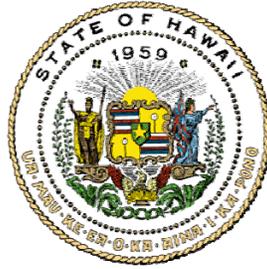


State of Hawai'i



HAWAII ECONOMIC DEVELOPMENT TASK FORCE REPORT
TO THE
GOVERNOR AND THE LEGISLATURE
OF THE
STATE OF HAWAII

Pursuant to
Act 73(10), Session Laws of Hawai'i 2010

*Submitted For the Hawai'i Economic Development Task Force
By The State of Hawai'i
Department of Business, Economic Development and Tourism*

December 29, 2011

EXECUTIVE SUMMARY

The islands of Hawai'i comprise unique communities bound together by a dependence on one another for the necessities of life. In the past, an import to Hawai'i meant that something came from a neighboring island, not from a foreign country. Today, Hawai'i is primarily dependent on Mainland and foreign imports as evidenced by the growing disparity between purchases of imported goods and local goods. This gap has made Hawai'i extremely vulnerable to outside economic forces and environmental disturbances.

It was with these issues in mind that the 2010 Hawai'i State Legislature had the foresight to enact Act 73 and create the Hawai'i Economic Development Task Force (the Task Force). The purpose of the Task Force is to help Hawai'i become food and energy self-sufficient and secure by facilitating and accelerating the adoption and completion of renewable energy projects, energy efficiency programs, local agricultural infrastructure and development projects, as well as other needed measures.

The Task Force focused on identifying challenges facing the two sectors: Food and Energy, and has made 10 recommendations for action.

FOOD

The availability of arable land and access to irrigation water emerged as two overarching challenges to food and agricultural security.

Additional challenges facing the agricultural industry in Hawai'i include:

- The high cost of feed and fertilizer
- Limited processing capacity
- Outdated or inadequate infrastructure for processing and distribution
- Trade barriers and incentives
- Controversy surrounding Genetically Modified Organism (GMO)
- Workforce development issues, including availability of farmers
- Housing for agricultural employees
- Vulnerability of agriculture to invasive species

Addressing these issues will allow farmers a greater ability to produce food that is economically profitable, while giving consumers a greater opportunity to purchase local and healthy food.

ENERGY

Hawai'i faces many challenges in its pursuit of achieving energy self-sufficiency, some of which are technical and relate specifically to the electric utility grid. The push toward installing more renewable systems has been constrained by:

- Limits to grid access
- Power stability issues
- Limited storage capacity

- Community acceptance of new technology and infrastructure
- Permitting and environmental compliance
- Public Utilities Commission approval

The Task Force notes that many of the challenges associated with adding renewable energy projects to the State's energy grids would be substantially reduced if the Hawaiian Islands were interconnected with an interisland cable system.

The State must ensure that a reasonable balance is struck between public and private interests in renewable energy and land and water resources required for food production.

RECOMMENDATIONS

1. Broadly engage Hawai'i communities in shaping goals, projects, and practices in food and fuel security for current and future generations.
2. Increase support for the Energy Security Special Fund and the Agricultural Development and Food Security Special Fund.
3. Raise the spending cap currently placed on the State Energy Office and the Department of Agriculture.
4. Consider the enactment of a Coal Tax.
5. Strengthen Hawai'i brands.
6. Expand K-Career Science, Technology, Engineering and Math Education in all schools to inspire entry into the agriculture and clean energy workforce.
7. Support the five-year boundary review assigned to the Land Use Planning.
8. Engage the Counties in creating strategic plans for the compatible co-existence between agriculture and energy throughout the state.
9. Enlist the help of visitors to adopt Hawai'i's energy and agricultural goals.
10. Transform the Hawai'i Economic Development Task Force to the Food & Energy Security Council and continue its existence through June 2014.

The Task Force seeks to chart a course for our island State that strives for increased self-sufficiency while growing our independence in food and energy, a course that preserves our environment while ensuring the healthy economic well-being of generations to come. To seek a better future, we need many hands working together for everyone's success.

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INTRODUCTION

Values

Hawai'i is our home. It is the foundation of our past, present, and future, and it is in crisis. This crisis calls for us to critically analyze our present values, beliefs, and actions. Can we identify the necessary attributes and actions that will right our direction? We agree that our opportunities are clearer when we envision our grandchildren and their children belonging in our Hawai'i. Of all the United States, Hawai'i can provide the most tangible example of how an economy can transition to a sustainable and prosperous future. Isolated from the rest of the world, Hawai'i is highly dependent on imports and therefore extremely vulnerable to outside economic and environmental disturbances. Each unique island in our chain remains linked to the others across the ocean that unites us. We share the values that we must protect our precious islands while we strive to chart a course that sustains future generations economically as well as environmentally. As each island brings different strengths and challenges, we must seek solutions that work for all, not one-size-most solutions. Act 8 of the 2005 Hawai'i State Legislature established the Hawai'i 2050 Sustainability Plan. The summary context was the urgent desire of our citizenry to have a vibrant, diversified economy; a healthy quality of life that is grounded in a multi-ethnic culture and Kanaka Maoli values; and healthy natural resources. The five goals for Hawai'i 2050 are designed to ensure:

- Our natural resources are responsibly and respectfully used, replenished and preserved for future generations.
- Living sustainably is part of our daily practice in Hawai'i.
- Our diversified and globally competitive economy enables us to meaningfully live, work and play in Hawai'i.
- Our community is strong, healthy, vibrant and nurturing, providing safety nets for those in need.
- Our Kanaka Maoli and island cultures and values are thriving and perpetuated.

These goals established priority actions as intermediate steps for the year 2020. The nine intermediate steps are:

1. Increase affordable housing opportunities for households up to 140 percent of median income.
2. Strengthen public education.
3. Reduce reliance on fossil fuels.
4. Increase recycling, reuse and waste reduction strategies.
5. Develop a more diverse and resilient economy.
6. Create a sustainability ethic.
7. Increase production and consumption of local foods and products, particularly agriculture.
8. Provide access to long-term care and elderly housing.
9. Preserve and perpetuate our Kanaka Maoli and island culture values.

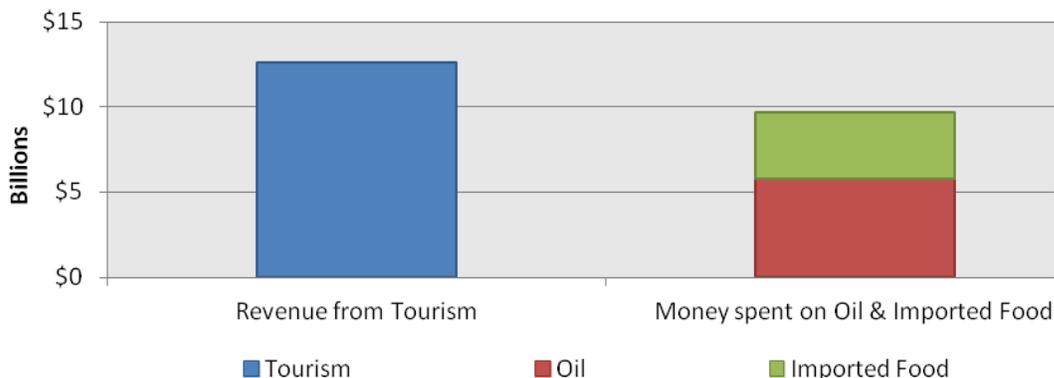
These goals and priority actions provided the foundation for Act 73. In 2008, Hawai'i exported in excess of \$8 billion for food and energy. Act 73 attempts to take serious actions to reverse these trends, and seeks to provide for a healthy and prosperous lifestyle for future generations. The implementation of Act 73 can serve as a world model of sustainability and prosperity. It is with this history, guidance, philosophy, and hopes, that the Task Force shares our findings and recommendations with the 2012 Hawai'i State Legislature.

Aloha mai kakou e na holomua
 (With aloha let us reverently go forward)

Current Situation and Risks

Hawai'i, the most geographically isolated state in the country, has long been subject to continuous economic pressure as a result of our heavy dependence on imported food and energy. The estimated 2011 annual revenue from tourism (\$12.6 billion) will nearly be matched by the outgoing dollars spent on oil and imported food, \$5.7 billion and \$3.9 billion, respectively (see Figure 1). With an upward trend in oil prices, the amount of outgoing dollars will only continue to increase.

Figure 1. Tourism Revenue and Imported food & oil expenditures



Source: US BLS, US EIA, and DBEDT

In 2010, the price of crude oil sold in mainland markets was \$75 per barrel, and is currently forecast to reach \$122 per barrel in 2015.¹ However, the situation in Hawai'i is far worse. Specifically, Hawaiian Electric Company recently reported paying an average price of nearly \$136 per barrel in 2011, while the average mainland price was only \$86 per barrel in September of the same year.² Therefore, while the rest of the country may be enjoying lower oil prices, Hawai'i still remains subject to prices over 50 percent higher than those in the contiguous 48 states. These high prices, coupled with Hawai'i's extreme dependence on fossil fuels for energy generation, demonstrate why energy self-sufficiency is so critical to the future economic success of Hawai'i. (see Figure 2)

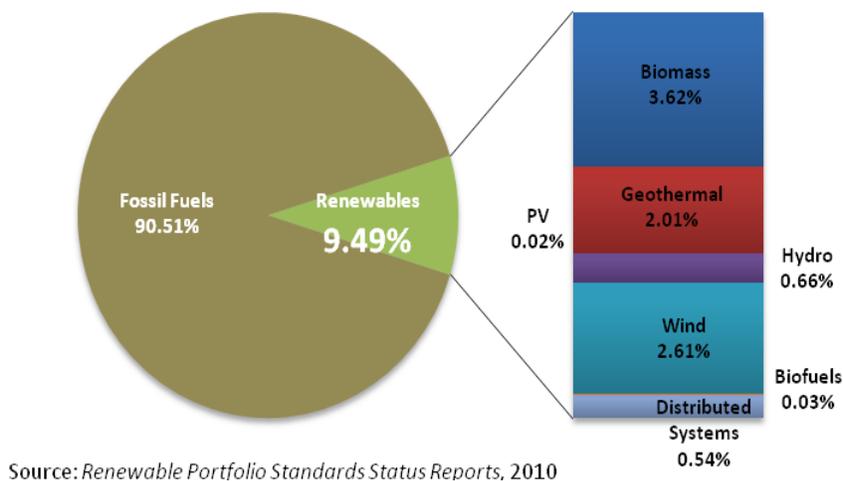
Oil prices affect not only the price we pay for gasoline, but 80 percent of all products in the State. Because of Hawai'i's extreme reliance on petroleum, fluctuations in global demand for oil

¹ Bloomberg. "Commodity Price Forecast: NYMEX WTI Crude Future." Retrieved 12/12/11.

² Hawaiian Electric Co. Inc. "10-Q Quarterly Report." Filed November 3, 2011.

may have a devastating effect. This oil dependence coupled with worldwide price volatility means that historic trends cannot be reasonably used as a predictor of future prices.

Figure 2. Electricity Production in Hawai'i by Source, 2010



Our vulnerability to price fluctuations of oil is accentuated by natural disasters and worldwide economic events. Recent events, such as the March 2011 tsunami in Japan, have shown the potentially catastrophic consequences of doing nothing. The devastating tsunami dramatically altered Japan's ability to generate its own energy due to the damaged nuclear reactors at the Fukushima Daiichi power plant (a 4,696 megawatt plant). Consequently, this disaster increased Japan's demand for oil.³ As such, Hawai'i has been forced to compete with Japan for oil from Middle Eastern and Asian suppliers, resulting in dramatically higher costs for fuel and energy.

Increasing energy prices affect crop inputs, such as fertilizer and transportation, which adds significantly to the cost we pay for food.⁴ For example, the prices per bushel of corn and wheat are projected to rise substantially by 2014 from what they were in 2010 (from \$4.52 to \$5.91⁵ for corn and \$5.93 to \$7.36,⁶ for wheat.) These are just two examples of staple crops that will dramatically raise food prices directly paid by consumers, combined with the added premium Hawai'i consumers are forced to pay to absorb the shipping costs incurred as a result of higher fuel surcharges.⁷

Climate change directly affects agriculture, which consequently impacts our ability to adequately meet food demand. Recent studies show that increased frequency of heat stress, droughts and floods negatively affect crop yields and livestock, as well as increase the risks of fires, pest and pathogen outbreaks.⁸ In particular, farmers in developing nations and those in the tropics will have limited ability to adapt to changing conditions. In eastern Africa in June

³ Tokyo Electric Power Company. "Nuclear/TEPCO Power-Plants. March 2010. Retrieved from <http://www.tepco.co.jp/en/challenge/energy/nuclear/plants-e.html>

⁴ Food and Agricultural Organization of the United Nations. "Food Price Volatility – OECD-FAO Agricultural Outlook 2011-2020."

⁵ Bloomberg. "Commodity Price Forecast: Corn Future." Retrieved 12/12/11.

⁶ Bloomberg. "Commodity Price Forecast: Wheat Future." Retrieved 12/12/11.

⁷ Leung, PingSun and Loke, Matthew. "Economic Impacts of Increasing Hawai'i's Food Self-Sufficiency." CTAHR. Dec. 2008

⁸ Parry, Martin L., Canziani, Osvaldo F., Palutikof, Jean P., van der Linden, Paul J., and Hanson, Clair E. (eds.) IPCC, 2007: Climate Change 2007: Impact, Adaptations and Vulnerability. Cambridge University Press, Cambridge, United Kingdom, 1000 pp.

2011, the worst drought in 60 years led to lost crops and livestock, and subsequent high prices of food in the market, which threatened more than 10 million people with malnourishment, starvation and famine.⁹ These compounded negative effects of crop loss and food shortages are undeniably debilitating and have far-reaching effects on global food prices. Hawai'i must seek greater independence from imports or it will continue to be at risk of food shortages and cost increases.

Hawai'i's location places the state at risk to natural disasters. In 1992, Hurricane Iniki ripped across Kaua'i causing \$1.8 billion in damage, battering or destroying 14,000 homes, and leaving parts of the island without electricity, water and telephone service for as long as four months.¹⁰ More recently, the March 2011 tsunami that devastated Japan reached a maximum vertical height onshore of roughly 100 feet above sea level with surge and debris traveling several miles inland.¹¹ If a hurricane of Iniki's magnitude or a tsunami of the magnitude which hit Japan in the spring of 2011 were to reach O'ahu's south shore, Honolulu Harbor and Honolulu International Airport would be severely damaged, if not destroyed. A disaster of this magnitude would likely make it impossible (at least temporarily) for Hawai'i to import the goods it is so dependent on. Moving forward, Hawai'i needs to address our inherent lack of food and energy security before it is too late.

This Final report addresses statutory requirements of the Task Force to submit to the 2012 Hawai'i Legislature a copy of its findings and recommendations, along with any proposed legislation relating to its review of current food and energy security issues; alternative measures for funding and cooperation; alternative strategies, mechanisms, and processes for streamlining and promoting efficiencies; and evaluating the apportionment of the Environmental Response, Energy and Food Security Tax. An interim report of the Task Force's initial finding and recommendations was submitted to the 2011 legislature and may be found in Appendix A.

The Hawai'i Economic Development Task Force

The purpose of the Task Force is to facilitate and accelerate the adoption and completion of renewable energy projects, energy efficiency programs; local agricultural infrastructure and development projects; as well as other measures needed to help Hawai'i become food and energy self-sufficient and secure.

Chairperson for the Hawai'i Economic Development Task Force was Richard Lim, Director of the Department of Business Economic Development & Tourism. The previous chairperson was former State Energy Administrator Ted Peck. (See Appendix B for the complete makeup of Task Force members.)

⁹ Miller, Talea. "Record Drought Threatens Millions in Eastern Africa." PBS Newshour. July 11, 2011. Retrieved from www.pbs.org.

¹⁰ Post, Buckley, Schuh & Jernigan, Inc. "Hurricane Iniki Assessment Review of Hurricane Evacuation Studies Utilization and Information Dissemination," Sept. 1993

¹¹ U.S. Geological Survey. "Magnitude 9.0- Near the East Coast of Honshu, Japan. Page last updated Nov.26, 2011. Retrieved from earthquake.usgs.gov

Task Force Objectives

Specifically, the Hawai'i Economic Development Task Force is tasked under Act 73(10) to:

1. Identify and review each state and County agency's policy objectives, mandates, organizational structure, and resources to address energy and food security issues;
2. Identify all federal and private funds available to the state and counties to address energy and food security issues;
3. Identify effective measures for interagency cooperation, coordinate efforts with counties, and promote public and private sector partnerships to achieve the objective of energy and food security;
4. Identify existing programs and agreements addressing energy and food security that may be enhanced through legislation;
5. Investigate alternative institutional mechanisms to promote the efficient execution and implementation of a multi-year strategy to achieve energy and food security;
6. Investigate the streamlining of administrative processes to accelerate and achieve energy and food security;
7. Provide an appropriate forum for all affected or interested parties to address energy and food security issues;
8. Recommend appropriate legislation resulting from its findings to improve, accelerate, and achieve the objective of energy and food security;
9. Review whether:
 - a. The apportionment of the environmental response, energy, and food security tax among the funds listed under section 243-3.5, Hawai'i Revised Statutes, is appropriate;
 - b. The apportionment should be changed; and
 - c. Any additional special, trust, or revolving fund should receive a share of the tax; and
10. Perform any other function necessary to effectuate the purpose of this part

The first 10 tasks in Act 73 were addressed in the 2011 interim report to the legislature (see Appendix A). Act 73 further requires the Task Force to submit a report to the 2012 legislature that includes:

1. A description of the activities funded by the environmental response, energy and food security tax;
2. Progress made toward energy and food self-sufficiency;
3. Additional action necessary to achieve energy and food self-sufficiency

TASK FORCE OBSERVATIONS & FINDINGS

There is a growing sentiment in Hawai'i that agriculture and renewable energy are in competition with one another for access to agricultural land and irrigation water. This is often framed as the food versus fuel debate. While there are some cases where energy and agricultural interests do compete, the work of the Task Force has led to the observation that there are more commonalities than differences between food and energy self-sufficiency.

Both sectors share the following:

- imports Heavy reliance on
- financing Struggle to secure
- available land and water Challenge of maximizing
- workforce growth and development Requirement for
- with long-term vision Requirement for policy
- partnership with cultural practitioners Need to work in
- awareness of the limited resources of an island community Need to raise public
- accurately measuring the economic impact of policies Need to focus on
- which limit marketing of agricultural products; energy transmission costs between islands which are similarly limiting. Transportation costs

Some of the major differences between food and energy are:

- scale, energy is more capital intensive Depending on project
- government financing available for energy compared to what is available to agriculture (excluding small agriculture) There is more

The State must ensure that a reasonable balance is struck between public and private interests in renewable energy and land and water resources required for food production.

Food Findings

The Task Force finds that increased self-sufficiency will result in greater access to fresh and healthy foods, increased economic wealth, and a reduction in ecological and economic threats from invasive species. The Task Force believes that the two overarching challenges to food and agricultural security are the availability of arable land and access to irrigation water.

Additional challenges currently facing the agricultural industry in Hawai'i include:

- High cost of feed and fertilizer
- Limited processing capacity
- Outdated or inadequate infrastructure for processing and distribution
- Trade barriers and need for incentives to producers

- Controversy surrounding Genetically Modified Organism (GMO)
- Workforce development issues, including availability of farmers
- Housing for agricultural employees
- Invasive pests

Addressing these issues will provide farmers with greater ability to produce food that is economically profitable while giving consumers greater opportunity to purchase local and healthy food.

A concerted effort to re-establish home and school gardening and informal community exchange will help enhance local food security and should be encouraged by state and county actions and regulations. Closer connections and greater local market control can be formed between farmers and consumers through an expansion of subscription-based community supported agriculture programs, diversified cooperatives, farmers markets, local processing and branding initiatives, and locally based food distributors. These types of programs and promotions like the *“Buy Local, It Matters”* campaign will help move Hawai‘i toward a more robust local food economy. Encouraging a variety of produce, including those that are organically grown, nutraceuticals, niche agricultural businesses such as coffee and tea farming, and the increasing trend of “big box” stores carrying local products will help to further expand the market for Hawai‘i agriculture.

Investing in the development of technical advances in agriculture can increase the number of available opportunities. Potential high impact research includes areas such as: mitigating the negative effects of climate change; preventing and/or controlling invasive pests and micro-organisms; increasing crop/protein yield using fewer resources, including water; developing locally produced feed and fertilizer to reduce imports; and developing a robust agricultural data system.

Energy Findings

The energy sector has strong statutory support for transitioning toward energy self-sufficiency with the mandatory Renewable Energy Portfolio Standards. While the energy sector has significant state legislative support, there is still much to be done in terms of actual implementation of renewable energy projects. By focusing on implementation, the State will move toward energy self-sufficiency while substantially reducing the amount of capital that flows out of the state for foreign energy. In doing so, Hawai‘i can also create a model of energy sustainability for the rest of the United States and the world to follow.

Many of the challenges faced by Hawai‘i in its pursuit of achieving energy self-sufficiency are technical and relate to the electric utility grid. Increasing the capacity and number of installed renewable systems has been constrained by:

- | | |
|---|--------------------------|
| • | Limits to grid access |
| • | Power stability issues |
| • | Limited storage capacity |
| • | Community acceptance |
- of new technology and infrastructure

- environmental compliance
 - Commission approval
- Permitting and
Public Utilities

The Task Force notes that many of the technical challenges associated with adding renewable energy projects to the State’s energy grids would be substantially reduced if the Hawaiian Islands were interconnected through an interisland cable system. While there are environmental, cultural and social issues which must be taken into account when developing an undersea cable project, the Task Force firmly believes that if the State is going to reach its energy security goals an interisland cable system is necessary.

PROGRESS MADE AND ACTIVITIES FUNDED

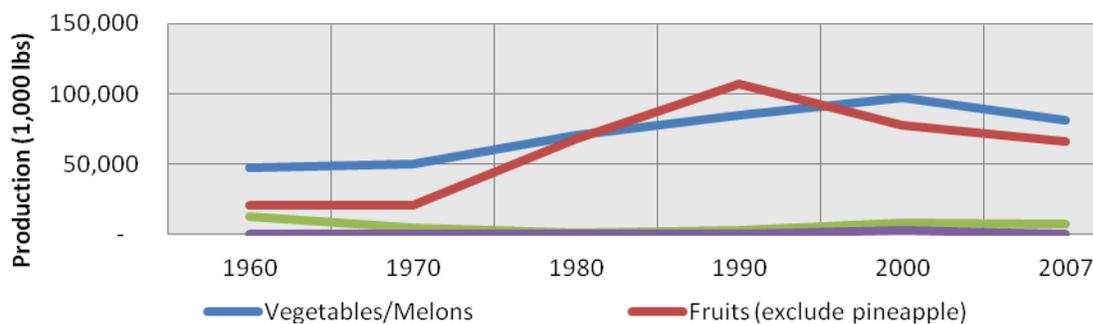
This section of the report examines what activities have been funded by the Environmental Response, Energy and Food Security Tax as well as what progress the State has made in the areas of food and energy security since the inception of the Tax.

Progress Made Towards Food and Energy Security

Progress Made Towards Food Security

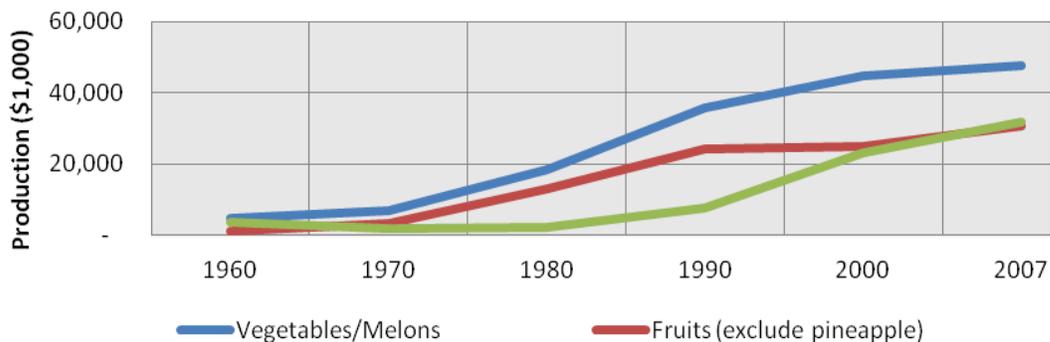
Achieving our food security goals will require direct and accurate measurement of market share for all locally grown agricultural products. This is because a single set of data does not capture the variability that exists among the commodities that comprise Hawai’i’s diversified agriculture. For example, pork, milk, poultry, and eggs have undergone precipitous declines in market share over the past 15 years. However, there has been growth in locally supplied vegetables/melons, fruits (excluding pineapple), coffee, and aquaculture. As the following figures illustrate, there have generally been increases in production volume, value, and yield since 1960 for these crops.

Figure 3. Production Volume (1,000 lbs) by Crop Type, 1960-2007



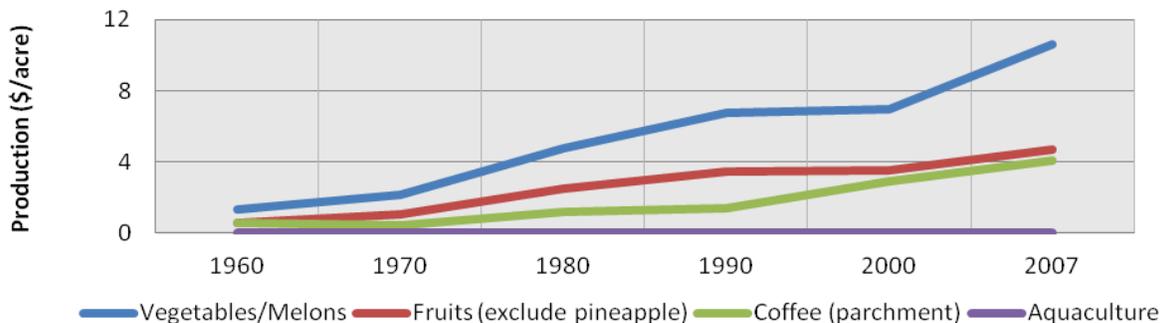
Source: NASS, Hawai’i DOA

Figure 4. Production Value (\$1,000) by Crop Type, 1960-2007



Source: NASS, Hawai'i DOA

Figure 5. Production Yield (\$/acre) by Crop Type, 1960-2007



Source: NASS, Hawai'i DOA

Favorable Land Use Policy

In the early 1960's, Hawai'i enacted and implemented the nation's first statewide land-use regulation system, commonly known as the State Land Use Law. Shortly after being enacted, all lands in the State were placed into four major land-use districts: urban, rural, agricultural, and conservation. Lands that did not fall into the conservation, urban, or rural districts were placed in the agricultural district as the default classification. Consequently, the agricultural district contains thousands of acres of land that are not suited for farming. According to the 2010 State Data Book, in 2006 State lands were divided into the land use districts as follows: 5 percent urban, 48 percent conservation, 47 percent agricultural, and less than 1 percent rural.

The Hawai'i State Land Use Commission is charged with hearing petitions to reclassify land from one land use district to another. The Commission is a quasi-judicial body made up of nine members. The Commission approves district boundary amendment petitions with a two-thirds vote of its members. Since most urbanized lands are developed or already slated for development, the Commission usually hears petitions to take lands identified for proposed urban uses out of the agricultural district. Certain alternative energy uses and structures are allowed by law within the agricultural district (e.g., biofuel processing facilities, wind energy facilities, and solar energy facilities) without requiring a district boundary amendment.

Important Agricultural Lands Designation

According to the 2010 State Data Book, between 1969 and 2006 approximately 1 percent of the land in agricultural districts was redistricted. The legislature determined that the slow loss of agricultural lands to other uses is one factor degrading the ability of Hawai'i to produce its own food. In order to protect agricultural lands that have a high potential for productive use, as well as encourage local agricultural production by reducing the costs and risks associated with farming, the State has created the Important Agricultural Lands designation. By identifying and protecting agricultural lands with high potential for productive agricultural use and providing incentives to farmers and landowners who seek and achieve this land designation from the Land Use Commission, the State hopes to encourage local agriculture.

The incentives for having Important Agricultural Lands designation include the following:

- Allows the development of farm dwellings and employee housing for immediate family members and employees on up to 5 percent or 50 acres of the farm property;
- A refundable qualified agricultural cost tax credit totaling up to \$7.5 million annually for costs such as roads, utilities, agricultural processing facilities, water wells, reservoirs, dams, agricultural housing, feasibility studies, accounting and legal services and farm equipment; and a loan guaranty of up to 85 percent to commercial lenders which should result in a lower interest rate for agricultural borrowers on Important Agricultural Lands.

To date, almost 90,000 acres of agricultural lands on Kaua'i, O'ahu, Maui, and Hawai'i Island have been designated as Important Agricultural Lands, primarily because of their capacity and use for agricultural production.

(A table summarizing these Important Agricultural Lands can be found in Appendix C.)

Agricultural Conservation Easements

Another method that the State has begun using to preserve agricultural lands as well as limit their use to agricultural activities, is the creation of Agricultural Conservation Easements. An Agricultural Conservation Easement provides the maximum protection to agricultural lands under contract by extinguishing the threat of non-agricultural development. By purchasing the development rights of agricultural land, the landowner continues ownership of the easement lands; however, the management of the land is turned over to an easement management organization.

The funds to purchase development rights come from land protection programs at the county, state, and federal levels along with private land conservation organizations. An easement protects existing or potential intensive agricultural uses, promotes substantial or important agricultural use on the easement property, and has the effect of protecting adjacent agricultural lands.

To date, approximately 23,728 acres of agricultural lands have been placed under Agricultural Conservation Easement contracts.

(A table summarizing Agricultural Conservation Easement activities in Hawai'i can be found in Appendix D.)

State Agricultural Park Program

The Department of Agriculture has created a land management program known as the State Agricultural Parks Program, which it utilizes to protect and encourage the agriculture industry. Agricultural parks are areas set aside specifically for agricultural activities to encourage the continuation or initiation of agricultural operations. The State's Agricultural Park Program makes land with long-term tenure available to small farmers at a reasonable cost.

The Agricultural Parks program utilizes a thorough qualification process to ensure potential lessees will undertake substantial agricultural activity. Uses and activities not directly related to agricultural production are strictly controlled. The majority of the total annual incomes of lessees are required to come from agricultural activities. The purpose, rules, and management of these public lands by the Hawai'i Department of Agriculture are unmatched in their support of agricultural production. These rules provide a stable land tenure that (unlike subdivisions of privately held agricultural land) is not subject to State land use district reclassification, further subdivision, lack of monitoring of activities, and introduction of non-agricultural special permitted uses.

Currently, there are 10 Agricultural Parks managed by the Hawai'i Department of Agriculture on Kaua'i, O'ahu, Moloka'i, and Hawai'i Island with more than 3,100 acres in agricultural production. In addition, there are at least six other county and privately managed agricultural parks making up more than 3,000 acres on Maui, Kaua' i, Hawai'i and Oahu. Potentially, thousands of additional acres of public agricultural lands currently managed by the Department of Land and Natural Resources are being transferred to the Hawai'i Department of Agriculture's Non-Agricultural Park Lands Program for management.

Irrigation Water Source, Storage, and Distribution

There are ongoing activities that protect and/or promote water resources for agricultural use. One such program is the State Agricultural Irrigation Program within the Department of Agriculture that operates five systems on Hawai'i Island, Molokai, and Oahu, providing irrigation water to about 11,700 acres of agricultural land. Many more thousands of acres of privately owned agricultural lands are irrigated by or have access to water sourced from wells or diverted from streams.

Progress Made Towards Energy Security

Hawai'i is making progress in aligning regulatory policies with clean energy goals; encouraging development of next generation, clean energy technologies; and deploying renewable generation and grid infrastructure.

Adoption of the Hawai'i Clean Energy Initiative (HCEI)

The Hawai'i Clean Energy Initiative was officially launched in 2008 as a partnership between Hawai'i and the U.S. Department of Energy to provide Hawai'i a framework for reducing its

dependence on imported fossil fuels. The goal of the Hawai'i Clean Energy Initiative is for efficiencies and renewable resources to meet 70 percent of Hawai'i's energy requirements by 2030. The Hawai'i Clean Energy Initiative has spawned statutory renewable energy and energy efficiency portfolio standards that serve as an unambiguous guide towards achieving energy security in Hawai'i.

Adoption of Clean Energy Requirements

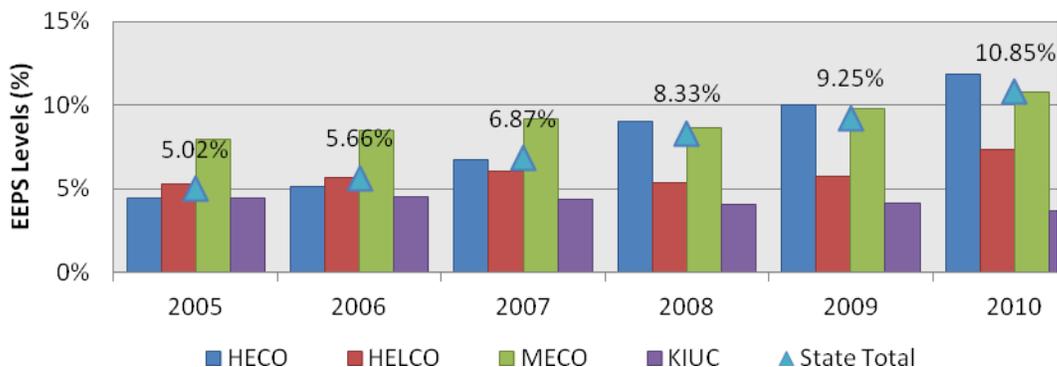
Act 155 (2009) increased the Renewable Portfolio Standards (RPS) by amending HRS §269-92 to raise the RPS levels to 25 percent by 2020, and to establish a 40 percent RPS by 2030. The Act also sets a precedent for electrical utility clean energy portfolio standards by including a separate goal for energy efficiency, establishing an energy efficiency portfolio standard (EEPS) calling for the statewide reduction in electricity use of 4,300 gigawatt hours via efficiency measures by 2030.

Progress made in Energy Efficiency

Hawai'i has made steady progress in reducing electricity consumption over the past several years. Statewide electricity sales have declined an average of 1.5 percent per year between 2007 and 2011. In 2011, Hawai'i ranked number one in the nation for energy savings performance contracting per capita at \$117/person; national average is \$31.46/person. (Total savings for state agencies from performance contracting: \$151 million over the life of the contracts.)

In response to Act 155 (2009), the Hawai'i Public Utilities Commission (PUC) initiated a docket in early 2010 to establish energy efficiency standards "that will maximize cost-effective energy-efficiency programs and technologies" (HRS 269-96(a)). Twelve parties and intervening organizations are helping the PUC shape the framework for achieving the standard of 4,300 Gigawatt hours in energy use reductions by 2030. A decision and order in the EEPS docket is expected by early 2012. (see Figure 6)

Figure 6. Energy Efficiency Portfolio Standards 2005-2010



Source: Status Reports, 2005-2010 (Hawaii Public Utilities Commission)

Energy efficiency programs and incentives for the Hawaiian Electric Company service areas are managed by Public Benefits Fee Administrator (PBFA). The PUC increased the Public Benefits Fee from 1 percent to 1.5 percent of utility revenues, yielding approximately \$33 million

annually for energy efficiency programs and incentives. The PBFA is targeting approximately 110 gigawatt hours of electricity reduction for the 2011 fiscal year.

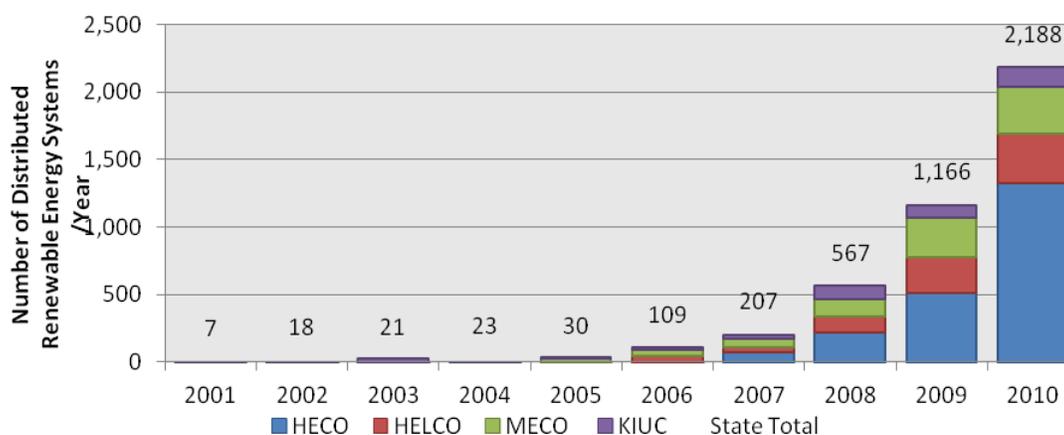
The Department of Business Economic Development & Tourism also has continued to work with various state and county agencies to update building codes by requiring new buildings be 15 percent more energy-efficient than the previous code required. Work is ongoing to double this standard to make the building code require new buildings be 30 percent more efficient than originally mandated.

State government has also taken a leadership role in energy efficiency implementation. For example, during fiscal year 2010, state departments reduced their total electric consumption by 2.8 percent from 2009 and saved more than \$20 million in energy costs statewide. Furthermore, the 2010 decline in the state’s energy consumption is the third consecutive year agencies have managed to cut energy use; 2010 also marked the first time state agencies were able to decrease costs from the previous year. To date, 14 state buildings have been certified as ENERGY STAR buildings by the US Environmental Protection Agency (US EPA). ENERGY STAR is a national program to identify buildings that are 25 percent more energy efficient than other buildings of the same type. The state has also been recognized nationally by the American Council for an Energy Efficient Economy (ACEEE) for Hawai‘i’s “Lead By Example Program” which is recognized as one of four states as “Best In U.S.”

Progress made in Renewable Energy

Hawai‘i’s abundant renewable energy resources as well as high electricity rates make it the perfect place to implement renewable energy technologies. Consequently, Hawai‘i was second in the nation in 2010 for PV capacity per capita. (Note: Nevada, Hawai‘i and New Jersey now have more per capita installations than California.) Further evidence of the progress Hawai‘i has made in renewable energy can be seen in the overall increase in distributed renewable energy systems installed over the last several years. (see Figure 7)

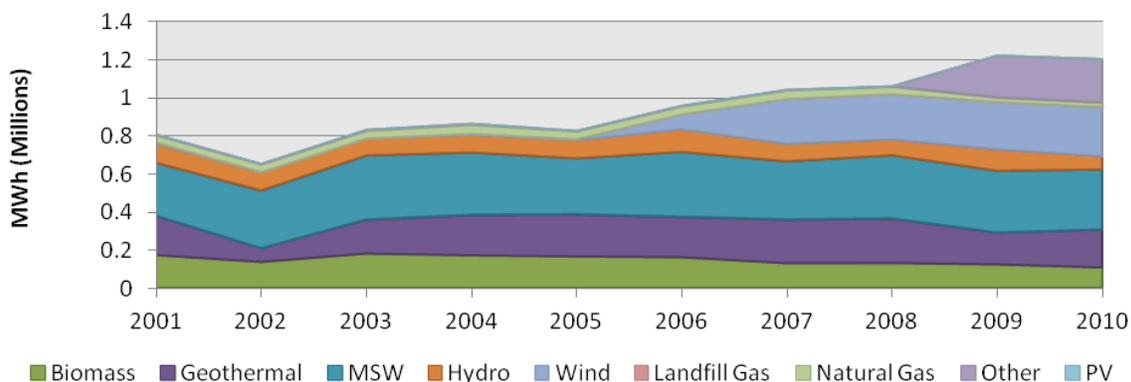
Figure 7. Number of installed distributed renewable energy systems per year



Source: Reports, 2010 (Public Utilities Commission)

Hawai'i's advancements in the renewable energy industry do not stop at installed distributed systems. The overall increase in RPS levels shows that Hawai'i is on track to meet its ambitious 2030 goal of 70 percent (see Figure 8).

Figure 8. Hawai'i Renewable Electricity Generation by Energy Source 2001 to 2010



Source: Reports, 2010 (Public Utilities Commission)

The State has completed a nearly 1 MW, 20-year, power purchase agreement for airports, and a second similar power purchase agreement is nearing completion. In addition, the State has developed and is in the process of managing more than 40 energy contracts totaling more than \$36 million.

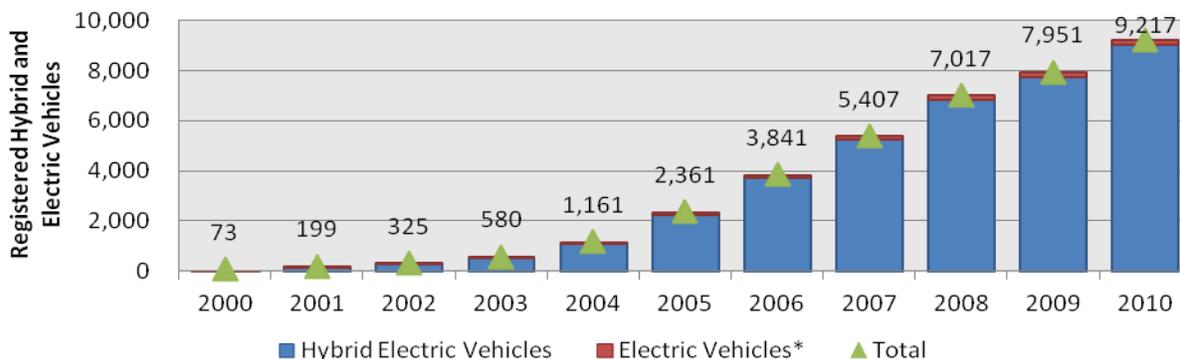
Despite being a relatively small economic player in the world energy market, Hawai'i has begun to utilize its unique environment, location, and innovative clean energy policies to secure national and international agreements that will bring the latest clean technology pilot programs to the state.

The State has worked with the U.S. military, one of the largest employers in Hawai'i. Hawai'i participated in the Pacific Command's Green Initiative for Fuels Transition Pacific (GIFTPAC.) The State's participation in GIFTPAC resulted in the consideration of Hawai'i for the production and supply of biofuels, specifically noting that Hawai'i is a "critical command location for all U.S. military services."

In another sign of renewable-energy progress, the State entered into a Memorandum of Understanding signed by Gov. Neil Abercrombie memorializing the agreement between Hawai'i and the Japan-based New Energy and Industrial Technology Development Organization (NEDO) to build the first-of-its-kind smart grid demonstration project on Maui.

Further evidence of the importance of Hawai'i as a template for renewable energy is the decision made by the Japanese company, Mitsubishi, to showcase their first North American all-electric vehicles on Maui. GreenCar Hawai'i, provider of an on-demand car sharing service, has recently begun pilot operations at hotels in Waikiki and Princeville on Kaua'i. Furthermore, Hawai'i is experiencing an overall upward trend in the usage of electric and hybrid vehicles (see Figure 9.)

Figure 9. Hawai'i Cumulative Hybrid and Electric Vehicles Registered 2000-2010



*Includes Neighborhood Electric Vehicles

Source: National Renewable Energy Laboratory, August 2011

The Task Force notes that there needs to be better analysis in advance of projects to compare estimated impacts among competing clean energy projects and strategies to ensure that public funds are leveraged and deployed most efficiently to achieve the State's energy security goals.

Activities Funded by the Environmental Response, Energy and Food Security Tax

Agriculture Activities Funded

In reviewing the federal and private investment data in Hawai'i agriculture as provided by Hawai'i's congressional delegation, the Task Force noted substantial federal expenditures spent on research. Over the past decade, approximately \$128 million in federal funds were provided in support of applied and basic agricultural research in Hawai'i, with funding concentrated on five research centers: Pacific Basin Agricultural Research Center, Hawai'i Agricultural Research Center, University of Hawai'i Manoa, University of Hawai'i Hilo, and the Oceanic Institute. These initiatives have provided the knowledge base crucial to advancing the State's agriculture.

In addition, other initiatives funded by State and private sources have contributed to the vitality of the agricultural industry.

Due to a legal opinion from the state Attorney General, the Department of Agriculture was unable to spend this year's allocation to the Agricultural Development and Food Security Special Fund. However, the funds have been carried forward to the upcoming year (see Table 1) and have been apportioned to provide support for programs and operations such as bio-security, irrigation, food safety, and neighbor island support, all of which can help the State reach its goal of food self-sufficiency and security.

Table 1. 2012 Agricultural Development and Food Security Special Fund allocations

Program	Purpose	Impact of Failure to Fund Program	Expenditure
Bio-security Program	Pest prevention/management programs	Failure to implement the Biosecurity Program will result in the inability to mitigate the invasive species impacts under the State Airports and Harbors modernization program. In addition, the Department will be unable to implement pest management programs for the already-impacted agriculture industry, the production of which is currently valued at \$689 million.	2,000,000
East Kauai Irrigation Operations and Maintenance	Support ongoing operations and maintenance of the East Kauai Irrigation System	The failure to operate and maintain the East Kauai Irrigation System will severely compromise the System's capacity to provide water to more than 7,000 acres of former sugar plantation lands. This is contrary to the appropriation proviso in Act 164 (SLH 2011) Part III Program Appropriation Provisions, Economic Development; Section 5, and would blunt the States' efforts in achieving food and energy security.	75,000
Irrigation Program Operations	Irrigation infrastructure maintenance, dam safety compliance, equipment purchase, pump maintenance, fuel, utilities, other supplies	The loss of State Irrigation System personnel responsible for maintaining the five irrigation systems, including water source and delivery infrastructure will severely threaten thousands of acres of productive agricultural lands served by the Program. Inability to provide proper and timely maintenance of high hazard reservoirs pursuant to dam safety requirements will threaten farms, property, and lives.	725,000
UH-CTAHR Food Safety and Security Program	Food safety and agro-security research and outreach	Failure to fund UH/CTAHR research and outreach on the major obstacles facing food safety and agro-security will result in Hawai'i's 7,000 farms continuing to struggle with food safety and security issues.	500,000
Planner/ Neighbor Island Administrative Support	Support food-energy security responsibilities. Free neighbor island professional staff from clerical duties	There is no agency tasked with ensuring agricultural land and irrigation water resources are available for farming and not urbanized or subdivided for non-agricultural uses without good reason. Freeing Neighbor Island professional field staff from clerical duties will significantly improve the delivery of critical pest control, pesticide education and usage monitoring, crop quality standards, and other farm-level activities and functions.	136,175
TOTAL			3,436,175

Energy Activities Funded

Considering Hawai'i's unique and isolated geographical location, the State and counties must jointly look to innovative solutions and alliances to achieve our energy security agenda. Hawai'i has started by proactively establishing energy security and self-sufficiency goals as a primary objective, and over time these goals have evolved into a regulatory framework of renewable and energy efficiency portfolio standards (see table 2).

Table 2. Energy Security Special Fund – Obligated & Planned Investments

INITIATIVE	FY 2011 Obligated	FY 2012 Expenditures
Hawai'i State Energy Office – Personnel Costs	178,299	1,784,013
Agricultural Business Plan Competition - Kaua'i EDB*		37,500
Agriculture Web Portal Expansion - Hawai'i County EDB*		35,000
Biopower System Evaluation - Kaua'i EDB		37,500
Clean Energy Analysis / Studies – State Energy Office		60,000
Clean Energy E-initiative - Hawai'i County EDB		40,000
Community Engagement Meetings - Enterprise Honolulu (Oahu EDB)		75,000
County of Hawai'i – County specific focus, but in congruence with the State	70,920	
DLNR Permitting – State Energy Office		11,000
DOH On-line Permitting – State Energy Office	150,000	
Energy Education / Outreach – State Energy Office		208,236
Interisland Cable Specifications – State Energy Office	500,000	
Kaua'i County – County specific focus, but in congruence with the State	72,269	
NREL / OP GIS Layers for REZ – State Energy Office		100,000
Represent Energy Community Interests & Expand Services - C&C Honolulu		75,000
Represent Energy Community Interests & Expand Services - County of Maui		71,811
Renewable Energy Resource Center – Maui EDB		50,000
State Matching Funds to Federal Grants – State Energy Office		96,600
Water Story Outreach – Maui EDB*		25,000
Energy Efficiency Programs		431,359
Rebuild Hawai'i		6,000
Program Support – State Energy Office	7,561	86,194
Special Fund Assessments	167,615	247,200
Total	1,146,664	3,477,413

* These projects are related to agriculture; however they were paid for out of the energy security fund
Source: State Energy Office

RECOMMENDATIONS

The Task Force believes that a heightened sense of urgency compels us to accelerate our independence from imported food and fuel. While the Task Force considered many proposals, the following recommendations would quickly and effectively address food and energy security issues.

Broadly engage Hawai'i communities in shaping goals, projects, and practices in food and fuel security for current and future generations.

The Hawai'i Economic Development Task Force recognizes the citizens of the State of Hawai'i are not widely aware of the State's dependence on foreign energy and food. To help communicate the urgency of this work, key topics should include: long-term objectives in food and fuel security contrasted with current reality, inventory of natural resources for food and fuel, food and fuel community consumption data, interdependency of our island resources, and community resource management practices with an emphasis on providing for the future and replenishing our natural resources.

Increased support for the Energy Security Special Fund, the Agricultural Development and Food Security Special Fund

Reallocating Existing Funds

In 2011, \$10.6 million (43 percent) of the \$24.7 million Barrel Tax revenue was allocated to the Energy Security Special Fund, the Agricultural Development and Food Security Special Fund, and the Energy Systems Development Special Fund while the remaining \$14.1 million was allocated to the general fund. The Task Force recommends that the Legislature fulfill the legislative intent and commitment of Act 73 by allocating the \$0.60 balance that is diverted to the general fund and return it to the Energy Security Special fund and the Agricultural Development and Food Security Special Fund. This is an essential step to provide the long-term, sustained support of the food and energy security agenda that the Legislature envisioned with the enactment of Act 73.

Specifically, the Task Force recommends that the Legislature direct \$0.30 of the non-allocated amount to the Energy Security Special Fund and \$0.30 to the Agricultural Development and Food Security Special Fund.

Increasing the Barrel Tax

The Task Force recommends that, if the legislature is unable to reallocate the \$0.60 which currently goes into the general fund, that the barrel tax be increased to provide adequate funding for the Energy Security Special Fund and the Agricultural Development and Food Security Special Fund.

It is understood that there are many competing interests for the Barrel Tax proceeds. However, the Task Force believes that adequate funding of these special funds is not only essential to the security of Hawai'i but can also serve the purpose of stimulating the economy.

In addition, the Task Force recommends removing the sunset provision of 2015, so the tax has no stated expiration date.

(For additional details of vital programs that will continue or begin with the funds from the barrel tax, see Appendix E.)

Raise the Spending Cap Currently on the State Energy Office and the Department of Agriculture

The State Energy Office within the Department of Economic Development & Tourism and the Department of Agriculture currently have caps of approximately \$3.5 million placed on their yearly expenditures from their barrel tax funds. These caps act as barriers to Hawai'i reaching its ambitious goals of energy and food self-sufficiency. The Task Force recommends that these caps be raised to \$8 million each. By raising these spending caps, both departments will have increased flexibility to fully utilize their already existing funds as they lead the State's food and energy security programs.

Consider the Enactment of a Coal Tax

The Task Force recommends further study of instituting a coal tax. Taxing coal, another significant fossil fuel, would seem consistent with state policy. Coal is a non-renewable carbon-based fossil fuel currently imported to Hawai'i at a rate of 910,000 tons per year¹², making it the second most utilized source of energy generation. A coal tax similar to the already existing barrel tax could provide needed funding to the State Energy Office, Department of Land and Natural Resources, as well as to the Department of Agriculture. These funds would be used to help Hawai'i reach its goal of gaining food and energy security/self-sustainability while also discouraging the use of fuels that emit significant amounts of carbon dioxide.

The Task Force is mindful that AES Corporation utilizes coal to generate power and may have to renegotiate its Power Purchase Agreement to allow for such an increase in its costs. Consequently, ratepayers may also be affected.

(An analysis of the impacts on ratepayers of a coal tax may be found in Appendix F.)

Strengthen Hawai'i brands

Long-term, sustained support for the protection of Hawai'i brands is needed. A recent market survey of O'ahu shoppers conducted by the Ulupono Initiative indicated that nearly 74 percent of Hawai'i consumers believe it is very important that Hawai'i grow its own local foods; 81 percent said too little food is grown in Hawai'i; and a large percentage said they are willing to pay more for some local products. But the study also found consumers faced a major challenge in distinguishing what's local and what's imported.

¹² 2010 State of Hawaii Data Book

As with any product and service, the establishment and protection of a brand are key to maximizing economic viability. Given the unique challenges associated with developing and growing products in Hawai'i, it is even more important to protect the "made or grown in Hawai'i" brand. The Kona coffee industry experienced the negative effects that can come from the failure to protect a Hawai'i brand. Recent studies showed that numerous companies around the world are blending Kona coffee with lower-grade coffee while still packaging, labeling and selling the blended coffee as "Kona Coffee." It is estimated that this blending costs the Kona coffee industry more than \$14.4 million a year. Encouraging and supporting the establishment and protection of the Hawai'i brand are important steps toward increasing food security. The Task Force believes increasing the Hawai'i Department of Agriculture's ability to provide oversight to be essential.

Expand K-Career Science, Technology, Engineering and Math Education in all Schools to Inspire Entry into the Agriculture and Clean Energy Workforce.

Hawai'i must continue to invest in the education-to-workforce pipeline, with particular emphasis in the science, technology, engineering and math (STEM) fields. Building a homegrown talent pool with the requisite STEM skills will assure that Hawai'i can create the innovative solutions to move our state toward food and fuel security. Aligning cultural values and the sustainability models of our past, with the technology of our future, will provide the key to independence. Expanding training for our educators and technology tools for our students are essential infrastructure investments. Connecting education with industry through mentoring, job shadowing, internships and apprenticeships will keep our students engaged, providing real world experiences to spark their own environmental contributions.

Land Use Planning: Support five-year boundary review

The Office of Planning is charged with the review of the classification and districting of all lands in the State, within five years from December 31, 1985, and every fifth year thereafter. The five-year boundary review focuses on the Hawai'i state plan, county general plans, and county development and community plans. Upon completion of the five-year boundary review, the Office submits a report of its findings to the State Land Use Commission. The Office may initiate state land use boundary amendments which it deems appropriate to conform to these plans. The boundary review process is one vehicle for statewide planning that integrates food and energy security as a long-term land use planning strategy. The legislature could support this effort by allocating funds that will allow the Office to seek assistance of appropriate State and county agencies and employ consultants to undertake studies in making this review.

Engage the Counties in Creating Strategic Plans for the Compatible Co-Existence between Agriculture and Energy throughout the State

The Task Force recognizes that each county in Hawai'i is different and has a unique set of environmental challenges. However, the Task Force also recognizes that reaching the goal of food and fuel security will take a coordinated effort by all of the State's counties and people.

Hawai'i's counties have done an impressive job in addressing food and energy issues on their respective islands. The Task Force recommends that the legislature and administration engage all counties in the State through the Comprehensive Economic Development Strategy (CEDS) to alleviate the challenges associated with developing projects which will help lead to food and energy security. The CEDS plan recognizes the need for a coordinated statewide response to agricultural and energy requirements, which fosters the sharing of resources and best practices.

Enlist the help of visitors to adopt Hawai'i's energy and agricultural goals

The Task Force notes that the State's tourism industry is one of the largest consumers of energy and food. Each year, visitor energy usage generates more than four times as much greenhouse gas as resident energy usage.¹³ With increasing environmental awareness, tourists globally have come to expect waste, conservation, and resource management programs. The Task Force recommends engaging key tourism constituencies in establishing recommended conservation practices to meet the expectations of our visitors to preserve our limited island resources.

Transform the Hawai'i Economic Development Task Force to the Food & Energy Security Council and continue its existence through June 2014

The Task Force believes that the entire conversation regarding the importance of food and energy security, as well as climate change adaptation strategies need to be raised at both the community and the government levels. To do so, the Task Force recommends that this work continue until at least 2014 and that the Task Force, be renamed the Hawai'i Food and Energy Security Council. The Task Force can continue the work outlined in act 73, and work on other related issues such as climate change adaptation strategies and watershed restoration.

¹³ Konan, D.E. and Chan, HL, 2010 Greenhouse Gas Emissions in Hawaii: Household and Visitor Analysis and Visitor Analysis, Energy Economics, 32 (1), 210-19

CONCLUSION

The Hawai'i Economic Development Task Force seeks to chart a course for our island state that strives for increased self-sufficiency while growing our independence in food and energy, a course that preserves our environment while ensuring the healthy economic well-being of generations to come.

The Hawai'i Economic Development Task Force recognizes the unique roles within our diverse island community. To rise to difficult challenges that face our entire state, we must respectfully work together as a unified state rather than as independent islands. To find innovative solutions, we must honor the wisdom of those who have gone before us. To seek a better future, we advocate for laulima — many hands working together for everyone's success.

APPENDICES

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Appendix A HAWAI‘I ECONOMIC DEVELOPMENT
TASK FORCE 2011 INTERIM REPORT

HAWAI‘I ECONOMIC DEVELOPMENT TASK FORCE

Report to the 2011 Hawai‘i Legislature

Overview

The purpose of the Hawai‘i Economic Development Task Force (Task Force) is to facilitate the accelerated adoption and completion of renewable-energy project, energy-efficiency programs, agricultural infrastructure and development and support public and private efforts to make Hawai‘i energy- and food-self-sufficient, consistent with the “Hawai‘i 2050 Sustainability Plan,” “Hawai‘i Clean Energy Initiative,” and other government and community planning efforts. The Task Force was created by The Food and Energy Security Act 73(10), which took effect on July 1, 2010 in amendments to the Environmental Response Revolving Fund, Hawai‘i Revised Statutes (HRS) Chapter 128D-2 and shall cease to exist on June 30, 2012.

The ten tasks mandated by the legislative act and the deadlines for reporting are numbered in parentheses in the Task Force Work Plan section below (A-J) and are also highlighted in Section 6 of the following link [http://Hawai‘i.gov/dbedt/info/energy/HEDTF/index.html](http://Hawai'i.gov/dbedt/info/energy/HEDTF/index.html).

This initial report meets statutory requirements of the Task Force to submit to the 2011 Hawai‘i Legislature a copy of its findings and recommendations, along with any proposed legislation relating to its review of current food and energy security issues; alternative measures for funding and cooperation; alternative strategies, mechanisms, and processes for streamlining and promoting efficiencies; and evaluating the apportionment of the Environmental Response, Energy and Food Security Tax (EREFST). Prior to the 2012 legislative session, the Task Force shall submit a follow-up report to the legislature with an account of the activities funded by the EREFST, progress made toward energy and food self-sufficiency, and additional actions necessary to achieve energy and food self-sufficiency.

The questions raised by the Legislature on food and energy security come at a critical juncture.

The legislature has found that mass consumption of fossil fuels, driven by our dependence on food and energy imports, contributes to climate change and the deterioration of the environment, including severe storm events, less rainfall, warmer temperatures that favor invasive species, a rise in sea levels, and ocean acidification that hampers coral growth. These climate changes will likely impose significant inestimable costs and other adverse effects on Hawai‘i’s people and the natural capital we depend upon to support our lives in the middle of the Pacific Ocean.

With thousands of acres of productive agricultural-designated lands fallow or in transition, business interests and government are seeking ways to expand food and non-food agricultural capacity and reduce Hawai‘i’s imports of beef, fresh vegetables and fruits, milk, and other agricultural products. There are considerable risks and costs to Hawai‘i’s dependency on importing the estimated 90 percent

of beef, 67 percent of fresh vegetables, 65 percent of fresh fruits, and more than 80 percent of all milk consumed in the state.

Although Hawai'i has available renewable resources like solar, wind, ocean, hydroelectric and geothermal energy, we as a community have not taken full advantage of alternative-energy and energy-efficiency solutions to make the state more energy-independent.

The legislature finds that it is in the best interests of Hawai'i's people to build the capacity the State needs to become self-sufficient in its energy and food needs and to protect the health and vitality of our environment. As discussed in the *Hawai'i 2050 Sustainability Plan* and the *Hawai'i Clean Energy Initiative*, our State has all the necessary assets to significantly improve its energy and food sustainability and independence over the next 20 years if appropriate personnel resources and funds are used wisely. To succeed, Hawai'i must ensure that its long-term strategy has focus, sufficient resources, and coordination among public and private sector stakeholders and interested parties.

In discussing energy- and food-self-sufficiency, Act 73 seeks consistency with the *Hawai'i 2050 Sustainability Plan*, and the *Hawai'i Clean Energy Initiative*, and these policies form the basis of the Task Force's understanding of what it means for Hawai'i to have food and energy security.

The State's first definition of sustainability, as defined by the *Hawai'i 2050 Sustainability Plan*, is a Hawai'i that achieves the following:

- Respects the culture, character, beauty and history of our State's island communities.
- Strikes a balance among economic, social and community, and environmental priorities.
- Meets the needs of the present without compromising the ability of future generations to meet their own needs.

The Hawai'i 2050 goals are characterized as integrated philosophies that express the sustainable future of Hawai'i as follows:

- Living sustainably is part of our daily practice in Hawai'i.
- Our diversified and globally competitive economy enables us to meaningfully live, work and play in Hawai'i.
- Our natural resources are responsibly and respectfully used, replenished and preserved for future generations.
- Our community is strong, healthy, vibrant and nurturing, providing safety nets for those in need.
- Our Kanaka Maoli and island cultures and values are thriving and perpetuated.

The *Hawai'i Clean Energy Initiative* has spawned statutory renewable energy and energy efficiency portfolio standards that serve as an unambiguous guide towards achieving energy security in Hawai'i. In 2004, the Hawai'i Legislature first established a renewable portfolio standard with adoption of Act 95 (HRS §196-41, HRS §269-92). Act 155 (2009) increased the RPS by amending HRS §269-92 to raise the RPS levels to 25 percent by 2020, and to establish a 40 percent RPS by 2030. The Act also sets a precedent for electrical utility clean energy portfolio standards by including a separate goal for energy efficiency, establishing an energy efficiency portfolio standard (EEPS) calling for the statewide reduction

in electricity use of four thousand three hundred gigawatt-hours (4300 GWH) via efficiency measures by 2030.

The *Hawai'i 2050 Sustainability Plan* recommends setting benchmarks to achieve sustainability goals. Benchmarks 3 and 7 relate to food security and are summarized below:

Benchmark 3

Develop a sustainability ethic. (Goal 1, Strategic Action 1)

Why this matters:

- If Hawai'i's people understand and believe in sustainability, the goals of Hawai'i 2050 will be achieved. The result will be a change in consumer behavior by individuals as well as institutional users to conserve water and electricity, recycle, purchase biodegradable products, and buy local foods and products.

Where we are now:

- No benchmark data on this polling question is available yet. However, according to a 2007 Hawai'i 2050 public opinion poll, about 80 percent of the population favors a "triple-bottom line" or balanced approach to Hawai'i's future, a key component of sustainability.

2020 Suggested Benchmark:

- 85 percent of Hawai'i residents consider sustainability to be a "critically important" issue to our state.
- The Task Force also suggests setting benchmarks on various aspects of consumer behavior, including per capita water consumption; per capita alternative energy consumed; use of solar water heating sources; and participation rate in recycling programs.

Benchmark 7

Increase production and consumption of local foods and products, particularly agricultural products (Goal 2, Strategic Action 1).

Why this matters:

- Food self-sufficiency is one of the foundations of a sustainable community. Thriving local farms contribute to the economy, help preserve green spaces and a rural way of life, and make us less vulnerable to external catastrophes.

Where we are now:

- Only about 15 percent of the food we consume is grown locally, including about 35 percent of the fruits and vegetables consumed are grown locally.

2020 Suggested Benchmark:

- The UH College of Tropical Agriculture and Human Resources (CTAHR) estimates that it is reasonable that 30 percent of the food consumed in the State can be grown locally. CTAHR also estimates that 85 percent of the fruits and vegetables we consume can be grown locally.

There are no similar statutory provisions that go beyond the *Hawai`i 2050 Sustainability Plan* in clarifying what is meant by food security. For this reason, defining food security will be a principal focus of the 2011 Task Force agenda. One method that will be investigated closely is the Hawai`i 2050 recommendation to establish indicators that measure progress towards specific sustainability goals.

Task Force 2011 Work Plan

In this report and our follow-up report to the 2012 Hawai`i Legislature, the Task Force intends to make a valuable contribution toward the broad purpose of The Food and Energy Security Act to:

- promote economic development for local food and energy businesses by providing necessary funding, guidance, and infrastructure;
- ensure Hawai`i is energy and food self-sufficient and sustainable to the maximum extent feasible; and
- help Hawai`i's natural resources and population adapt and be resilient to the inevitable challenges brought on by climate change caused by carbon dioxide and other greenhouse gas emissions from burning fossil fuels.

This initial report offers preliminary observations to the Legislature regarding energy and food security in Hawai`i and presents a work plan for consultation and collaboration with private, nonprofit, community, and government stakeholders to identify and fill gaps in food and energy security strategies, goals, and programs. The timing of the initial report and the broad scope of the HEDTF's mission necessitates that critical assessments and findings that encompass and fully engage community stakeholders on energy and food security matters be fully investigated during 2011 and presented in the follow-up report.

The work plan to achieve this has been prepared to specifically address the following ten sections (A-J) pursuant to Act 73:

Consultation with appropriate private, nonprofit, community, and government stakeholders to address energy and food security issues by:

- (A) Identifying and reviewing each state and county agency's policy objectives, mandates, organizational structure, and resources relevant to energy and food security issues;
- (B) Identifying all federal and private funds available to the State and counties for energy and food security issues;
- (C) Identifying effective measures for interagency cooperation, coordinate efforts with the counties, and promote public- and private-sector partnerships to achieve the objective of energy and food security;
- (D) Identifying existing programs and agreements addressing energy and food security that may be enhanced through legislation;
- (E) Investigating alternative institutional mechanisms to promote the efficient execution and implementation of a multi-year strategy to achieve energy and food security;
- (F) Investigating the streamlining of administrative processes to accelerate and achieve energy and food security;

- (G) Providing an appropriate forum for all affected or interested parties to address energy and food security issues;
- (H) Recommending appropriate legislation resulting from its findings to improve, accelerate, and achieve the objective of energy and food security;
- (I) Reviewing whether:
 1. The apportionment of the environmental response, energy, and food security tax among the funds listed under section 243-3.5, Hawai'i Revised Statutes, is appropriate;
 2. The apportionment should be changed; and
 3. Any additional special, trust, or revolving fund should receive a share of the tax; and
- (J) Performing any other function necessary to effectuate enhanced energy and food security.

Attachments A through G track the progress to date on the 10 tasks (A)-(J), and should be considered a work in progress and not complete or exhaustive. The Task Force will begin work on tasks 5-6 and 8-9 in January of 2011 as data and input from stakeholders are collected and analyzed throughout 2011. During the final quarter of 2011, the Task Force will be primarily focused on preparation of the follow-up report to the 2012 legislature, which is intended to present a comprehensive summary of findings recommendations and supporting information on all 10 tasks above.

Consistent with section (G) of the work plan described above, outreach and community involvement are necessary components of carrying out the work plan. Accordingly, the Task Force plans to conduct meetings on O`ahu, Kaua`i, Maui, and the County of Hawai`i and will investigate state and county planning documents according to the following schedule:

1/18/11	<i>2010 Hawai`i Statewide Comprehensive Economic Development Strategy and HCEI Roadmap</i>
2/8/11	<i>Kaua`i Economic Development Plan and Policy Recommendations for Hawai`i's Energy Future (Rocky Mountain Institute, March 2009)</i>
3/1/11	<i>Maui County 2030 General Plan, Maui Island Plan, and 9 Community Plans</i>
3/15/11	<i>2009 County of Hawai`i Agricultural Development Plan and Kamehameha Schools Strategic Agricultural Plan (2010)</i>
4/5/11	<i>Hawai`i 2050 Sustainability Plan and Hawai`i State Plan (Chapter 226, HRS)</i>
4/26/11	<i>Kaua`i County Energy Sustainability Report, March 2010</i>
5/17/11	<i>Maui County Energy Alliance Renewable Energy Action Plan</i>
6/7/11	<i>Hawai`i County Energy Sustainability Plan, 2008</i>
6/28/11	<i>O`ahu General Plan, Nov. 8, 2010 and 8 Sustainable Communities Plans</i>

7/19/11	<i>Kaua`i General Plan 2000 and the County of Kauai`i Important Agricultural Lands (IAL) Study</i>
8/9/11	<i>County of Hawai`i Agriculture Development Plan, 2009</i>
8/30/11	<i>Hawai`i County Baseline Energy Analysis, 5/10/06-2/19/07</i>

Other reports shall be investigated, such as *Food and Nutrition Security in the United States-affiliated Pacific Islands* (George Kent, 2008), *Diversified, Localized and Sustainable Agriculture on Kaua`i* (Malama Kaua`i, 2010), *Work Plan for Greenhouse Gas Emissions Reductions* (Greenhouse Gas Reduction Task Force, 12/30/09), and Hawai`i State Planning Act, Chapter 226, HRS.

The Task Force will also conduct outreach and analysis on the 11 long-standing issues identified by the Department of Agriculture in growing agriculture in Hawai`i: (1) land, (2) water, (3) workforce development, (4) public awareness/support, (5) marketing and competitiveness, (6) research and development, (7) transportation and energy, (8) food safety, (9) bio-security, (10) environment and (11) financing.

As the Task Force identifies effective measures for interagency and inter-organization cooperation, coordination and promotion of food and energy security programs, the list of relevant state and county agencies, and non-profit organizations (Attachment C) will be expanded. By sector, the initial list includes:

Non-profit Sector (14): 4 Ag Hawai`i; Agribusiness Development Corporation; Blue Planet Foundation; Enterprise Honolulu; Hawai`i Crop Improvement Association; Hawai`i Farm Bureau Federation; ; Hawai`i Island Economic Development Board; Hawai`i Solar Energy Association; KAHEA; Kaua`i Economic Development Board; Maui County Economic Development Board; Maui County Energy Alliance; The O`ahu, Tri-Isle, Big Island, and Garden Island Resource Conservation and Development Councils; Sierra Club Hawai`i Chapter; and Ulupono Initiative.

Public Sector/Counties (4): City & County of Honolulu Department of Planning and Permitting; Kaua`i Planning Department; Maui Planning Department; Hawai`i County Planning Department.

Public Sector/State (11): Hawai`i Forestry and Natural Resources Management - Hilo; Department of Agriculture; Department of Business, Economic Development & Tourism (a) Land Use Commission, (b) Office of Planning, (c) State Energy Office; Department of Commerce and Consumer Affairs; Department of Hawaiian Home Lands; Department of Land and Natural Resources; Hawai`i Public Utilities Commission; the College of Tropical Agriculture and Human Resources and the entire University of Hawai`i System- Manoa, Hilo, West O`ahu, and Community Colleges.

Public Utilities (3): Hawaiian Electric companies; Kaua`i Island Utility Cooperative; The Gas Company; Board of Water Supply; other private power generators and water suppliers.

Preliminary Findings

Policy makers have long characterized Hawai'i's dependence on energy and food imports in mostly economic terms: the adverse impacts on balance of trade payments and consumer disposable income, as well as lost opportunities for income and jobs arising from locally based food and clean energy industries. The Task Force recognizes that achieving energy and food security has the potential for improving balance of trade payments in the billions of dollars annually, which will contribute to long term economic development opportunities for Hawai'i. As such, the state's economic development boards and higher education institutions, with considerable experience and success in providing technical assistance to businesses and individuals, should be supported with a portion of the environmental response, energy and food security tax (EREFST) and state general funds to help Hawai'i businesses and individuals build capacity to achieve the state's energy and food security agenda. The specific recommended levels of support will be specified in the Task Force's 2011 follow-up report.

The Department of Agriculture and the State Energy Office have identified programs and initiatives that would support the food and energy security agenda. Attachment H is a draft estimate of costs per fiscal year for Agricultural Development and Food Security Special Fund projects organized by allowable uses for fiscal years 2012 through 2015. The combined total of these projects is \$43,816,230. Attachment I provides the estimated costs for potential State Energy Office appropriate to be funded by the Energy Security Special Fund.

Because collections of the EREFST began in July of 2010, a complete accounting of available and estimated EREFST funds will be included in the 2012 follow-up report. It is clear, however, that the combined budgets for pursuing the entire group of programs described in Attachments H and I is beyond the capacity of the EREFST to support. It is essential, then, for state planners to present a clear estimate of the benefits and costs to food and energy consumers and the public at large when targeting resources to improve food and energy security.

In reviewing the federal and private investment in Hawai'i agriculture, the Task Force noted substantial federal expenditures in research based on information provided by Hawai'i's congressional delegation. Over the past decade, approximately \$128 million in federal funds were provided in support of applied and basic agricultural research in Hawai'i, with funding concentrated on four research centers: Pacific Basin Agricultural Research Center, Hawai'i Agricultural Research Center, University of Hawai'i Manoa, University of Hawai'i Hilo, and the Oceanic Institute. These initiatives have provided the knowledge-base crucial to advancing the State's agriculture. In addition, other initiatives funded by State and private sources have contributed to the vitality of the agricultural industry.

However, the lack of overall State benchmarks and goals make it difficult to assess the progress Hawai'i has made towards achieving food self-sufficiency.

The Task Force also notes that Hawai'i faces considerable challenges in producing the quantity, quality and diversity of food as cheaply as it obtains imports. Achieving 100 percent self-sufficiency is not practicable, but food security in Hawai'i requires an appropriate balance of imports and locally produced food, which is not characteristic of the current situation.

Further, the agricultural sector needs to be considered as a whole, not just food production for local consumption, because the entire sector is interdependent in assuring the availability of support services, workforce training and opportunities, value-added facilities and import substitution for all locally grown agricultural products for Hawai'i's economic development and to reduce the risk of importing hitch-hiking invasive species.

Likewise, Hawai`i has secured \$118.3 million to support a broad range of clean energy projects, from energy efficiency and the smart grid to wind power, biofuels and expanding a skilled workforce to support these projects. The \$118.3 million includes:

- \$25.9 million of American Recovery & Reinvestment Act grants through the State Energy Program.
- \$4 million through the Weatherization Assistance Program.
- \$5.5 million to KIUC for smart meters and communications infrastructure.
- \$15 million from the Energy Efficiency and Conservation Block program and distributed as follows: State Energy Office of Hawai`i (\$9,593,500); City and County of Honolulu (\$3.9 million); Hawai`i County (\$737,800); Maui County (\$605,300) and Kaua`i County (\$267,900).
- \$750,000 from the U.S. Department of Energy to the Hawaiian Electric Company for the development of wind power initiatives through the Hawai`i Utility Integration Initiative.
- \$5.3 million to Hawai`i Electric Company to upgrade its electrical grid as part the Smart Grid technology program.
- \$1.23 million for a State-run rebate program for consumer purchases of new ENERGY STAR qualified home appliances
- \$10.6 million to the Hawai`i Natural Energy Institute
- \$6 million to the Pacific International Center for High Technology Research
- \$6 million to the DLIR-Workforce Development Council for workforce development training

In 2010, DBEDT surveyed 161 private and public businesses/institutions to gauge energy investment within the State. The results of the survey indicated that investments for 2009 amounted to \$345 million, for 2010 is projected as \$917 million, and for 2011 is projected to reach \$1.2 billion. Meanwhile, an estimated 11,145 green current jobs in Hawai`i have been created by private industry, much of it associated with the State's initiatives for a transformation to clean energy. (Source: Hawai`i's Green Workforce: A Baseline Assessment, State of Hawai`i - DLIR, November 2010, p. 14.)

Although the renewable and energy efficiency portfolio standards goals have been established as previously discussed, there needs to be a greater focus on accurately measuring economic impact of these policies to include, but not be limited to income, electricity costs to consumers, permanent job creation, balance of trade, and revenue estimates to the State of Hawai`i. There also needs to be better analysis in advance of projects to compare estimated impacts among competing clean energy projects and strategies to ensure that public funds are leveraged and deployed most efficiently to achieve the State's energy security goals.

Based on our unique, isolated geographical location, Hawai`i must look to innovative solutions and alliances to achieve our energy and food security agenda. For example, much of the United States has policy instruments such as the Clean Air Act to provide the impetus for significant improvements in energy and transportation systems vis-à-vis a carefully constructed network of mandatory requirements and financial incentives. These mechanisms have had positive impacts on improving energy security as an important secondary goal. However, a comparable mechanism for agriculture does not currently exist.

Hawai`i has the good fortune of not being in violation of National Ambient Air Quality Standards under the Clean Air Act. Consequently, it is ineligible for federal Congestion Mitigation – Air Quality funds to subsidize installation of approved air pollution control strategies that can also improve energy security.

Hawai`i has proactively established energy security and self-sufficiency goals as a primary objective, and over time these goals have evolved into a mandatory framework of renewable and energy efficiency portfolio standards. For locally produced food production, there is no similar voluntary or compulsory framework. The Hawai`i Clean Energy Initiative (HCEI) developed a roadmap and goal setting process. Learning from that process, the Task Force will investigate what framework will serve best the overall quest for food and energy security.

Recommendations

To improve food and energy security in Hawai`i, the Task Force recommends:

- Setting benchmarks for achieving food and energy security goals.
- Providing sustained public investments and support in retaining and maintaining agriculture infrastructure, such as water storage capacity, conservation, and irrigation systems and capital improvement for dams and reservoirs.
 - ✓ Statutory Source: Chapter 226, HRS, Part III, Priority Guidelines, Section 103(d) (3) Encourage public and private investment to increase water supply and improve transmission, storage, and irrigation facilities in support of diversified agriculture...”
- Protecting the best of agricultural lands from development through Important Agricultural Lands (IAL) designation, necessary amendments to Chapter 205, HRS as it pertains to permissible uses on designated IAL, permanent agricultural easements, assuring the use of agricultural subdivision only for the creation of real farms and not “gentlemen’s estates,” and using smart growth strategies to avoid urban sprawl.
 - ✓ Statutory Source: Chapter 226, HRS, Part III, Priority Guidelines, Section 104(b)(1) “Encourage urban growth primarily to existing urban areas where adequate public facilities are already available or can be provided with reasonable public expenditures, and away from areas where other important benefits are present, such as the protection of important agricultural land...”
 - ✓ Statutory Source: Chapter 205, Hawai`i Revised Statutes, Part III, Section 41, Declaration of Policy. “It is declared that the people of Hawai`i have a substantial interest in the health and sustainability of agriculture as an industry in the State. There is a compelling state interest in conserving the State’s agricultural land resource base and assuring the long-term availability of agricultural lands for agricultural use to achieve the purposes of: (1) Conserving and protecting agricultural lands; (2) Promoting diversified agriculture; (3) Increasing agricultural self-sufficiency; and (4) Assuring the availability of agriculturally suitable lands, pursuant to article XI, section 3, of the Hawai`i state constitution.”
- Developing a cross-agency electronic agricultural data system with soil, water, climate, economic, and other relevant data that can be used to make informed agriculture-related decisions and is supported and maintained with sustainable funds.

- Developing a new planning, program and budget paradigm that focuses on the synergy between food and energy to capitalize on addressing agricultural issues, such as the production of livestock feeds from the by-products of algae and other energy crops.
- Adoption innovations in workforce development and career choice options in agriculture and clean energy.
- Marketing and promoting buying locally grown foods and other local agriculture products.
- Building more alliances with large landowners for land and water use that have mutual benefits and advance the goals of increasing food and energy security.
- Ensuring that the Departments of Agriculture and Business, Economic Development and Tourism have sufficient personnel to provide the planning, implementation, and oversight necessary to advance the State's food and energy security agenda.

The Task Force calls on the Legislature to provide the long term, sustained support of the food and energy security agenda through consistent state funding and by allocating the \$0.60 not allocated by Act 73. Consistent with the legislative intent of Act 73, the Task Force recommends that the Legislature direct fifty percent (50%) of the non-allocated amount to the 'Energy Security Special Fund' and fifty percent (50%) to the 'Agricultural Development and Food Security Special Fund.'

The Task Force also understands that part of Hawai'i's clean energy agenda is the investigation of locally grown bio-fuels for power generation and transportation purposes. This has resulted in a healthy discussion on the appropriate mix of agricultural lands to produce "food and fuel" in Hawai'i and that discussion will continue in the course of the Task Force's deliberations towards synergy rather than competition.

The 2012 follow-up report will seek to promote economic development options for local food and energy businesses while considering and evaluating each island's unique food and energy security opportunities and challenges. With an integrated analysis of stakeholder input, potential strategic alliances, resources, and policy tools, the Task Force recommendations in the 2012 Report to the Legislature will pinpoint specific EREFST funding, guidance, and infrastructure to achieve a desired level of energy and food self-sufficiency and sustainability to the maximum extent feasible.

Attachment A

HEDTF TASK 1

(Section A on Page 5)

Identifying and reviewing each state and county agency's policy objectives, mandates, organizational structure, and resources relevant to energy and food security issues.

A	Agribusiness Development Corporation (ADC)
	POLICY OBJECTIVE - Facilitate and provide direction for the transition of Hawai`i's agriculture industry from a dominance of sugar and pineapple to one composed of a diversity of different crops.
	MANDATE - To acquire, and manage in partnership with farmers, ranchers, and aquaculture groups, selected high-value lands, water systems, and infrastructure for commercial agricultural use and to direct research into areas that will lead to the development of new crops, markets, and lower production costs.
	ORGANIZATIONAL STRUCTURE - Board of directors consisting of eight private-sector members appointed by the governor and three ex-officio members to include Chairperson of HDOA, Chairperson of the Department of Land and Natural Resources (DLNR) and Director of the Department of Business, Economic Development and Tourism (DBEDT).
	RESOURCES - Exemptions from Hawai`i Revised Statutes Chapter 171 regarding land use, as well as PUC regulations and civil service laws; the ability to issue bonds; and to form subsidiaries to manage programs. However, ADC faces challenges on (1) having limited resources, and (2) duplicating efforts of other state agencies or non-profit organizations.
	Source: ADC
B	City & County of Honolulu

	<p>POLICY OBJECTIVE - To maintain the viability of agriculture. In energy; to (1) maintain an adequate, dependable, and economical supply of energy for O`ahu residents, (2) conserve energy through more efficient management, (3) fully utilize proven alternative sources of energy, (4) develop and apply new, locally available energy resources, and (5) establish a continuing energy information program.</p>
	<p>AGRICULTURE MANDATE - (1) Assist the agricultural industry to ensure the continuation of agriculture as an important source of income and employment, (2) Support agricultural diversification in all agricultural areas on O`ahu, (3) Support the development of markets for local products, particularly those with the potential for economic growth, (4) Provide sufficient agricultural land in Ewa, Central O`ahu, and the North Shore to encourage the continuation of sugar and pineapple as viable industries, (5) Maintain agricultural land along the Windward, North Shore, and Waianae coasts for truck farming, flower growing, aquaculture, livestock production, and other types of diversified agriculture, (6) Encourage the more intensive use of productive agricultural land, (7) Encourage the use of more efficient production practices by agriculture, including the efficient use of water, and (8) Encourage the more efficient use of non-potable water for agricultural use.</p>
	<p>ENERGY MANDATE - (1) Develop and maintain a comprehensive plan to guide and coordinate energy conservation and alternative energy development and utilization programs on O`ahu, (2) Establish economic incentives and regulatory measures which will reduce O`ahu's dependence on petroleum, (3) Support programs and projects which contribute to the attainment of energy self-sufficiency, (4) Promote and assist efforts to establish adequate petroleum reserves, (5) Give adequate consideration to environmental, public health, and safety concerns, to resource limitations and to relative costs when making decisions concerning alternatives for conserving energy and developing natural energy resources, (6) Work closely with the State and Federal governments in the formulation and implementation of all city and County energy-related programs.(7) Ensure that the efficient use of energy is a primary factor in the preparation and administration of land use plans and regulations, (8) Provide incentives and where appropriate mandatory controls to achieve energy-efficient siting and design of new developments, (9) Carry out public, and promote private programs to more efficiently use energy in existing buildings and outdoor facilities, (10) Promote the development of an energy-efficient transportation system, (11) Encourage the use of commercially available solar energy systems in public facilities, institutions, residences, and business developments, (12) Support the increased use of operational solid waste energy recovery and other biomass energy conversion systems, (13) Support and participate in research, development, demonstration, and commercialization programs aimed at producing new, economical, and environmentally sound energy supplies from: (a) solar isolation, (b) biomass energy conversion, (c) wind energy conversion, (d) geothermal energy, and (e) ocean thermal energy conversion.</p> <p>(14) Secure State an federal support of City and county efforts to develop new sources of energy, (15) Supply citizens with the information they need to fully understand the potential supply, cost, and other problems associated with O`ahu's</p>

	<p>dependence on imported petroleum, (16) foster the development of an energy conservation ethic among O`ahu residents, (17) Keep consumers informed about available alternative energy sources and their costs and benefits, and (18) Provide information concerning the impact of public and private decisions on future energy use.</p>
	<p>ORGANIZATIONAL STRUCTURE - Community Based Economic Development program within the Office of Economic Development.</p>
	<p>RESOURCES - COUNTY ARRA GRANT: \$3,863,700 for Honolulu County for energy efficiency and renewable energy projects in accordance with individual county needs and their individual applications subject to approval by the Department of Energy.</p>
	<p>Source: City and County of Honolulu</p>
<p>C</p>	<p>County of Hawai`i</p>
	<p>POLICY OBJECTIVE - Provide pro-active leadership, enhancing the quality of life, and sustainability of Hawai'i Island communities through programs related to: agriculture, energy, tourism, economic development, community development, and film.</p>

	<p>MANDATE - Role of the Department of Research and Development is to:</p> <ol style="list-style-type: none"> 1. Collect and develop data necessary for managerial and legislative decision making, and program and policy-making. 2. Provide staff leadership for public and private development programs, enterprises and plans, including economic, social and cultural proposals, which enhance improvement of the county community. 3. Coordinate informational and regulatory knowledge of all federal and state grant in-aid participation programs which affect the county.
	<p>ORGANIZATIONAL STRUCTURE - Department of Research and Development within the County of Hawai'i.</p>
	<p>RESOURCES –</p> <ol style="list-style-type: none"> 1. Provides grant awards to non-profit organizations for initiatives that improve the quality of life for the people of Hawai'i County through responsible and sustainable economic, societal and environmental practices in agricultural research that is innovative or urgent in nature. 2. COUNTY ARRA GRANT: \$737,800 for Hawai'i County for energy efficiency and renewable energy projects in accordance with individual county needs and their individual applications subject to approval by the Department of Energy. 3. \$70,920 in State (Federal) funds from DBEDT to support Hawai'i County's energy program.
	<p>Source: County of Hawai'i</p>
D	<p>County of Kaua'i</p>
	<p>POLICY OBJECTIVE - To keep the rural character of our island by preserving open space and access to our natural resources and fostering balance between our cultural past and the future.</p>
	<p>MANDATE – Kaua'i County Code, Section 7-3.6 (Ordinance No. 461) states that “Programs shall be developed which will make the County more self-sufficient in producing energy and less dependent on imported energy sources.”</p>
	<p>ORGANIZATIONAL STRUCTURE – Kaua'i Energy Extension Service and Agriculture Support program within the Office of Economic Development.</p>

	<p>RESOURCES (Current): 1. \$267,900 in ARRA direct formula block grant funds that will be used for a 27.5 kW PV system for the Kaiakea Fire Station in Kapa'a. 2. \$379,000 in County funds for a 85 kW PV system for the Lihu'e Civic Center3. \$1 M to be used for an approximately 125-150 kW PV system for the Police/CD/Prosecutor Facility4. \$72,269 in State (Federal) funds from DBEDT to support Kaua'i's energy program.5. \$276,259 in EV-Ready grant funds from DBEDT (contract being prepared now)</p>
	<p>Source: Kaua'i Office of Economic Development</p>
E	<p><u>County of Maui</u></p>
	<p>POLICY OBJECTIVE - Promote and nurture sustainable economic development within Maui County consistent with the community's needs and priorities.</p>
	<p>MANDATE - Work in partnership with the community, business and government sectors to: (1) Strengthen and diversify the economy by supporting existing businesses, and (2) Assisting in the attraction, development and expansion of new businesses.</p>
	<p>ORGANIZATIONAL STRUCTURE - Agricultural partnerships with the Maui County Farm Bureau and the Maui Flower Grower Associations via the Mayor's Office of Economic Development (OED). Energy Management Program within the Department of Management. Energy Commissioner within OED: Victor Reyes.</p>
	<p>RESOURCES - COUNTY ARRA ENERGY GRANT: \$605,300 for Maui County for energy efficiency and renewable energy projects in accordance with individual county needs and their individual applications subject to approval by the Department of Energy.</p>
	<p>Source: County of Maui</p>
F	<p>Dept. of Accounting & General Services</p>
	<p>POLICY OBJECTIVE - Implementation of energy and conservation initiatives and measures, which reduce operational costs of state facilities.</p>
	<p>MANDATE - Adoption of Chapter 3-181, Hawai'i Administrative Rules entitled "State Energy Conservation Code," as required by section 107-25 Hawai'i Revised Statutes for the design and construction of buildings for the effective use of energy and is intended to provide flexibility to allow the use of innovative approaches and techniques to achieve the effective use of energy.</p>
	<p>ORGANIZATIONAL STRUCTURE - Interface on energy and conservation measures are the following DAGS Divisions: Central Services Division, Land Survey Division, Public Works Division, and Building Code Council.</p>

	RESOURCES - Memorandums of Agreement (MOA) with DBEDT using ARRA funds as follows: \$3M for PV in State buildings; \$475,500 for alternative fueled vehicles and infrastructure; and \$700,000 for an undersea cable subject matter expert.
	Source: DAGS
G	Dept. of Agriculture (DoA)
	POLICY OBJECTIVE - Works to support, enhance and promote Hawai'i's agriculture and aquaculture industries. Identify and plan for the maintenance of a strategic agricultural land resource base that can support a diversity of agricultural activities and opportunities that expand agricultural income and job opportunities and increase agricultural self-sufficiency for current and future generations.
	MANDATE - increase food security by growing more food locally and having consumers make conscious decisions to buy locally whenever possible.
	ORGANIZATIONAL STRUCTURE - Comprised of the following Divisions: Administrative Services Office, Agricultural Development, Agricultural Loan, Agricultural Resource management, Aquaculture Development Program, Animal Industry, Quality Assurance, and Plant Industry.
	RESOURCES - ACT 73(10) - AGRICULTURAL DEVELOPMENT AND FOOD SECURITY SPECIAL FUND: 15 cents of the tax on each barrel shall be deposited into the agricultural development and food security special fund established under section 141.
	Source: HDOA; Act 73(10)
H	Dept. of Budget and Finance
	POLICY OBJECTIVE - Regulates energy commerce in Hawai'i. Develops near- and long-term financial plans and strategies for the State, and provides programs for the improvement and management of State agencies.
	MANDATE - ECONOMIC DEVELOPMENT MANDATE: (1) Assist in maintaining the agricultural sector of the State's economy...by providing policies, services, loans, subsidies, environmental protection, land and water operations, facilities, advice, coordination, and information so as to achieve appropriate rates of growth. (2) to achieve growth, diversification and long-term stability of the state's economy by facilitating the sustained development of Hawai'i's clean energy resources. GOVERNMENT-WIDE SUPPORT MANDATE: undertake comprehensive land use and coastal zone planning, management, and implementation; by undertaking strategic and regional planning to address areas of critical state concerns related to social, economic, or physical conditions; and by promoting programs and capital

	improvement projects which further State policies.
	ORGANIZATIONAL STRUCTURE - Monitors and regulates the energy utilities and petroleum industry through the Public Utilities Commission (PUC).
	RESOURCES - New and expanded Hawai'i Energy, Efficiency Programs operated under contract by the PUC and paid for by electric utility ratepayer fees. MOA with DBEDT using ARRA funds to implement a government and residential efficiency program; \$6.2M.
	Source: B&F
I	Dept. of Business, Economic Development and Tourism (DBEDT)
	POLICY OBJECTIVE – Hawai'i's energy policy seeks to ensure dependable, efficient, and economical energy; increased energy self-sufficiency; greater energy security; and reduction of greenhouse gas emissions.
	MANDATE - increase energy security and transition to a clean energy economy by way of the Hawai'i Clean Energy Initiative.
	ORGANIZATIONAL STRUCTURE - The Office of Planning works to maintain an overall framework to guide the development of the State through a continuous process of comprehensive, long-range, and strategic planning to meet the physical, economic, and social needs of Hawai'i's people, and provide for the wise use of Hawai'i's resources in a coordinated, efficient, and economical manner. The High Technology Development Corporation through its Hawai'i Center for Advanced Transportation Technologies focuses on commercial transportation applications that contribute to improving economic competitiveness and to decreasing dependence on imported fossil fuels. The Land Use Commission preserves and protects Hawai'i's lands and encouraging those uses to which lands are best suited. The State Energy Office within the Strategic Industries Division provides energy policy oversight to enable clean energy transformation.
	RESOURCES - ARRA ENERGY GRANTS

	DBEDT was awarded more than \$9.5 million in Energy Efficiency and Conservation Block Grant (EECBG) funds from the U.S. Department of Energy. These stimulus funds are intended to help improve energy efficiency/conservation in government and non-profit buildings, and public housing.
	DBEDT was awarded \$25.93 million in State Energy Program funds for increasing energy generation from renewable sources; reducing green house gas emissions; and saving energy.
	Enhancing State Government Energy Assurance Capabilities and Planning for Smart Grid Resiliency (formula): \$318,196
	Efficient Appliance Rebate Program (formula): \$1,236,000
	RESOURCES - ACT 73(10) - ENERGY SECURITY SPECIAL FUND: 15 cents of the tax on each barrel shall be deposited into the energy security special fund established under section 201-12.8.
	Source: DBEDT
J	Dept. of Commerce and Consumer Affairs (DCCA)
	POLICY OBJECTIVE - Protects and advances the interests of Hawai'i's consumers of regulated public utilities.
	MANDATE - Emphasizes keeping rates low while ensuring that the utility provides safe, reliable, and adequate service to consumers. Beyond this, Division of Consumer Advocacy also plays an active role in promoting and advancing the state's energy policies.
	ORGANIZATIONAL STRUCTURE - Division of Consumer Advocacy (DCA) within DCCA
	RESOURCES - MOA with DBEDT using ARRA funds for a transportation energy diversification program utilizing rebates; \$4M.
	Source: DCCA
K	Dept. of Education
	POLICY OBJECTIVE - implementation of vocational agriculture education program and photovoltaic, net energy metered pilot project.
	MANDATE - Legislative
	ORGANIZATIONAL STRUCTURE - project implementation via Complex Area

	Superintendents
	RESOURCES - Legislative Appropriations
	Source: DOE
L	Dept. of Hawaiian Home Lands
	POLICY OBJECTIVE - To manage the Hawaiian Home Lands trust effectively and to develop and deliver lands to native Hawaiians.
	MANDATE - Partner with others towards developing self-sufficient and healthy communities.
	ORGANIZATIONAL STRUCTURE - development of homestead land under the Land Development Division and non-homestead land under the Land Management Division.
	RESOURCES - MOA with DBEDT using ARRA funds for Homestead Energy Program; \$2.9M.
	Source: DHHL
M	Dept. of Health
	POLICY OBJECTIVE - To protect and improve the health and environment for all people in Hawai'i.
	MANDATE - To prevent pollution and promote and preserve a clean, healthy and natural environment.
	ORGANIZATIONAL STRUCTURE - Oversees food safety and environmental permit compliance via Environmental Health Administration.
	RESOURCES - MOA with DBEDT using ARRA funds for on-line permitting system; \$375,000.
	Source: DOH
N	Dept. of Labor and Industrial Relations
	POLICY OBJECTIVE - Responsible for ensuring and increasing the economic security, well-being, and productivity

	MANDATE - Assist Hawai'i's low-income, immigrant and refugee populations to overcome and eliminate workforce barriers to economic self-sufficiency via an array of community-based programs and services.
	ORGANIZATIONAL STRUCTURE - Weatherization Assistance Program via Office of Community Services
	RESOURCES - MOA with DBEDT using ARRA funds for supplemental Weatherization Assistance Program funding; \$500,000; \$ 6 million ARRA funds to DLIR – Workforce Development Council for workforce development training.
	Source: DLIR
O	Dept. of Land and Natural Resources (DLNR)
	POLICY OBJECTIVE - To seek, develop, and implement cost-effective strategies for the long-term sustainable management, maintenance, protection and utilization of existing and potential ocean, land, natural and cultural resources of Hawai'i.
	MANDATE - Enhance, protect, conserve and manage Hawai'i's unique and limited natural, cultural and historic resources held in public trust for current and future generations of visitors and the people of Hawai'i in partnership with others from the public and private sectors.
	ORGANIZATIONAL STRUCTURE - Office of Conservation and Coastal Lands (OCCL) oversees private and public lands that lie within the State Land Use Conservation District. In addition, OCCL is responsible for overseeing beach and marine lands out to the seaward extent of the State's jurisdiction. to privately and publicly zoned Conservation District lands,
	Source: DLNR
P	Dept. of Taxation
	POLICY OBJECTIVE - Administer the tax laws for the State of Hawai'i.
	MANDATE - Administer tax laws in a consistent, uniform, and fair manner.
	ORGANIZATIONAL STRUCTURE - District offices in each County.
	RESOURCES - Renewable Energy Technologies Income Tax Credit and Environmental Response, Energy, and Food Security tax assessment via Act 73(10).
	Source: DoTax
Q	Dept. of Transportation

	POLICY OBJECTIVE - Manage and operate a statewide commercial transportation system that facilitates the efficient movement of people and goods to, from and between the Hawaiian Islands.
	MANDATE - To promote sustainability by empowering projects, fostering collaboration, and communicating progress through education and outreach.
	ORGANIZATIONAL STRUCTURE - Water Transportation Facilities and Services Program of the Harbors Division serves as an interface with U.S. Department of Agriculture to safeguard the State against the introduction of biological pests and invasive species.
	Source: DOT
R	Office of Hawaiian Affairs (OHA)
	POLICY OBJECTIVE - Protect Hawai'i's people and environmental resources and OHA's assets, toward ensuring the perpetuation of the culture, the enhancement of lifestyle and the protection of entitlements of Native Hawaiians.
	MANDATE - Administer revenues generated from ceded lands for public education; the betterment of conditions of native Hawaiians; development of farm and home ownership; making of public improvements; and the provision of lands for public use.
	ORGANIZATIONAL STRUCTURE - OHA is a State agency and trust under the policy direction of 9 statewide elected trustees pursuant to Chapter 10 HRS.
	RESOURCES - OHA financial assistance program serves primarily the native Hawaiian community. Ag-energy-related community-based projects targeting the native Hawaiian community may qualify for funding.
	Source: OHA
S	University of Hawai'i System: Manoa, Hilo, West O`ahu, Community Colleges
	<p><u>POLICY OBJECTIVE:</u></p> <ul style="list-style-type: none"> • CAFNRM - Hilo prepares students in the field of agricultural sciences. • CTAHR - Manoa conducts research and educational programs supporting tropical agricultural systems that foster viable communities, a diversified economy, and a healthy environment. • HNEI coordinates and undertakes the development of non-polluting natural energy sources for Hawai'i.

	<p>MANDATE:</p> <ul style="list-style-type: none"> • CAFNRM - Hilo provides students a basic understanding of factors involved in agricultural production, management, processing, distribution, marketing, sales, and services. • CTAHR seeks to help Hawai'i diversify its economy, ensure a sustainable environment, strengthen its communities, and to serve as the premier resource for tropical agricultural systems and natural resource management in the Asia-Pacific region. • HNEI provides needed visibility, focus, and encouragement for energy-related activities directed toward converting Hawai'i's natural resources into viable energy systems.
	<p>ORGANIZATIONAL STRUCTURE:</p> <ul style="list-style-type: none"> • College of Tropical Agriculture and Human Resources (CTAHR - Manoa); • College of Agriculture, Forestry and Natural Resource Management (CAFNRM - Hilo); • Hawai'i Natural Energy Institute (HNEI - Manoa)
	<p>RESOURCES - ACT 73(10) - ENERGY SYSTEMS DEVELOPMENT SPECIAL FUND: 10 cents of tax assessment on each barrel of petroleum to be deposited into the energy systems development special fund established under section 304A-2169; with spending authority by HNEI.</p>
	<p>Source: University of Hawai'i</p>

Attachment B

HEDTF TASK 2

(Section B on Page 5)

Identifying all federal and private funds available to the State and counties for energy and food security issues.
Kolohala Ventures, LLC
Kolohala Hydrogen & Renewable Energy Fund supports the increased use of Hawai'i-based renewable energy resources with pathways to using hydrogen as an energy carrier. Kolohala manages the Fund on behalf of the Department of Business, Economic Development & Tourism (DBEDT).
Source: Kolohala Ventures
Hawai'i Angels
Non-profit providing seed-level private equity investment, expertise, and due diligence in start-up companies; with Chapters on O`ahu, Maui, and the Big Island. The focus of Hawai'i Angels is start-up companies with strong teams, proprietary technology, and large potential markets. Hawai'i Angels reviews both Hawai'i and mainland opportunities.
Source: Hawai'i Angels
Manoa Venture Partners
Fund targets creative technologies and innovative companies primarily located in Hawai'i that have revolutionary potential. The Fund focuses on investing in early and growth stage companies in the Cleantech (Environmental/Energy), Life Sciences, and Information Technology sectors in Hawai'i.
Source: Manoa Venture Partners
RSF Social Investment Fund (San Francisco, California)
Investment funds to support innovative social enterprises in Food & Agriculture. Focus is on exploring new economic models that support sustainable food and agriculture, while raising public awareness of the value of organic and Biodynamic farming.
Source: RSF Social Finance
Sennet Capital of Honolulu

A merchant bank providing strategic financial and advisory services and private equity financing to mid-market and renewable energy companies and projects.
Source: Sennet Capital
The Hawaiian Investment Company
Investing in local industry to increase Hawai'i's local production of major staples and by providing opportunity through loans, grants and affordable housing.
Source: Hawaiian Investment
Ulupono Initiative
The Ulupono Initiative is a Hawai'i-focused social investment organization. Its mission is to improve the quality of life for island residents in three areas: more renewable energy, more locally produced food, and less waste.
Source: Ulupono
United Fund Advisors, LLC (Portland, Oregon)
A financial services company that provides tax-advantaged investment capital and advisory services for community development and renewable energy projects. All investments and services are driven by the firm's triple bottom line mission "to create opportunities for profitable investments which enhance social and environmental yields."
Source: United Fund
U.S. DEPARTMENT OF AGRICULTURE
1. <u>Cooperative State Research, Education, and Extension Service (CSREES) Grant:</u> Western Region Sustainable Agriculture Research and Education (WSARE): The goal of this subtitle is to encourage the research and education designed to increase our knowledge concerning integrated systems of plant and animal production practices having both a site specific and regional application that will over the long-term improve food sources, the

environment, efficient use of renewable resources, enhance economic and social wellness.

2. Farm Service Agency (FSA): The farm Service Agency runs a multi-facet program that comprises farm credit programs and natural disaster related programs, the later subject to the US President or the Secretary of Agriculture designations as such:

- a. **Agricultural Credit Programs:** Available to ag-enterprises including nursery, orchard, vegetable, agro-forestry, aquaculture, and livestock. Direct Loans are limited to \$200,000, and guaranteed loans through private institutions, \$899,000.
- b. **Commodity Loan programs:** For wheat, corn, grain sorghum, barley, oats, rye, oilseeds, rice, tobacco, peanuts, milk, cotton, sugar, and honey.
- c. **Disaster and Emergency Payment Assistance:** For rehabilitation of farms on a cost sharing basis for emergency conservation practices.
- d. **Conservation Reserve Program (CRP):** Helps farmers to substitute crops grown on erosion prone farmland for permanent vegetative covers. In return the farmer receives an annual payment through a multi-year contract.
- e. **Emergency Conservation Program (ECP):** Assists farmers and ranchers to return back to operation including clean up and restoration caused by a natural disaster.
- f. **Environment Quality Incentive program (EQIP):** Addresses locally identified natural resource concerns including soil erosion, water quality and quantity, and grazing land. Cost Sharing may reach 75% of certain conservation practices. Contractual agreement last 5 to 10 years.
- g. **Biomass Crop Assistance Program:** Provides financial assistance to owners and operators of agricultural and non-industrial private forest land who wish to establish, produce, and deliver biomass feedstocks.

3. Federal-State Marketing Improvement Program (FSMIP): Provides matching funds to state departments of agriculture to assist in exploring new market opportunities for U.S. food and agricultural products, and to encourage research and innovation aimed at improving the efficiency and performance of the U.S. marketing system.

4. Rural Development: USDA Rural Development agency comprises three services: Rural Business-Cooperative Service (RBS), Rural Housing Service (RHS) and Rural Utilities Services (RUS). The field offices at the state and local levels administer the programs. Most relevant to rural agribusiness, is RBS which mission is to build competitive rural businesses and cooperatives. There is also (a) The USDA Rural Development’s Business & Industry (B&I) Loan program that had, so far, served aquaculture, nurseries, and forestry businesses, meat processing and distribution projects. (b) The Rural Development’s rural

Business Enterprise Grant (RBEG) funding had included agribusinesses project. (c) The Rural Development’s Intermediary Re-lending Program (subject to RD Instruction 4274-D) provides funding support also.

Source: USDA

U.S. DEPARTMENT OF COMMERCE
<u>Economic Development Administration (EDA)</u> : Public Works and Economic Development investments intend to help the Nation's most distressed communities revitalize, expand and upgrade their physical infrastructure to attract new industry, encourage business expansion, diversify local economies and generate or retain long-term private sector jobs and investments.
Source: USDOC
U.S. DEPARTMENT OF ENERGY (USDOE)
1. <u>Energy Efficiency And Conservation Block Grant Program:</u>
The program provides financial and technical assistance to assist State and local governments create and implement a variety of energy efficiency and conservation projects to: reduce fossil fuel emissions created as a result of activities within the jurisdictions of eligible entities; reduce the total energy use of the eligible entities; and improve energy efficiency.
2. <u>Energy Efficiency and Renewable Energy (EERE):</u>
Invests in clean energy technologies to strengthen the economy, protect the environment, and reduce dependence on foreign oil. EERE's primary funding vehicle for businesses, industries, universities and others is a grant, mostly awarded on a competitive basis. EERE solicits applications in specific program areas and makes selections based on merit. EERE financial assistance opportunities are listed in the financial opportunities database and on Grants.gov, the government's Web site of all federal grant opportunities.
3. <u>Renewable Energy Research and Development:</u>
To conduct balanced research and development efforts in the following energy technologies: solar, biomass, hydrogen, fuel cells and infrastructure, wind and hydropower, hydrogen, and geothermal. Grants will be offered to develop and transfer to the nonfederal sector various renewable energy technologies on a competitive basis.
4. <u>State Energy Program:</u>
The program provides financial and technical assistance to State governments to create and implement a variety of energy efficiency and conservation projects in order to provide leadership to maximize the benefits of energy efficiency and renewable energy through communications and outreach activities, technology deployment, and accessing new partnerships and resources across the geographic panorama of the United States and its territories. The program's objectives are to: <ul style="list-style-type: none"> • Reduce fossil fuel emissions created as a result of activities within the jurisdictions of eligible entities; • Reduce the total energy use of the eligible entities; and

<ul style="list-style-type: none"> • Improve energy efficiency in the transportation, building, and other sectors.
<p>Source: USDOE</p>
<p>U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT (HUD)</p>
<p>Provides Community Development Block Grant (CDBG) funds to cities. CDBG funds are provided as loans, grants, and technical assistance for economic development projects that benefit low- and moderate-income people. Funded projects have included rural economic, and agricultural development projects.</p>
<p>Source: HUD</p>
<p>U.S. SMALL BUSINESS ADMINISTRATION (SBA)</p>
<p>1. <u>Financial Assistance Referral (FAR) Program:</u></p>
<p>The Financial Assistance Referral Program allows participating banks' officials to refer credit worthy entrepreneurs to SBA for assistance. An SBA Economic Development Specialist of the Business Information and Counseling Center (BICC) will help the business owner to prepare a viable and complete loan package. Still, the participating bank has to approve the SBA guaranteed loan.</p>
<p>2. <u>Small Business Innovation Research Program (SBIR) Grant:</u></p>
<p>This program invites science-based small business firms to submit research proposal for funding. Topic areas include Forests and Related Resources, Plant Production and Protection, Animal Production and Protection, Air, Water and Soils, Food science and Nutrition, Rural and Community Development, Rural and Community Development, Aquaculture, Industrial Applications, and Marketing and Trade.</p>
<p>Source: SBA</p>

Attachment C

HEDTF TASK 3

(Section C on Page 5)

Identifying effective measures for interagency cooperation, coordinate efforts with the counties, and promote public- and private-sector partnerships to achieve the objective of energy and food security.

Interest
Groups:

	<p>Agribusiness Development Corporation; Blue Planet Foundation; Counties (City & County of Honolulu - Dept. of Planning and Permitting; Forestry and Natural Resources Management - Hilo; Kaua`i Planning Department; Maui Planning Department); Department of Agriculture; DBEDT - Land Use Commission, Office of Planning, State Energy Office.; Dept. of Commerce and Consumer Affairs; Dept. of Hawaiian Home Lands; Dept. of Land and Natural Resources, Enterprise Honolulu; Hawaiian Electric Industries; 4 Ag Hawai`i; Hawai`i Crop Improvement Association; Hawai`i Farm Bureau Federation; Hawai`i Island Economic Development Board; Hawai`i Solar Energy Association; Kaua`i Economic Development Board; Kaua`i Island Utility Cooperative; Maui County Economic Development Board; Maui County Energy Alliance; Big Island, Tri-Isle, Garden Isle and O`ahu Resource Conservation and Development Councils; Public Utilities Commission; Sierra Club; The Gas Company; Ulupono Initiative; Univ. of Hawai`i - College of Tropical Agriculture and Human Resources; Univ. of Hawai`i at Hilo - College of Agriculture</p>
A	<p>Effective planning for food and energy security must encompass three major elements: availability, access, and utilization.</p>
B	<p>People need to understand food and energy security issues; and to care enough about it to demonstrate consumer preference in the marketplace as they make everyday choices. Outreach campaigns should be utilized to develop strong community connections to security issues, increase demand, visibility, consumption, and familiarity with locally produced/developed food and energy products and increase sustainability.</p>
C	<p>Both the Maui County Economic Development Board and Maui County with the assistance of Sandia National Laboratory are developing complementary system dynamic models as a tool to assess intended and unintended impacts of scenarios on the economy, the environment, and society. Energy represents one of the sectors in the model.</p>
D	<p>Resource Conservation and Development (RC&D) Councils</p> <p>Their mission is to improve the quality of life by promoting sustainable communities through the management and conservation of natural, human, cultural and economic resources. RC&D's are located on O`ahu, Maui, Kaua`i, and the Island of Hawai`i.</p>

E

Examine agriculture and energy initiatives reflected in 'current' planning documents:
a. 2010 Hawai'i Statewide Comprehensive Economic Development Strategy
b. HCEI Roadmap, Policy Recommendations for Hawai'i's Energy Future
c. Kaua'i Economic Development Plan 2005-2015
d. Maui County 2030 General Plan, Maui Island Plan, and 9 Community Plans
e. 2009 County of Hawai'i Agricultural Development Plan
f. Kamehameha Schools Strategic Agricultural Plan
g. Hawai'i 2050 Sustainability Plan, Hawai'i State Plan
h. Kaua'i County Energy Sustainability Report, March 2010
i. Maui County Energy Alliance Renewable Energy Action Plan, June 2009
l. Hawai'i County Energy Sustainability Plan, 2008
k. O'ahu General Plan, 8 Sustainable Communities Plan
l. Kaua'i General Plan 2000, County of Kaua'i Important Agricultural Lands (IAL) Study
m. County of Hawai'i Agriculture Development Plan, 2009
n. Hawai'i County Baseline Energy Analysis, May 10, 2006 / February 19, 2007

Attachment D

HEDTF TASK 4

(section D on Page 5)

Identifying existing programs and agreements addressing energy and food security that may be enhanced through legislation.

LUC

AGRICULTURAL DISTRICT

The Agricultural District includes lands for the cultivation of crops, aquaculture, raising livestock, wind energy facility, timber cultivation, agriculture-support activities (i.e., mills, employee quarters, etc.) and land with significant potential for agriculture uses. Golf courses and golf-related activities may also be included in this district, provided the land is not in the highest productivity categories (A or B) of the Land Study Bureau's detailed classification system.

Uses permitted in the highest productivity agricultural categories are governed by statute. Uses in the lower-productivity categories – C, D, E or U - are established by the Commission and include those allowed on A or B lands as well as those stated under Section 205-4.5, Hawai'i Revised Statutes.

The Commission establishes the district boundaries for the entire State. The Commission acts on petitions for boundary changes submitted by private landowners, developers and State and county agencies. The Commission also acts on requests for special use permits within the Agricultural and Rural Districts.

DLNR

CONSERVATION DISTRICT

Conservation lands are comprised primarily of lands in existing forest and water reserve zones and include areas necessary for protecting watersheds and water sources, scenic and historic areas, parks, wilderness, open space, recreational areas, habitats of endemic plants, fish and wildlife, and all submerged lands seaward of the shoreline. The conservation District also includes lands subject to flooding and soil erosion.

DLNR

Conservation Districts are administrated by the State Board of Land and Natural Resources and uses are governed by rules promulgated by the State Department of Land and Natural Resources.
DAM & RESERVOIR SAFETY
Increased fees and additional operation and maintenance requirements for dams and reservoirs could significantly impact the financial viability of local agribusinesses (Proposed Hawai'i Administrative Rules, Title 13, Subtitle 7, Chapter 190.1 as Required by the "Hawai'i Dam and Reservoir Safety Act of 2007," Chapter 179D HRS - Dams and Reservoirs).

Attachment E

HEDTF TASK 5-6

(Sections E-F on Page 5)

**NOTE: Work not yet begun - analysis and
Recommendations to be formulated during 2011.**

Task 5: Investigating alternative institutional mechanisms to promote the efficient execution and implementation of a multi-year strategy to achieve energy and food security.

Exploring the possibility of establishing an Energy Authority to conduct policy making and regulatory authority over energy project implementation.

Exploring the possibility of establishing an Agriculture Portfolio Standard to provide product and investment targets for and holdings in agriculture.

Agriculture - Energy cluster development via the 'Comprehensive Economic Development Strategy' process.

Other alternative institutional mechanisms to be identified by the Task Force.

Task 6: Investigating the streamlining of administrative processes to accelerate and achieve energy and food security.

Restructure the land use regulatory system to distinguish between important agricultural land and marginal agricultural land. Distinctions should be made for evaluative criteria in considering zone changes, permitted uses, minimum lot size requirements, and subdivision development standards.

Attachment F

HEDTF TASK 7

(section G on Page 5)

Providing an appropriate forum for all affected or interested parties to address energy and food security issues.

PRIORITIES

AGRICULTURE:

- Hawai'i produces only 15% of its own food. CTAHR estimates that it is reasonable to: locally grow 30% of foods consumed and 85% of fruits and vegetables consumed. Since 100% food self-sufficiency is impractical are these the targets Hawai'i should achieve?
- Basic resources required by agriculture; namely land, labor, and water. Add energy and transportation.
- Accelerating Hawai'i's agricultural transformation and food security agenda supported in part by the recommended 50 percent of the unallocated \$0.60 EREFST.
- Develop land and water allocations that acknowledge the importance of food production.
- Farm viability requires managing the rising cost of inputs (fertilizer, feed, electricity, transportation, labor, and water); adopting technology to ensure food safety and regulatory requirements; addressing threats from invasive species; and developing best practices.
- Should non-food and export agriculture be treated the same as food self-sufficiency agriculture?
- The food price effect (cost) of direct and indirect (nitrogen and pesticide) energy inputs?
- How can livestock be raised in a manner that is not harmful to our environment while playing a vital role in Hawai'i's economy?
- When there are competing uses for agriculture and energy development, what should be the basis for balancing priorities?

ENERGY:

- Basic resources required for renewable energy development; namely siting, skilled workforce, and transmission infrastructure.
- Accelerating Hawai'i's energy transformation and security agenda supported in part by the recommended 50 percent of the unallocated \$0.60 EREFST.
- Banks accounting for energy costs within home mortgages.
 - Implementation of a fossil-fuel ban on the construction of any new utility plant not operating on clean energy.
 - Storage tax credit for wind and solar facilities.

BIOSECURITY	<ul style="list-style-type: none"> • Multi-dimensional program to prevent the entry of invasive species and address established pests.
	<ul style="list-style-type: none"> • Management information systems and databases for efficient deployment of resources, risk assessments, rapid response
	<ul style="list-style-type: none"> • Joint inspection facilities, treatment facilities, pre-clearance programs
	<ul style="list-style-type: none"> • Biocontrol, develop new tools, partnerships
	<ul style="list-style-type: none"> • Outreach and public education
ENVIRONMENT	Farmers must apply best management practices for crop, pest and waste management; soil conservation and environmental stewardship.
	<ul style="list-style-type: none"> • Make needed tools available
	<ul style="list-style-type: none"> • Integrated pest management
	<ul style="list-style-type: none"> • Training, conservation plans
FINANCING	Need long term leases to secure loans
	<ul style="list-style-type: none"> • Educate commercial lenders
	<ul style="list-style-type: none"> • Alternative financing
	<ul style="list-style-type: none"> • Implementing a Clean Energy Bond/Property Assessed Clean Energy (PACE) Program and loan loss reserve to increase user participation.
FOOD SAFETY	Impending regulations and consumer demands for food safety are driving changes in production, processing and distribution systems.
	<ul style="list-style-type: none"> • Employ technology and develop systems for food safety
	<ul style="list-style-type: none"> • Train, encourage and assist adoption of food safety practices
	<ul style="list-style-type: none"> • Educate everyone; Food Safety is the responsibility of all
	<ul style="list-style-type: none"> • Developing and maintaining quality standards.
INFRASTRUCTURE	Need to maintain irreplaceable irrigation infrastructure.

LAND

Agricultural land values have risen beyond their value for agricultural purposes. The high cost of agricultural land reflects non-agricultural uses and values rather than the value that may be attributed to land if it were used as a resource for food and fiber production. The growth of agriculture requires the availability of affordable, arable lands in appropriate lot sizes with long term leases and required infrastructure needed for a successful enterprise.

Must protect and take the development pressure off the best lands. Apart from growing crops, related agricultural land uses include the packing, processing and manufacturing of products, which may be more industrial in character, but are nevertheless agricultural and need to be provided for.

Siting renewable energy projects in the Islands has been problematic due to lands being locked-up in long-term commitments. There should be established 'Renewable Energy Opportunity Zones' similar to the State Agricultural Parks, which makes land available at reasonable cost with long-term tenure.

- Permanent Ag/Conservation easements; purchase land; IAL
- Tighten/enforce regulations for illegal uses and fake agricultural subdivisions
- Live-work-play communities; Rethink planning and design; Stop sprawl
- Implement County zoning to preserve important agricultural land from urban encroachment.

MARKETING AND COMPETITIVENESS

Global competition affects both local and export markets

- Promotion for local products, events
- Remove barriers to export - bring new money into our economy; bigger market with alternatives helps stability

PUBLIC AWARENESS AND SUPPORT	<p>The majority of people are generations removed from the farm and connection with where their food comes from.</p> <ul style="list-style-type: none"> • Reconnect people with agriculture so they know how to support it. • On-farm experiences and farmers’ markets help to raise awareness • High profile advocates such as chefs
RESEARCH AND DEVELOPMENT	<p>Continuous improvement of production systems, crops and varieties, post harvest handling and value-added processing are needed.</p>
	<ul style="list-style-type: none"> • Solve problems, create new products, increase efficiency
	<ul style="list-style-type: none"> • Feasibility studies, economic analysis, systems development
TRANSPORTATION AND ENERGY	<p>Transportation and energy costs impact inputs, production, processing and moving products to market.</p>
	<ul style="list-style-type: none"> • Reduce costs – transportation and energy drive up the cost of fertilizers, feeds, supplies, production, processing, post-harvest handling, storage and distribution.
	<ul style="list-style-type: none"> • On-farm renewable energy systems
WATER	<p>Agriculture is dependent on adequate availability of irrigation water reliably delivered at a reasonable rate.</p>
	<ul style="list-style-type: none"> • Repair, maintain, build agricultural irrigation systems (public and private)
	<ul style="list-style-type: none"> • Increase storage capacity; capture storm runoff; recycling water
	<ul style="list-style-type: none"> • Best management practices for water conservation, efficiency
WORKFORCE DEVELOPMENT: LABOR, FARM MANAGEMENT, NEW FARMERS, PROFESSIONALS	<p>Cost of labor is a concern. However, people at all levels from farm labor to professionals are needed for the long term growth of agriculture.</p> <ul style="list-style-type: none"> • Agricultural education, youth programs, start young – career choice • Workforce development training, internships • Prisoner and transitional training • Agricultural Worker Housing

Attachment G

HEDTF TASK 8-9

(sections H and J on Page 5)

NOTE: Work not yet begun - analysis and recommendations to be formulated during 2011.

Task 8: Recommending appropriate legislation resulting from its findings to improve, accelerate, and achieve the objective of energy and food security.

Provide definitions within the Hawai'i Revised Statutes to reflect a common understanding of what is termed "food and energy security."

Task 9: Reviewing whether: (a.) The apportionment of the environmental response, energy, and food security tax among the funds listed under section 243-3.5, Hawai'i Revised Statutes, is appropriate; (b.) The apportionment should be changed; and (c.) Any additional special, trust, or revolving fund should receive a share of the tax.

Attachment H

Estimated Cost Per Fiscal Year for All Agricultural Development & Food Security Special Fund Projects Organized by Allowable Uses (HRS Ch. 141)

	2012	2013	2014	2015
A. The awarding of grants to farmers for agricultural production or processing activity				
Livestock Feed Reimbursement program (2 yrs)	2,000,000	2,000,000		
Grants to farmers to address pest issues, alternative energy	TBD			
Irrigated pasture	\$370,000	110,000	110,000	110,000
B. The acquisition of real property for agricultural production or processing activity				
Acquire private agriculture lands or ag. easements	1,000,000	1,000,000	1,000,000	1,000,000
C. The improvement of real property, irrigation systems and transportation networks necessary to promote agricultural production or processing activity				
County IAL mapping	200,000	200,000	200,000	200,000
Private irrigation systems serving IAL -matching funds for CIP **	\$4,000,000	4,000,000	4,000,000	4,000,000
Pipe Schofield R-1 wastewater for agriculture use in Kunia	TBD			
Well infrastructure renovation in Ka'u	TBD			
Water tunnel renovations and distribution pipelines on Kaua'i	TBD			
Assist with costs for dam safety certification	TBD			
Fund additional irrigation workers for state irrigation systems	TBD			
Value added facilities, certified kitchens	TBD			
Consolidation and marshalling facilities at the ports	TBD			
Improvements to Kula Vacuum Cooling Plant	TBD			
Subsidize transportation costs	TBD			
D. The purchase of equipment necessary for agricultural production or processing activity				
Establish Mobile slaughterhouse and processing unit	400,000			
Fund Kamuela Vacuum Cooling Plant repairs	TBD			
Funding to renovate aging processing facilities	TBD			
Fumigation chamber for export crops	TBD			
E. The conduct of research on and testing of agricultural products and markets				
New Varieties of Coffee (Appendix B #1)	45,000	45,000	45,000	45,000
Selection of vegetable varieties (App.B #2)	63,000	53,000	49,000	49,000

Coffee flower synchronization (App B #3)	45,000	45,000	45,000	45,000
PBARC Coffee research (Appendix B #4)	105,000	105,000	105,000	105,000
Rust-resistant coffee cultivars (App B #5)	80,000	80,000	80,000	80,000
Coffee processing improvements (App B #6)	30,000	30,000	30,000	30,000
Annual research funding for ag and aquaculture	1,000,000	1,000,000	1,000,000	1,000,000
Improvement of food security and reduction of food safety problems (Appendix B #7)	50,000	100,000	100,000	200,000
Farm level water and produce testing (Appendix B #8)	35,000	65,000	120,000	220,000
Controlling Seasonal Production and Fruit Quality Problems in Pineapple (Appendix B #9)	90,105	89,105	89,105	0
Sustainable Tropical Vegetable Production Systems (Appendix B #10)	106,500	106,500	106,500	0
Taro Acridity (App B #11)	93,100	82,100	82,100	0
Microbial And Pesticide Concerns With Leafy Vegetables (App B #12)	144,500	132,500	132,500	0
F. The funding of agricultural inspector positions within the department of agriculture. (Statutory language should be expanded to include all biosecurity-related positions and activities in HDOA.)				
Funding of PQ and commodities inspector positions	1,018,456	1,018,456	1,018,456	1,018,456
Additional HDOA positions requested by industry	TBD			
Continue Invicta database development	200,000	200,000		
Maui Biosecurity harbor infrastructure improvements	TBD			
G. The promotion and marketing of agricultural products grown or raised in the state				
Developing a Hawai'i Grown Tea Industry (Appendix B #13)	114,504	117,654	122,332	128,350
Hawai'i Coffee Growers Association Trade Shows (Appendix B #14)	40,000	40,000	40,000	40,000
Hawai'i House in Shanghai	50,000	50,000	50,000	50,000
Public education, marketing and promotion	TBD			
Agricultural Education in schools	TBD			
Permanent locations to showcase agriculture	TBD			
H. Any other activity intended to increase agricultural production or processing that may lead to reduced importation of food, fodder, or feed from outside the state.				
Funding of Entomologist positions	255,995	255,995	255,995	255,995
Energy & Food Security Planners **	214,286	214,286	214,286	214,286
New Plant Distribution Center (Appendix B #15)	198,675	200,675	200,675	190,675
Coffee berry borer fumigation station	50,000	0	0	0
Sanitation measures to reduce coffee berry borer (App B #16)	127,000	127,000	127,000	127,000

Hawai`i Master Beef Producers (Appendix B #17)	198,868	198,868	198,868	198,868
Farm Food Safety Coaching(Appendix B #18)	237,568	234,618	236,689	238,780
Workforce Expansion	12,000	12,000	12,000	12,000
State-Level Food Ombudsman	TBD	TBD	TBD	TBD
Total Expenditures	12,574,557	11,912,757	9,770,506	9,558,410

Note: Priorities for HDOA operations are shown in bold.

Note: ** denotes funding from both the Agricultural Development & Food Security and Energy Security special funds.

Note: Appendix B contains any proposals that were submitted. The numbers in parenthesis in the table above indicate the proposal # in Appendix B.

Attachment I

Cost Estimates for Projects that may be funded by the Energy Security Special Fund

DESCRIPTION	2011	2012	2013	2014	2015
Energy Program Support	237,334	2,500,000	4,200,000	4,200,000	4,200,000
Grants to Counties	290,000	290,000	290,000	350,000	350,000
Grants to EDBs	300,000	300,000	300,000	400,000	400,000
Task Force	50,000	50,000			
Education		500,000	400,000	200,000	200,000
Energy efficient buildings program		-	100,000	200,000	200,000
Energy project expansion		200,000	500,000	100,000	100,000
Demonstrations/pilot projects for State buildings		300,000	600,000	200,000	250,000
Building Data Collection and Analyses		-	200,000	50,000	50,000
Transportation Energy Diversification		300,000	300,000	100,000	100,000
DOH Online Permitting Project Support	150,000	50,000	50,000	50,000	50,000
Wind Energy Program Support	350,000	200,000	200,000	100,000	100,000
NREL / OP GIS layers for REZ	100,000	-	-	50,000	
DLNR - Permitting	10,757	-	-		
Additional Permitting Support	50,000	-	-		
201-N Facilitator		50,000	50,000	50,000	50,000
Inter-Island Cable	500,000			600,000	600,000
- additional legal services		200,000	200,000		
- additional support from subject matter experts		700,000	700,000		
- community survey		100,000	100,000		

- additional ocean floor surveys		300,000	300,000		
- additional EIS support		200,000	200,000		
Cost Match for Grants & Demonstration Projects	200,000	1,800,000	1,200,000	1,500,000	1,500,000
State Energy Plan - consultant		150,000	50,000		
Estimate Cost of Clean Energy Transformation		100,000	50,000		
Dynamic energy modeling of O`ahu		50,000	100,000		
Dynamic energy modeling of Hawai`i County		50,000	50,000		
Electricity Commercial End-Use Data Survey, HECO		100,000	100,000		
Electricity Commercial End-Use Data Survey, KIUC		50,000	50,000		
Other administrative expenses		41,667	250,000	250,000	250,000
Solar program support				500,000	500,000
Loan loss reserve incremental funding				1,400,000	1,400,000
Workforce development project				100,000	100,000
Total	2,238,091	8,581,667	10,540,000	10,400,000	10,400,000

**Appendix B HAWAI`I ECONOMIC DEVELOPMENT
TASK FORCE MEMBERS**

The Hawai'i Economic Development Task Force is comprised of:

- (1) The Director of business, economic development, and tourism or the director's designee, who shall chair the Hawai'i economic development task force;
 - Richard Lim – Director, Department of Business Economic Development & Tourism
- (2) The chairperson of the board of agriculture or the chairperson's designee;
 - Mr. Russell Kokubun - Chair, Board of Agriculture
- (3) The director of the office of planning or the director's designee;
 - Mr. Jesse Souki - Director, State of Hawai'i Office of Planning
- (4) The chairperson of the board of land and natural resources or the chairperson's designee;
 - Mr. William J. Aila, Jr.- Chair, Board of Land and Natural Resources
- (5) The dean of the University of Hawai'i college of tropical agriculture and human resources or the dean's designee;
 - Dr. Sylvia Yuen - Dean, University of Hawai'i College of Tropical Agriculture and Human Resources
- (6) Three members to be designated by the speaker of the house of representatives;
 - Ms. Luella Costales – Former Executive Director, *Hawai'i* Farm Bureau Federation
 - Mr. Mark Duda - Principal and Founder, RevoluSun
 - Mr. Jeffrey Kissel - President and Chief Executive Officer, The Gas Company
- (7) Three members to be designated by the president of the senate; and
 - Mr. Garen Deweese - Manager of Government Relations, Hawai'ian Electric Company
 - Mr. Robin Campaniano - General Partner, Ulupono Initiative
 - Mr. Jeff Mikulina - Executive Director, Blue Planet Foundation
- (8) A representative from each county's private economic development board.
 - Ms. Jacqui Hoover- Executive Director & Chief Operating Officer, *Hawai'i* Island Economic Development Board
 - Mr. Pono Shim - President & CEO, Enterprise Honolulu
 - Ms. Jeanne Skog - President & CEO, Maui Economic Development Board
 - Ms. Mattie Yoshioka - President & CEO, Kauai Economic Development Board

Appendix C IMPORTANT AGRICULTURAL LANDS

Petitions Approved by the Land Use Commission to Designate Important Agricultural Lands - by Island

Island and Location	Landowner	Acreage	Predominant Agricultural Uses	Date of Approval
Kauai, Koloa	Alexander & Baldwin	3,773	coffee, seed corn	March 2009
Kauai, Koloa	Mahaulepu Farm LLC (Grove Farm)	1,533	taro, seed corn, forage crops, cattle ranching	May 2011
Oahu, Central and North Shore	Castle and Cooke Homes Hawaii Inc.	679 (3 geographically separate properties)	diversified vegetable and fruit crops, flowers, foliage	March 2011
Maui, Central	Alexander & Baldwin	27,102	sugarcane	June 2009
Big Island, South Kohala	Parker Ranch, Inc.	56,772	cattle ranching	September 2011

Total acreage designated by the Land Use Commission as IAL –89,859 acres
IALvoluntary-summary.e11

Appendix D AGRICULTURAL CONSERVATION EASEMENTS

<u>Year</u>	<u>Name</u>	<u>Island</u>	<u>Land owner</u>	<u>Main activity</u>	<u>Total area of farm - ranch (acres)</u>	<u>Total area protected (acres)</u>	<u>Organization acquiring easement</u>	<u>Type of easement</u>	<u>Total cost</u>	<u>Benefits to land owner</u>
1983	Haleakala Ranch	Maui	Baldwin family	Cattle, tourism and conservation	30,000	5,000	TNC ¹	Donation		Tax deduction, lower property value = less development pressure
2006	Pu'u O Hoku Ranch	Molokai	Lavinia Currier	Cattle - Conservation	13,000	87	MCLT ²	Donation		Tax deduction, lower property value = less development pressure
2007	HARC	Oahu	HARC	Research	108	108	ADC ³	Purchase	\$2.2 million: (\$1.1 million from LLCP ³ and \$1.1 million from FRPP ⁶)	Cash + (lower property value = less development pressure)
2007	Pu'u O Hoku Ranch	Molokai	Lavinia Currier	Cattle - Conservation	13,000	2,800	MCLT	Donation		Tax deduction, lower property value = less development pressure
2009	Ulupalakua Ranch	Maui	Pardee Erdman	Cattle - winery	18,000: 16000 owned; 2000 leased	11,038	MCLT	Donation		Tax deduction, lower property value = less development pressure
2009	Kuka'iau Ranch	Big Island	David and Josephine DeLuz	Pasture and conservation	10,200	4,500	TNC	Donation		Tax deduction, lower property value = less development pressure
2010	Sunset Ranch	Oahu	Greg Pietsch (Pietsch Properties LLC)	Ag – Tourism and conservation	30	27	NSCLT ⁷ , MCLT, TPL ⁸	Purchase	\$2.4 million: (\$1.2 million from FRPP, \$0.6 million from LLCP and \$0.6 million from CWNLC ⁹)	Cash + Tax deduction + (lower property value = less development pressure)
2010	Kainalu Ranch	Molokai	Kip Dunbar	Cattle - Conservation	1200 (614 in watershed conservation)	168	MCLT	Purchase	\$2.3 million (\$1.2 from FRPP and \$1.1 from LLCP)	Cash + Tax deduction + (lower property value = less development pressure)

1. TNC - The Nature Conservancy
2. MCLT - Maui Coastal Land Trust
3. LLCP - Legacy Land Conservation Program
4. HARC - Hawaii Agriculture Research Center
5. ADC - Agribusiness development Corporation

6. FRPP - Farm and Ranch Protection Program
7. NSCLT - North Shore Community Land Trust
8. TPL - Trust for Public Lands
9. CWNLC - Clean Water and Natural Lands Commission

Appendix E INCREASED BARREL TAX USES

Department Of Agriculture

The Abercrombie Administration and the Department of Agriculture will be proposing to the 2012 State Legislature, the establishment of an Agriculture Development and Food Safety and Security Program within the Department. The purpose of this program (captured in the phrase “From Farm to Market”) is to provide policy direction, guidance, and prioritization for the expenditure of its share of the Agriculture Development and Food Security Special Fund.

An appropriation from the agricultural special fund will be sought to continue the funding for the activities and programs described on pages 15-17, Agricultural Activities Funded, as well as new initiatives among the major factors comprising the Agriculture Program described earlier.

Specifically, the new and existing activities and programs effecting agriculture that will be funded include, but are not limited to:

1. Bio-Security
 - a. Increasing the number of inspections at airports and harbors.
 - b. Increasing the number of inspectors.
 - c. Improve invasive species interdiction and application of eradication or management measures.
2. Agricultural Industry Development
 - a. Improve irrigation water infrastructure for State operated systems.
 - b. Make available new public agricultural lands for farming.
 - c. Encourage opportunities for the livestock industry including feed production.
 - d. Develop and implement drought mitigation measures.
3. Expansion of Market Presence of Locally-Grown Foods
 - a. Employ community outreach to educate the public of the benefit of buying locally.
 - b. Stabilizing existing markets – local and export.
 - c. Increase the share of locally-grown agricultural products in the market.
4. Increase funding for research directly related to the above factors.

Active participation in all aspects of the Program will be sought from public agencies, private organizations, transportation services, research entities, agricultural organizations, and so forth. The outcomes sought are a sustainable agricultural industry, increased food production for local consumption, expansion of overseas markets, increased public awareness of Hawaii agriculture in the State, and protecting the natural resources necessary for farming.

Critical to the full implementation of the Agriculture Development and Food Safety and Security Program is the reallocation of the \$0.60 balance that currently goes to the general fund to be equally shared between the Energy Security Special fund and the Agricultural Development and Food Security Special Fund

State Energy Office

The Energy Security Special Fund will be dedicated to continuing and completing existing activities and programs, as well as new initiatives for accomplishing the State’s clean energy goals outlined in its Hawaii Clean Energy Initiative Road Map.

Specifically, existing and new activities and programs in the following energy markets, financial instrument, and resource would be budgeted if an additional \$0.30 assessment were made available:

1. Energy Efficient Buildings
 - a. Leadership in Energy and Environmental Design
 - b. Lead By Example
 - c. Performance Contracting
2. Utility-scale Electric Power
 - a. Smart-grid
 - b. Geothermal
 - c. Battery storage research and development
3. Communications Outreach
 - a. Web-based on-line tools
 - b. Clean energy database
4. Alternative Transportation
 - a. Bio-jet fuel demonstration
 - b. Electric vehicle fast chargers
5. Energy Revolving Loan Fund
6. Hawaii State Energy Office Personnel

Contingent on adequately resourcing the energy priorities for achieving HCEI's 2030 goals listed above, other funding consideration would be given to clean energy initiatives relating to greenhouse gas emissions reduction, climate change, county economic development agency energy initiatives, and county-specific economic development board food and energy security projects.

Appendix F ECONOMIC IMPACT OF COAL TAX

An equivalent fossil energy tax or "carbon" tax on coal would be between four and seven times per ton of coal as the tax on each barrel of oil. The numbers vary depending on the type of coal, the type of oil, and the type of combustion for both. A ton of coal produces between 3,715 lbs of CO² (subbituminous) and 5,685 lbs of CO² (anthracite). A barrel of oil produces between 823 lbs (gasoline) and 941 lbs CO² (diesel).

Using the above ranges, the equivalent coal tax to a \$1.05 per barrel tax would range from \$4.15 to \$7.25 per ton. For example, a \$5 per ton tax would yield approximately \$4 million in additional funds that could be used to help Hawai'i achieve energy and food security.

A five-dollar per ton tax on coal imports would have a nominal financial impact on ratepayers. On O'ahu, where AES provides just over 20% of the island's electricity, the proposed \$5 per ton tax would add approximately \$0.00055 per kWh, or just over five one-hundredths of a penny per kWh. On Maui, where HC&S burns upwards of 100,000 tons of coal mixed with oil and biomass to provide 7% of the island's electricity, the proposed coal tax would likely add \$0.00019 per kWh to the average consumer's bill, or two one-hundredths of a penny per kWh.

HC&S, which provides approximately 7% of Maui's electricity, uses between 60,000 and 100,000 tons of coal annually. Thus, MECO customers may face the possibility of an increase of \$0.00019 per kWh for a \$5 per ton coal tax or, \$0.00027 per kWh for a \$7 a ton coal tax¹. Currently AES's PPA does not allow them to pass on direct fuel costs.

¹ Assumes 100,000 tons of annual consumption by HC&S

Appendix G AGRICULTURAL DEVELOPMENT AND FOOD SECURITY PLAN

HAWAII ECONOMIC DEVELOPMENT TASK FORCE
INVESTIGATIVE REVIEW COMMITTEE

THE AGRICULTURAL DEVELOPMENT AND FOOD SECURITY PROGRAM

The purpose of the Agricultural Development and Food Security Program is to re-establish agriculture as essential to the well-being of our island society by rejuvenating the economy, protecting important resources, and gaining greater self-sufficiency in food production. The transformation of Hawaii's agriculture from sugarcane and pineapple plantations to diversified agriculture is now facing complexities such as developing inroads into diversified export markets, increasing pest pressure, and global perspectives on food security. Concurrently, we have begun to identify and implement efforts to protect and promote our home-grown food supply to achieve food self-sufficiency and food safety for Hawaii residents and our visitors. Addressing these issues needs to be a coordinated effort by the agricultural, transportation, and research organizations, with other federal, county, and State agencies working in collaboration with private sector businesses.

Therefore, the Agricultural Development and Food Security Program is established to encompass all aspects of agriculture from farm-to-market. The farm-to-market concept, although linear, includes interrelationships between private and public sectors to develop and improve agriculture in Hawaii. The goals of the Program are to:

1. Position the agricultural industry to be sustainable and to achieve critical mass;
2. Increase availability of locally grown and produced commodities in the market place;
3. Expand agricultural exports to domestic and foreign countries, and re-establish Hawaii as a global leader in agriculture and agriculture technologies;
4. Develop sustainable practices that ensure self-sufficiency in crop and protein production; and
5. Protect Hawaii's agriculture, environment and natural resources.

The Program provides an overall direction which is overseen by the Department to develop agriculture in areas including but not limited to: farm inputs, agricultural infrastructure, labor, biosecurity, pest management, food safety, distribution, sustainability, market and industry development, and research and development. The Department of Agriculture is the organization best positioned, however not adequately resourced, to oversee the development of agriculture. To carry out Program activities and ensure success in achieving overall agricultural development will require additional skilled workforce throughout the agricultural industry and within the Department, and the active participation from the agricultural industry, transportation, the University of Hawaii-College of Tropical Agriculture and Human Resources, public and private research entities, and other federal, county, and State agencies.

The concept from farm-to-market includes systems which are not solely under the Department of Agriculture's purview, but critical to the development of agriculture. These systems include, but are not limited to: agricultural land, irrigation water, pest management programs, food safety, distribution and

biosecurity systems, industry and market development, development of co-products from bio-fuel processing useful to agriculture, and policy issues such as establishing a fair and equitable manner to determine the allocation of agricultural land and irrigation water among renewable energy initiatives and existing and potential agricultural commodity production.

The Department of Agriculture is authorized to develop, coordinate, fund, and integrate new and existing programs, facilities and projects in order to promote the development of agriculture and food security within the state. This shall be accomplished by the establishment of the Agricultural Development and Food Security

Program within the Department of Agriculture that shall:

1. Provide oversight, administration, coordination, revenue development, and funding to develop Hawaii's agriculture industry from farm-to-market;
2. Interface with private, public-private and public organizations and agencies to work toward the goals and objectives of the Agricultural Development and Food Security Program; and
3. Comport with other relevant state laws, provided that the Agriculture Development and Food Security Program is consistent with federal law.

The objectives of the Agricultural Development and Food Security Program shall be to:

1. Increase agricultural sustainability and improve the economic viability of the state's agriculture industry, including development of data to measure achievement of objectives;
2. Develop and implement programs to assist farm, nursery and livestock production;
3. Coordinate, fund and establish agriculture industry development programs;
4. Develop and implement programs to increase agricultural exports to domestic and foreign countries;
5. Establish Hawaii as a global leader in agriculture and agriculture technologies;
6. Develop and implement concepts and programs to expand the local grown share of the state's market;
7. Support and assist in developing farm to school program;
8. Develop and implement research and technology transfer programs for varieties, treatment, pest control, diagnostics, farm inputs, etc.
9. Support and coordinate with other programs within the department such as infrastructure development, biosecurity, food safety, etc. with this new program;
10. Ensure the product integrity of agricultural commodities branded as made in Hawai'i to protect Hawai'i's identity as a producer; and
11. Review, coordinate, update, oversee and comment on government policies which affect the state's agriculture and food security.

RECOMMENDATIONS

Immediate Recommendations:

1. The plans, programs and activities under the Agricultural Development and Food Security Program and Energy Security Plan shall continue to be integrated to demonstrate:
 - a. the co-products that are possible such as livestock/aquaculture feeds from bio-energy feedstock processing, and
 - b. concerted effort to reduce real and perceived conflicts between agricultural commodity production and renewable energy activities.
2. Introduce legislation that would amend Section 243-3.5, HRS (Environmental Response, Energy, and Food Security Tax) by permitting, over a period of time, the equal reallocation of the sixty cents per barrel of oil currently deposited into the General Fund to the Department of Business, Economic Development and Tourism's Energy Security Special Fund and the Department of Agriculture's Agricultural Development and Food Security Special Fund.
3. Introduce legislation to amend Act 73, SLH 2010, Section 14 to extend the distribution of the taxes to the two special funds beyond the repeal date in 2015.

The Department of Agriculture shall introduce legislation for consideration by the 2012 State Legislature to implement and promote the Agricultural Development and Food Security Program with the appropriate level of funding from the Barrel Tax for Fiscal Years 2012 through 2014.