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THE 'AINA INSTITUTE

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**TESTIMONY OF ROBERT SHLESER ON BEHALF OF THE AINA INSTITUTE
BEFORE THE HOUSE COMMITTEE ON AGRICULTURE**

HOUSE CONFERENCE ROOM 312

HB 491, RELATING TO AGRICULTURE

Chair Jessica Wooley, and Vice Chair, Richard H.K. Onishi, and members of the Committee

My name is Bob Shleser, I am the Founder and President of the 'Aina Institute, a 501(c)(3) Non-Profit Organization established in 1990 by research, business and academic professionals. I appreciate the opportunity to describe our program and respond to questions on HB 491. The purpose of the bill is to request funds that will provide a portion of the costs of our program to evaluate opportunities develop new business that use biomass to produce substitutes for food and petroleum that is now imported.

We all know that petroleum is imported to meet more than 90% of Hawaii's energy requirements and about 85% of the food consumed in the state is also imported. There only are sufficient food and petroleum reserves to last for a few weeks. Determining if there are solutions to these problems is a primary area of emphasis for the 'Aina Institute.

We need a clear cut picture of our options and opportunities to reduce food and petroleum imports. Properly selected, and applied, technology can play a fundamental role in building Hawaii's economic future

We need to complete a business model to determine the cost of producing the feedstock and process to produce the desired products and a full analysis of costs of each processing technology

APPROACH

In order to plan for the future we need to know our options. We will evaluate integrated systems of food, fuel, and energy production that efficiently utilize crops, byproducts, and wastes The approach will focus on integrating biological systems with engineering and chemical technology. The challenge is to identify the technologies that are most appropriate to the conditions and resources in Hawaii and have achieved a level of technical and economic maturity that makes them business and investment ready.

The Decision Analysis System

The 'Aina Institute has developed a Decision Analysis System (DAS) that evaluates the cost of producing crops and biomass to identify the best combination of feedstock and processing methods to determine if there is a basis for business The combination of elements that displays the most promising performance will be investigated as a business in a competitive market.

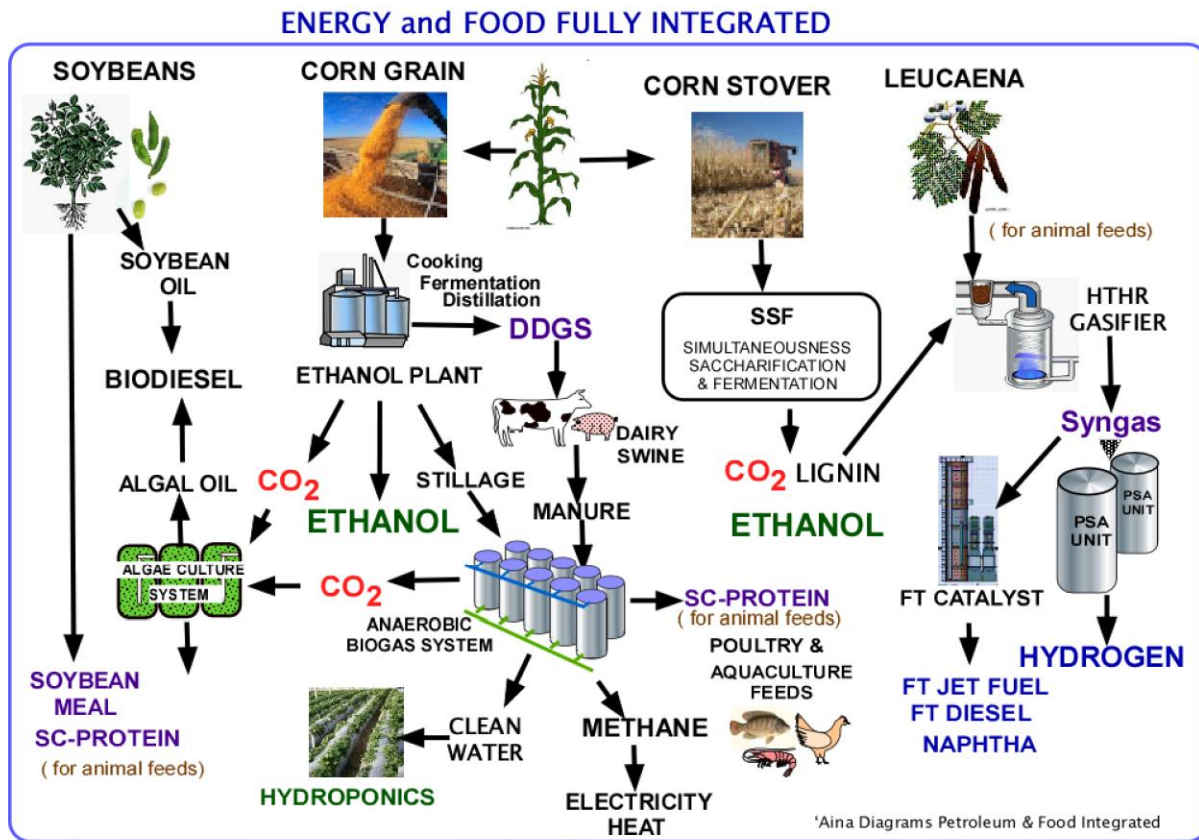
The DAS can be used to :

- Identify favorable combinations of crops, technologies, and fuel & energy products for Hawaii
- Determine optimal uses of available resources (including wastes /by-products)
- Identify and evaluate locally available resources and proven technologies
- Provide detailed financial information as a basis for developing viable and profitable businesses
- Determine what can work and what won't work

POTENTIAL OUTCOMES

- Job creation
- Agriculture expansion
- Import reduction
- Increased food and energy security
- Keeping cash in Hawaii

A diagram showing the biomass sources and technology that may be used to produce food and petroleum is shown below:



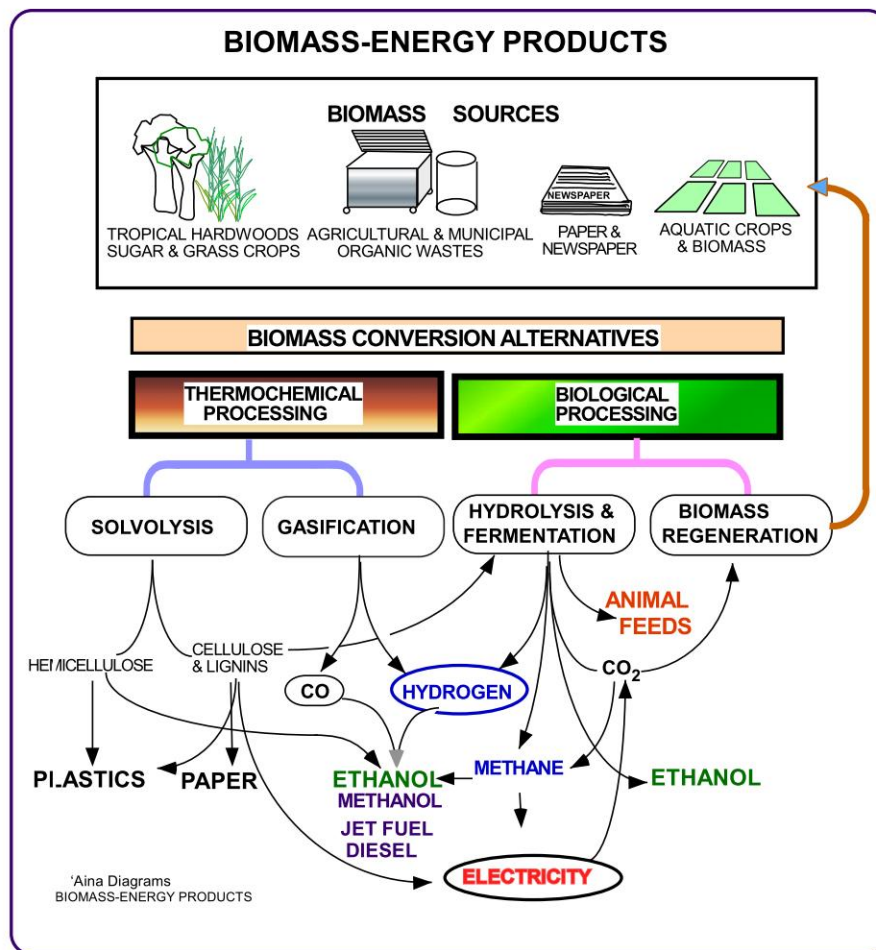
QUESTIONS to ANSWER

- Are there combination of crops and technology that result in new businesses competitive price?

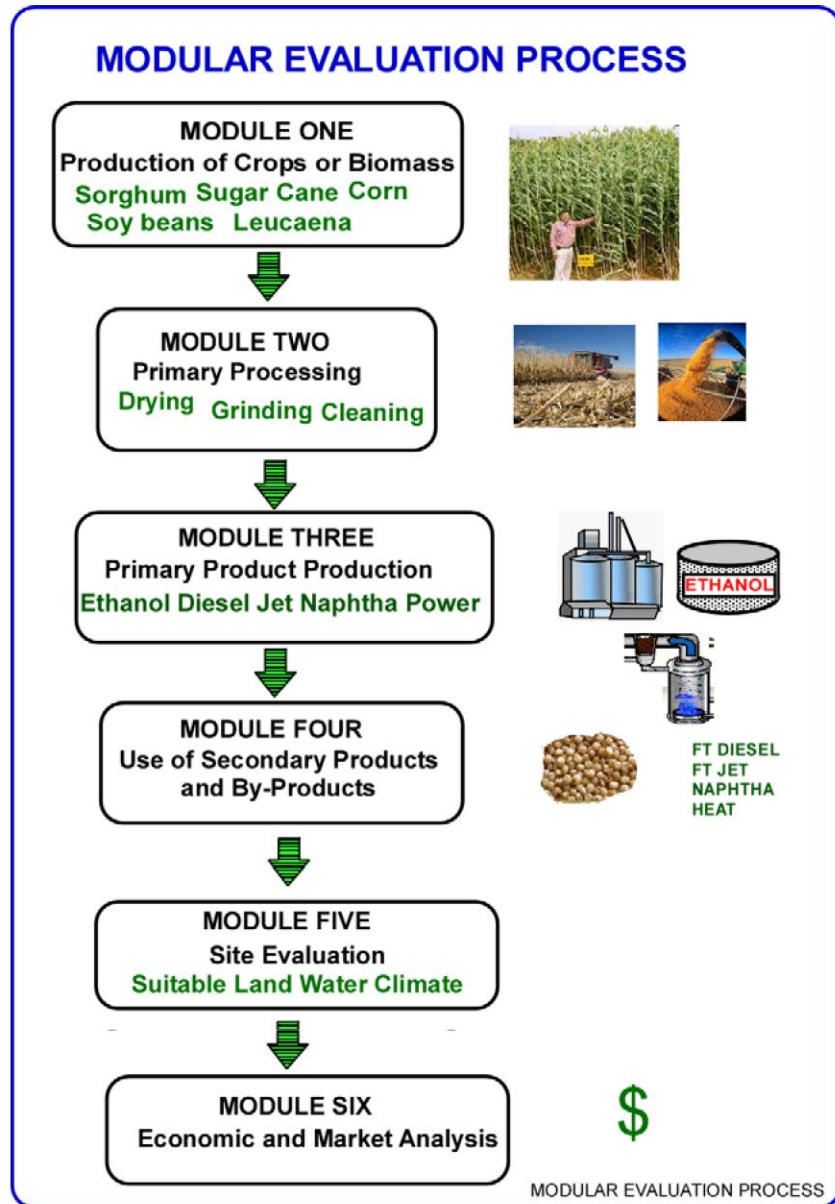
- What is the cost of producing crops and feedstocks
- Are there locations with amounts of suitable land and water resources to support a profitable investment worthy business?
- Are there potential investors for businesses that will produce the substitutes for imports

TECHNOLOGY

As time passed, many new technologies for processing biomass to food and energy products have emerged. They largely depend on improving production of crops and processing methods that increase yields and profits. As time has passed emerging technologies have expanded the options for processing biomass into food and energy products. The diagram below, shows the combination of feedstock and technology options.



A diagram of the modular process used in the Decision Analysis System is shown below



LAND

The work will identify the characteristics of the desirable land. If we use all the Agriculture Land for condos, housing, strip malls, golf courses, etc . None will be left for food and energy.

FARMERS

There are also grassroots and **farming entrepreneurs who want to work the land**, improve their communities, and put their neighbors to work. They will be crucial contributors to our economy and to our food-sustainability Richard Ha points out that: “if people can make money they will farm”

BUDGET / COSTS

The DAS is based on work conducted over the past 30 year. It’s impossible to put a value on this work; however it has been used to evaluate a number of private sector developments

Many of the 'Aina Team will assist without compensation

STAFF

The task is to bring individuals who have a successful history in developing technology based businesses into the evaluation and selection process. The defied positions are:

Overall Program Manager: We need to hire a very capable person who has hands on experience on farming businesses and engineering systems. In addition we will hire the following task managers
Agriculture Specialist

Technology Systems Manager
We will also hire and train 6 staff with sufficient technical; background to evaluate the biomass sources and useful technologies for production of the products

COSTS

- Office Rent
- Account Bookkeeping
- Supplies travel

TIMING

The program work will be completed over period of 12-18 months
At this time all work will be terminated. There is no plan to keep this program alive and not continue or seek subsidies for future survival

Approach potential investors, including: companies, venture capitalists and others who have expressed an interest in developing these business opportunities

THE 'AINA TEAM

TEAM MEMBERS	SPECIALTY
Alan Kennett	President Gay & Robinson Sugar Plantation, Retired
Al Harrington	Communications and Presentations
Anthonie Schuur	Design Planning and Construction
David Robichaux, MS	Agricultural Engineering Resource Management
Dennis Furukawa, MS	Architect, Waste Water Reclamation Specialist
Glenn Pueppke	Corn Grower from North Dakota -Retired
Jim Brewbaker, Ph.D.	Plant Breeding/ Genetics, UH
John Goetzinger	Projects Coordinator
Jim McElvaney	Energy Production from Organic Wastes
Kirsten Baumgart Turner, MA	Program Development and Management
Leon Sollenberger	Production Crop & Soil Management Specialist
Larry Higdon	Business Development Specialist Ohio
Michael Gustafson	CEO of a North Dakota Electric Cooperative -Retired
Pete Bunn, CPAG	Soil and Plant Nutrient Management. Specialist
Robert Shleser, Ph.D.	'Aina Institute Founder & Program Developer
Stanley Baronett	Technical Specialist
Vernon Sato	Alage Production Specialist
Warren Dominy, Ph.D.	Feeds Development Specialist
Wayne Barrier, Ph.D.	Manager Biomass Energy Program TVA, Retired

Tijay Syn-Rodrigues
MBA Candidate of the Shidler School of Business at UH Manoa

Committee on Agriculture
Thursday, January 23, 2014
HB 491 -HD1

This project represents a unique opportunity for Hawaii to accomplish a number of important goals at a very low cost. I have seen some of the wealth of data that the 'Aina Institute has, and all it requires is a bit of support to transform it into a powerful framework for evaluating crop and technology options in Hawaii. This will open the door for a wide range of agricultural investors and high-tech innovators to find answers to important questions about the feasibility of their plans. It is an opportunity to head the push away from fossil fuels while creating the group with expertise in high-level agricultural analysis to serve the islands for years to come.

onishi2-Micah-Seth

From: mailinglist@capitol.hawaii.gov
Sent: Tuesday, January 21, 2014 3:10 PM
To: AGRtestimony
Cc: lynhowe1946@yahoo.com
Subject: Submitted testimony for HB491 on Jan 23, 2014 09:30AM

HB491

Submitted on: 1/21/2014

Testimony for AGR on Jan 23, 2014 09:30AM in Conference Room 312

Submitted By	Organization	Testifier Position	Present at Hearing
Lyn Howe	Individual	Support	No

Comments: This is an important bill to support

Please note that testimony submitted less than 24 hours prior to the hearing, improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

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onishi2-Micah-Seth

From: mailinglist@capitol.hawaii.gov
Sent: Tuesday, January 21, 2014 4:57 PM
To: AGRtestimony
Cc: swhalen@harc-hspa.com
Subject: *Submitted testimony for HB491 on Jan 23, 2014 09:30AM*

HB491

Submitted on: 1/21/2014

Testimony for AGR on Jan 23, 2014 09:30AM in Conference Room 312

Submitted By	Organization	Testifier Position	Present at Hearing
Stephanie A Whalen	Individual	Support	No

Comments:

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To: Committee on Agriculture
Re: HB491-HD1 Relating to Agriculture

This letter is written testimony to support passage of HB 491 –HD1, a bill to produce funding for application of the Decision Analysis System (DAS), developed over a 30-year period at the 'Aina Institute in Hawaii.

This analytical tool can be an important element in charting a course for the State of Hawaii to reduce the current dependence on imported fuel and food and move towards increased self-sufficiency in energy and agriculture.

With the DAS, biomass production costs for different crops can be evaluated, including capital and operational costs for each processing technology. From these evaluations it will be possible to identify opportunities for new businesses in Hawaii to achieve the goal of reducing dependency on energy imports.

With funds made available, the Institute plans to hire 6 analysts to gather data to produce these evaluations. Several Institute team members will provide inputs without compensation.

Thank You for your consideration.

John Goetzinger
(Retired aerospace engineer)
41-846 Laumilo St., Waomanalo, HI, 96795

LATE



LATE

Directors

Jody Allione
Silver Ridge

Joe Boivin
Hawaii Gas

Kelly King
Pacific Biodiesel

Kelly O'Brien
First Wind

Warren S. Bollmeier II
WSB-Hawaii

TESTIMONY OF WARREN BOLLMEIER ON BEHALF OF THE
HAWAII RENEWABLE ENERGY ALLIANCE BEFORE THE
HOUSE COMMITTEE ON AGRICULTURE
HB 491 HD1, RELATING TO AGRICULTURE
January 23, 2014

Chair Wooley, Vice-Chair and members of the Committee, I am Warren Bollmeier, testifying on behalf of the Hawaii Renewable Energy Alliance (HREA). HREA is an industry-based, nonprofit corporation in Hawaii established in 1995. Our mission is to support, through education and advocacy, the use of renewables for a sustainable, energy-efficient, environmentally-friendly, economically- sound future for Hawaii. One of our goals is to support appropriate policy changes in state and local government, the Public Utilities Commission and the electric utilities to encourage increased use of renewables in Hawaii.

The purpose of HB 491 HD1 is to appropriate \$750,000 in funds from the environmental response, energy, and food security tax for the operations of the Aina Institute for Bioconversion Technology.

HREA **supports** what we believe is the **intent** of this **measure** and offer the following comments and recommendations:

- 1) Overall. The intent of the measure is not clear, and also we are aware of a non-profit by the name of "The 'Aina Institute", but not aware of the "Aina Institute for Bioconversion Technology. That said, we believe the work of the 'Aina Institute is relevant to our state food & energy security goals.
- 2) Recommendations: We recommend revising this measure to:
 - a) Clarify the intent, e.g., to support our state food & energy security goals, in order to reduce our dependence on imported food and energy,
 - b) Identify The 'Aina Institute as the recipient of the funds, and consider inclusion of members from the following organizations to participate with the Aina Team: DBEDT, DOA and CTAHR at UH,
 - c) Identify specific objectives of and budget for the work to be performed by Aina, e.g., to evaluate integrated systems of food, fuel and energy production that efficiently utilize crops, by products and wastes, and
 - d) Prepare and deliver to the Legislature a report summarizing the results of specific analyses conducted and recommendations, e.g., we believe the results will provide valuation information to potential interested parties interested in investing in biomass projects/activities in Hawaii.

Mahalo for this opportunity to testify.

From: mailinglist@capitol.hawaii.gov
Sent: Wednesday, January 22, 2014 5:03 PM
To: AGRtestimony
Cc: nredfeather@kohalacenter.org
Subject: Submitted testimony for HB491 on Jan 23, 2014 09:30AM

LATE

LATE

HB491

Submitted on: 1/22/2014

Testimony for AGR on Jan 23, 2014 09:30AM in Conference Room 312

Submitted By	Organization	Testifier Position	Present at Hearing
Nancy Redfeather	Individual	Comments Only	No

Comments: After reading the bill and looking at the website, I was still not clear what these folks do. \$750,000 is a lot of money. We all are looking for the creation of sustainable systems for food, water, energy and waste but a non-profit with no clear record of work seem like a risky investment.

Please note that testimony submitted less than 24 hours prior to the hearing, improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

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