by placing these items with rental companies on each major island, with two on the Big Island.

By implementing these recommendations, Hawai'i can establish a sustainable hemp industry to address housing needs and support an agricultural circular economy.

### **Findings Biofuel Sector:**

- 1. Current status of the biofuels sector:** The State of Hawai'i is very fortunate to be the home of Pacific Biodiesel with the processing capacity to process 3 million gallons of biodiesel from hemp as soon as the hemp seeds are harvested. In addition, Archipelago is a start-up working to bring anaerobic digestion technology to the state for the purpose of producing RNG (renewable natural gas) from hemp. Both of these companies deserve State support.
- 2.** Both biodiesel and renewable natural gas (RNG) can be produced from locally grown hemp using distinct processes. Biodiesel, derived from hemp seeds, has been produced for over 100 years and was initially used to power the first [Ford cars](#). This process is commercially viable with existing infrastructure in Hawai'i, primarily due to [Pacific Biodiesel's](#) efforts. Hemp biodiesel production can yield approximately 207 gallons per hectare (83 gallons per acre).
- 3.** RNG, on the other hand, is produced from the straw of the hemp plant through anaerobic digestion of cellulosic biomass. This commercially mature technology is being developed for use in Hawai'i by [Agripelago](#), which aims to leverage industrial hemp for both food products and biomass biofuel production. Research from the Estonian Environmental Investment Center has demonstrated high yields from hemp biomasses.<sup>2</sup>

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<sup>2</sup> An Agro-economic Analysis of Briquette Production From Fibre Hemp and Energy Sunflower: <https://www.sciencedirect.com/science/article/abs/pii/S0926669013004834>

4. Agripelago also highlights that anaerobic digestion can utilize green leaves lost during current harvesting techniques. Collecting these leaves, even with THC content below 0.3%, raises suspicions that hinder progress in biofuels and alternative animal protein production. Utilizing the green stalk of hemp to produce biofuels offers a solution for farmers with crops exceeding the 0.3% THC threshold, ensuring they do not enter the consumables market.
5. Pacific Biodiesel currently produces over 6,000,000 gallons of biodiesel annually for the local Hawaiian market. They began nearly 30 years ago by making biodiesel from recycled cooking oil on Maui, later expanding to using grease trap waste and animal renderings. More recently, they have demonstrated Hawai'i's potential for a locally grown circular agricultural economy by growing sunflowers and safflowers, predicting that 80% of revenues generated would stay in the state while reducing dependence on imported fossil fuels. Their efforts with hemp, however, were stymied by political and social stigma and a lack of funding from local banks, forcing founders Bob and Kelly King to create a business entity in their personal names to proceed with experimentation.
6. If these successful leaders in climate change technology and environmental concerns faced such barriers, one can imagine the pressures on Hawaiian cannabinoid hemp growers. This challenge underscores the banking and commercial insurance difficulties experienced and reported by task force members and highlights the need for improved banking and commercial insurance support.
7. With the acceptance of Industrial Hemp in Hawai'i, Pacific Biodiesel's large processing plant on the Big Island is poised to produce hemp seed culinary oils and biodiesel, leveraging existing infrastructure used for processing macadamia nut waste and sunflower and safflower oil seeds. This facility, employing over 100 people, is a critical asset for the future of hemp cultivation on the islands.

## **Recommendations Biofuel Sector:**

1. **Support Business Integration**

The State should mitigate the business and banking stigma associated with hemp processing to support biodiesel and RNG production.

## **2. Financial Incentives**

The State should foster RNG and biodiesel production through grants, loans, tax incentives, and other financial mechanisms.

## **3. Subsidies**

The State should subsidize hemp seed production at \$0.40 per pound of seed and hemp straw at \$300 per ton produced to stimulate production.

- 4.** Farmers needing support for upfront equipment purchases should have the option to take an advance on their subsidies.

By addressing these areas, Hawai'i can unlock the full potential of its hemp biofuels industry, contributing to economic growth, environmental sustainability, and energy independence.

## **Findings Grain/Food Sector:**

Hemp is increasingly recognized as a valuable food source, offering a range of nutritional and economic benefits.<sup>3</sup> This document outlines the key reasons why hemp is an excellent addition to our food systems, particularly highlighting its high protein content, health benefits, and potential as a value-added food product.

- 1. Current status of the Grain/Food sector:** Hawai'i excels at health food consumption and cottage industries. Currently there are no hemp seeds being grown in Hawai'i but once organic seeds can be produced, the 'Made in Hawai'i' food and beauty products markets will be prepared to capitalize on this new resource.
- 2. Nutritional Benefits of Hemp**
  - **High Protein Content** Hemp seeds are an exceptional source of protein. Unlike many other plant-based proteins, hemp protein contains all nine essential amino

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<sup>3</sup> Medical News Today: <https://www.medicalnewstoday.com/articles/323037#nutrition>

acids, making it a complete protein source. This makes it an excellent option for vegetarians, vegans, and those with dietary restrictions that limit traditional protein sources such as meat or dairy.<sup>4</sup> According to Agripelago Industries one acre of cultivated hemp can produce 2000 gals of Hemp Mylk.<sup>5</sup>

- **Omega-3 and Omega-6 Fatty Acids** Hemp seeds are rich in Omega-3 and Omega-6 fatty acids, which are essential for maintaining heart health, reducing inflammation, and supporting overall well-being. These fats are also crucial for brain function and development.

### 3. Health Benefits of Hemp

- **Digestive Health** Hemp seeds are high in fiber, which aids in digestion and helps maintain a healthy digestive tract. This can help prevent common digestive issues such as constipation and bloating.
- **Allergy-Friendly** As the consumption of hemp-based protein increases, it provides a viable alternative for individuals with allergies to milk, wheat, and other common allergens. Hemp protein is hypoallergenic and can be safely consumed by most people with food sensitivities.
- **Skin Health** Hemp oil, derived from hemp seeds, is beneficial for skin health. It is rich in essential fatty acids and vitamins that nourish and hydrate the skin, making it a popular ingredient in body products.

### 4. Economic and Market Potential

- **Value-Added Food Products** Seed has the potential for high value, often +50% of the value chain derivable from a dual use hemp crop.<sup>6</sup> Hemp is most beneficial when utilized in value-added food products. Products such as hemp mylk, hemp flour, and hemp protein powder not only provide nutritional benefits but also offer higher market value compared to raw hemp seeds. These products require market development to fully realize their potential and achieve revenues beyond commodity seed pricing. With commodity seed pricing, there is still significant value, but larger scale production would be needed to compete with other North

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<sup>4</sup> <https://j cannabisresearch.biomedcentral.com/articles/10.1186/s42238-022-00156-7>

<sup>5</sup> <https://www.agripelago.com/home/hemp-based-foods>

<sup>6</sup> Grant Overton, CEO of Agripelago

American producers.

- **Local Food Security** Processing hemp seeds for human consumption can significantly contribute to local food security. By producing hemp-based products locally, we can reduce reliance on imported foods and strengthen our local food systems.
- **Made in Hawai'i Label** Locally produced hemp products can benefit from the "Made in Hawai'i" label, which is expected to enhance their appeal in the marketplace. This label can help differentiate Hawai'i-grown hemp products from those produced elsewhere, adding value, and boosting local economies.

## **Recommendations Grain/Food Sector:**

### **Eliminate Regulatory Barriers**

The state should eliminate any unnecessary laws limiting the use of hemp seeds for human or animal consumption. <sup>7</sup>This will facilitate the development and commercialization of hemp-based food products.

1. **Support for Product Development** The state should support requests for proposals (RFPs) from companies interested in developing and marketing hemp seed products. This can help stimulate innovation and growth in the hemp food industry.
2. **Dual-Use Potential** Hemp seeds have the potential for high value, especially when used for both food and biofuel production. The waste products from biofuel production can be repurposed as animal feed once legal restrictions are lifted.

By leveraging the nutritional benefits and market potential of hemp, we can create a sustainable and profitable food source that supports both human and animal health while boosting local economies.

## **Findings Cannabinoid Sector:**

1. **Current Status of the Cannabinoid Sector:** There were a total of 101 active USDA

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<sup>7</sup> University of Oregon White Paper: Identification of Research Priorities For the use of hemp By Products as Feed Ingredients for Livestock and Animals:  
[https://agsci.oregonstate.edu/sites/agscid7/files/hemp/2023-hemp\\_feed\\_workshop\\_white\\_paper.pdf](https://agsci.oregonstate.edu/sites/agscid7/files/hemp/2023-hemp_feed_workshop_white_paper.pdf)

licensed hemp farmers in 2020. In 2024 there are now only 58 active USDA licensed hemp farmers, 39 expired, and 4 surrendered (see attached addendum). In 4 years the number of Cannabinoid Hemp farmers has fallen by almost half. Only 4 of those USDA licensed hemp farmers have the HDOH hemp processing license. Of those 4 HDOH licenses, 3 are on the Hemp Task Force. Based on that math, it would appear that some hemp businesses are processing their hemp illegally and that a majority of the cannabinoid sales in Hawai'i are from imported manufactured hemp products. While a significant amount of cannabinoid products are being imported to Hawai'i, there are some small farms that are growing and processing hemp. The 2024 USDA National Hemp Report states that the acreage is so small that they do not even have an accurate number of acres that are being grown in the state, which may also be due to a lack of reporting on the part of the hemp farmers or it may be that there really isn't much hemp being grown in the state.<sup>8</sup> In 2021 the USDA Farm report said there were 17 acres of hemp grown, but there is no data from 2022 onward, so it is very hard to get any idea of the size of the local cannabinoid market.

Based on interviews and surveys with the Task Force, most of them are not farming yet or have chosen to pause farming due to the uncertainty in rules and regulations surrounding the Cannabinoid Hemp Industry. The current local Cannabinoid Hemp industry is primarily made up of small-scale boutique farmers and there is a lack of data to truly understand the current local Cannabinoid Hemp industry.

2. Hemp grown for cannabinoids is a high value crop for local farmers in Hawai'i. Most of the farmers that grow hemp for flower also grow other crops which contributes to food security in Hawai'i. They also utilize the hemp to remediate their soil, as a companion crop or as a rotation crop. It is hard to make money in farming in Hawai'i due to higher labor costs, lack of access to water, variable weather conditions like fire, high winds, excess rain or lack of rain, and competition from out of state imports that are cheaper in the marketplace. The farmers want to be able to focus on farming and not have to constantly fight battles on new rules and regulations surrounding the cannabinoid industry. Being able to grow and sell a high value crop can enable them to keep farming,

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<sup>8</sup> USDA National Hemp Report 2024: <https://downloads.usda.library.cornell.edu/usda-esmis/files/gf06h2430/3t947c84r/mg74s940n/hempan24.pdf>

make money and support food security in Hawai'i.

3. One of the biggest concerns we have heard from local cannabinoid farmers and sellers is the competition from imported products and the lack of oversight on illegal products being sold in Hawai'i. Companies from the mainland and overseas are selling illegal hemp-derived cannabinoid products in Hawai'i with virtually no oversight. They are selling gummies and other edibles; hemp flower and hemp pre-rolls yet local farmers are not able to make or sell these products. Online retailers are also able to ship CBD products that are not legal in Hawai'i, like gummies to Hawai'i but local businesses that want to be compliant cannot legally make or sell them in Hawai'i. There are also CBD companies with Hawaiian names using misleading marketing tactics to make it seem as if these products were grown and made in Hawai'i when they were imported from the mainland. Hopefully the new labeling requirements will fix this, but if there is no oversight over illegal products being sold here currently, then who will be overseeing the new labeling requirements to make sure brands are complying with them?
4. According to many of the Task Force members, there is also a lot of uncertainty in the cannabinoid sector in Hawai'i when it comes to rules and regulations. According to many of the Task Force members, the goal posts keep moving every legislative session making it very hard for local hemp farmers and businesses to keep up. They are still waiting on clarification from the HDOH on some of those rules from Act 1359<sup>9</sup> that was passed in May 2023. Also, over regulation of production and processing has driven hemp farmers out of business.<sup>10</sup> There were a total of 101 active USDA licenses in 2020. In 2024 there are now only 58 active USDA licensed hemp farmers, 39 expired, and 4 surrendered (see attached addendum). This highlights the fact that there have been barriers put into place for local hemp farmers, yet the cannabinoid industry is flourishing in the state due to the influx of out of state and international cannabinoid products being imported to Hawai'i at a detriment to the local farmers.
5. Many of the task force members do not want hemp regulated by the same entity that

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<sup>9</sup> HI HB1359: <https://legiscan.com/HI/bill/HB1359/2023>

<sup>10</sup> Civil Beat-Hemp Farmers Are Fed Up With Government Regulations Hampering the Industries Potential: <https://www.civilbeat.org/2022/05/hemp-farmers-are-fed-up-with-government-regulations-hampering-the-industrys-potential/>

regulates cannabis as was proposed in HI SB 3335 that eventually died in the House.<sup>11</sup> A task force member stated that when hemp and cannabis were combined in Oregon, some of the hemp farmers lost their insurance and access to banking. They said that hemp economist Beau Whitney did a study on the effects of the comingling of hemp and cannabis in Oregon, but he would not share that data with us to confirm this when asked.

6. There are only 4 HDOH licensed cannabinoid processors in the state as of this writing. Yet there are 58 active USDA licensed hemp farmers in the state. We have been unable to gather information on where all of these farmers are processing their hemp. Many farmers on the Task Force do not have access to processing equipment. Some have asked for a shared processing facility while others want to process on their farms to save money from outsourcing.
7. Kauai Hemp Company was set up as a vertically integrated grower/processor on Kauai who also offers [toll processing, white label, and formulation/cultivation consulting](#), yet not many farmers have been utilizing these services. Some of the reasons that farmers have not been utilizing their processing services have been due to inter island bulk hemp transport costs and regulations and additional testing requirements between harvest and end product. Other farmers have said that it is too expensive for them to process their flower with Kauai Hemp Company.

## **Recommendations Cannabinoid Sector:**

1. This recommendation addresses findings 2-6 above, with a complete list of feedback from the cannabinoid farmers in **Task Force Feedback in section K.** of the accompanying report. After speaking to all of the cannabinoid farmers on the Task Force, we came to realize that many of their concerns were around rules and regulations that are affecting their businesses and a lot of this is very complex and they all had different things that were affecting their individual businesses. Our task per HB 1359 Act 263<sup>12</sup> was to address infrastructure needs, so that is why we are recommending that a

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<sup>11</sup>Hawai'iB3335: <https://legiscan.com/HI/bill/SB3335/2024>

<sup>12</sup> HB 1359 Act 263: [https://hdoa.hawaii.gov/wp-content/uploads/2024/07/Act263-SLH2023-GM1377\\_HB1359-Hemp.pdf](https://hdoa.hawaii.gov/wp-content/uploads/2024/07/Act263-SLH2023-GM1377_HB1359-Hemp.pdf)



separate Hemp-derived Cannabinoid Focused Task Force be created during the next legislative session in order to directly address the well-founded concerns of the cannabinoid farmers and business owners and come up with concrete solutions to help grow the hemp-derived cannabinoid sector in Hawai'i.

We recommend that this Task Force be made up of cannabinoid farmers as well as representatives from both the HDOA and HDOH as well as a hemp economist who can bring all the relevant data to the table for discussions. This task force can have direct dialogue with the HDOA and HDOH to come up with tangible solutions to help support and grow the local cannabinoid industry in Hawai'i and help create an even playing field with the out of state competitors. They also need to come up with a plan for oversight and determine whose role it is to monitor and take action against illegal products being sold in the state. They feel that their voices are not being heard and more and more Cannabinoid Hemp farmers are leaving the industry due to the ever- changing regulations. They want to be able to voice their concerns and be informed of new potential legislation in a timely manner and not when it is about to hit the floor as what happened with the proposed HI SB 3335.

2. Toll processing already exists on the island of Kauai where Kauai Hemp Company is fully licensed and legally set-up to safely process Cannabinoid Hemp for other farmers. Yet not many farmers are using this service and from what we have learned from members of the Task Force, is that they are nervous about the laws governing transportation of Cannabinoid Hemp as well as worried about the expense. We recommend that the state subsidize the extra transport and processing fees to help grow the cannabinoid industry in the islands and address any other concerns (these can be hashed out in the Hemp-derived Cannabinoid Task Force) that may be impeding farmers from processing their hemp there.

## **Findings General:**

### **1. Nomenclature Confusion:**

There is significant confusion in the nomenclature surrounding hemp. The terms

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“Industrial Hemp” and “Hemp” are currently used interchangeably, causing confusion about applicable rules and regulations for different plant end uses. Industrial Hemp grown for construction should not be subjected to the same regulations as hemp grown for cannabinoids. The broad current definition is hindering the development of a conventional Industrial Hemp industry due to the plant’s similarities with Cannabinoid Hemp but differing end uses.

## **2. Market Growth:**

The global hemp market is rapidly growing, from \$7.9 billion in 2023 to a projected \$47.82 billion in 2032.<sup>13</sup> The Hawai’i Hemp Task Force unanimously believes that a vertically integrated hemp industry would benefit the state economy and support sustainability goals. However, there is a lack of statewide economic analysis for this potential new industry in the islands.

## **3. Environmental Benefits:**

Studies show that hemp is remarkably proficient at extracting heavy metals like lead, cadmium, and nickel from contaminated soil, accumulating them in its tissues.<sup>14</sup>

University of Hawai’i research demonstrated that Industrial Hemp can metabolize 75% of residual atrazine in Hawaiian soil within 30 days. This capability suggests that growing hemp in burned areas of Lahaina could significantly aid large-scale remediation efforts.

## **Recommendations General:**

### **1. Clarify the Definition of Industrial Hemp:**

The House Agricultural Committee introduced verbiage in the 2024 Farm Bill, H.R. 8467 (§10006), passed by the House and now considered by the Senate.<sup>15</sup> This bill would establish a new statutory definition of industrial hemp, distinguish it from hemp grown for

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<sup>13</sup> Fortune Business Insights-Industrial Hemp Market Size:  
<https://www.fortunebusinessinsights.com/industrial-hemp-market-102459>

<sup>14</sup> NRFHH-Exploring the Potential of Industrial Hemp in Phytoremediation of Heavy Metals:  
<https://www.nrfhh.com/Exploring-the-Potential-of-Industrial-Hemp-in-Phytoremediation-of-Heavy-Metals,176819,0,2.html>

<sup>15</sup> Hemp Provisions in the Farm Bill and FY2025 Agriculture Appropriations Bill:  
<https://crsreports.congress.gov/product/pdf/IN/IN12381>

cannabinoids, and relax certain regulatory requirements. If passed, the Hawai'i Legislature should incorporate similar definitions to create clear distinctions between cannabinoid and industrial hemp for both industries to progress.

## **2. Support for Education:**

We recommend grant funding from the Department of Education to support hemp education statewide:

- Launch a hemp educational campaign for residents and tourists to explain the difference between hemp and cannabis, promoting the benefits of Hawai'i grown hemp products in the state.
- Create an Industrial Hemp handbook in partnership with the Department of Agriculture, based on local seed trials and research, to guide farmers on best practices in Hawai'i. Similar to [this one](#) from California.
- Partner with and fund non-profits like Friends of Waimanalo to offer workforce training for hempcrete construction, benefiting new and existing farmers, as well as the building industry.

## **3. In-depth Economic Analysis:**

The Hawai'ian Department of Economic Development should conduct a thorough analysis of the potential benefits of a statewide Industrial Hemp industry. This study should assess the cascading effects of using locally grown hemp as raw materials for secondary processing industries, replacing a variety of imported items. The findings should support legislative funding for both Industrial and Cannabinoid Hemp industries and foster public and institutional acceptance.

## **4. Support for Hemp Cultivation Equipment:**

Provide a grant to the Hawai'ian non-profit [Na 'Aikane o Maui Cultural Center](#) of Lahaina for purchasing hemp cultivation equipment to remediate Lahaina soils and demonstrate hemp's restorative value. Equipment should include:

- 40 hp Bobcat Compact Hydrostatic Drive Tractor
- Soil prep equipment
- 6 ft No-till seed drill with corn plate adapters
- Roller crimper for terminating cover crops

- Side bar hay cutter
- Miscellaneous attachments (front end loader, brush hog, grapple loader, etc.)
- Hay rake
- Small hay baler
- Mobile Decorticator
- Mobile Hempcrete Mixer

#### **5. Workforce Training and Education:**

Encourage the creation of workforce training and educational opportunities to teach the building sector about hemp building materials, creating new jobs and training professionals like carpenters and plasterers.

#### **6. Support from the Carbon Market:**

- Hemp generates significant carbon credits and produces ten times the biomass of pine annually. These credits could be sold to local airlines to offset tourist transportation emissions, thus supporting both eco-tourism and the hemp industry.
- This can be a fairly difficult process to maneuver for a farmer so to support farmers getting the full value of their verified carbon credits we recommend that the State develop a staff position to help the farmers and primary and secondary processors in these negotiations.