State of Hawaii Energy Resource Coordinator's

ANNUAL REPORT 2011

State of Hawaii Department of Business, Economic Development and Tourism • Hawaii State Energy Office • energy.hawaii.gov

ACKNOWLEDGEMENT & DISCLAIMER

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INTRODUCTION

This edition of the ERC Report reveals Hawaii's energy landscape, illuminating both our vulnerability and great potential in the clean energy category. Based on this report, we can conclude that Hawaii's Clean Energy Economy is one of the few areas of the economy that is growing in these challenging times. The data we present in this report demonstrates the important contribution that investments in energy efficiency, renewable energy development, policy, and transportation continue to make to our economy.

By revenue, energy is the largest industry in the world. Energy technology is already larger than the dot com revolution, and is emerging as a trillion-dollar market. Hawaii's unique environment, location, and businesses, coupled with its innovative clean energy policies, enable our state to attract, pilot, and deploy technology to become a clean energy market leader.

~ Richard Lim, Director, DBEDT

SUMMARY

The State of Hawaii has embarked on a clean energy economic development plan designed to establish capital investment, clean energy jobs, and growth of a clean energy economy.

With the pursuit of energy independence, more and more of the $4-5 billion dollars that we now spend on imported oil will be reallocated to investment in renewable energy here in Hawaii. Ultimately, Hawaii is emerging as a test bed and global model for clean energy policy, infrastructure, development, transportation, fuels, and efficiency technologies. Key indicators, developments in planning and policy, and funded projects reveal the great strides that have been made are only a taste of the enormous potential ahead.

KEY INDICATOR: RENEWABLE PORTFOLIO STANDARDS (RPS)

To achieve the targeted 70% clean energy by 2030, Hawaii's energy must be generated from renewable resources, including solar, wind, geothermal, hydropower, and bio-fuels. Thus far, the state has made significant progress in increasing the amount of locally produced renewable energy.

Hawaii has also made great strides in aligning regulatory policies and permitting processes with clean energy goals, thereby encouraging development of next-generation clean energy technologies and deploying renewable generation and grid infrastructure.

Reducing the use of petroleum fuel for ground transportation also plays an important role in achieving Hawaii's clean energy goals. Notable progress has occurred in the deployment of electric vehicles and supporting infrastructure.

KEY INDICATOR: ENERGY EFFICIENCY PORTFOLIO STANDARDS (EEPS)

Energy efficiency measures will account for 30% of Hawaii's 70% clean energy objective. To reach this goal, the state supports retrofitting residential and commercial buildings, strengthening new construction policies and building codes, and identifying non-building-related energy efficiency measures.

To inspire Hawaii residents and local businesses to embrace energy efficiency and conservation, the state has embarked on numerous programs, including energy financing and rebate initiatives, installation of energy efficiency equipment in state buildings, and green achievement awards for local businesses and organizations, and the hotel industry.

KEY INDICATOR: JOBS & REVENUE

Clean energy is supercharging Hawaii's economy by attracting green business and creating a workforce for the future. Currently, Hawaii leads the nation in clean economy job growth and the clean energy sector is serving to support the state's economic recovery and overall growth.

TRANSPORTATION

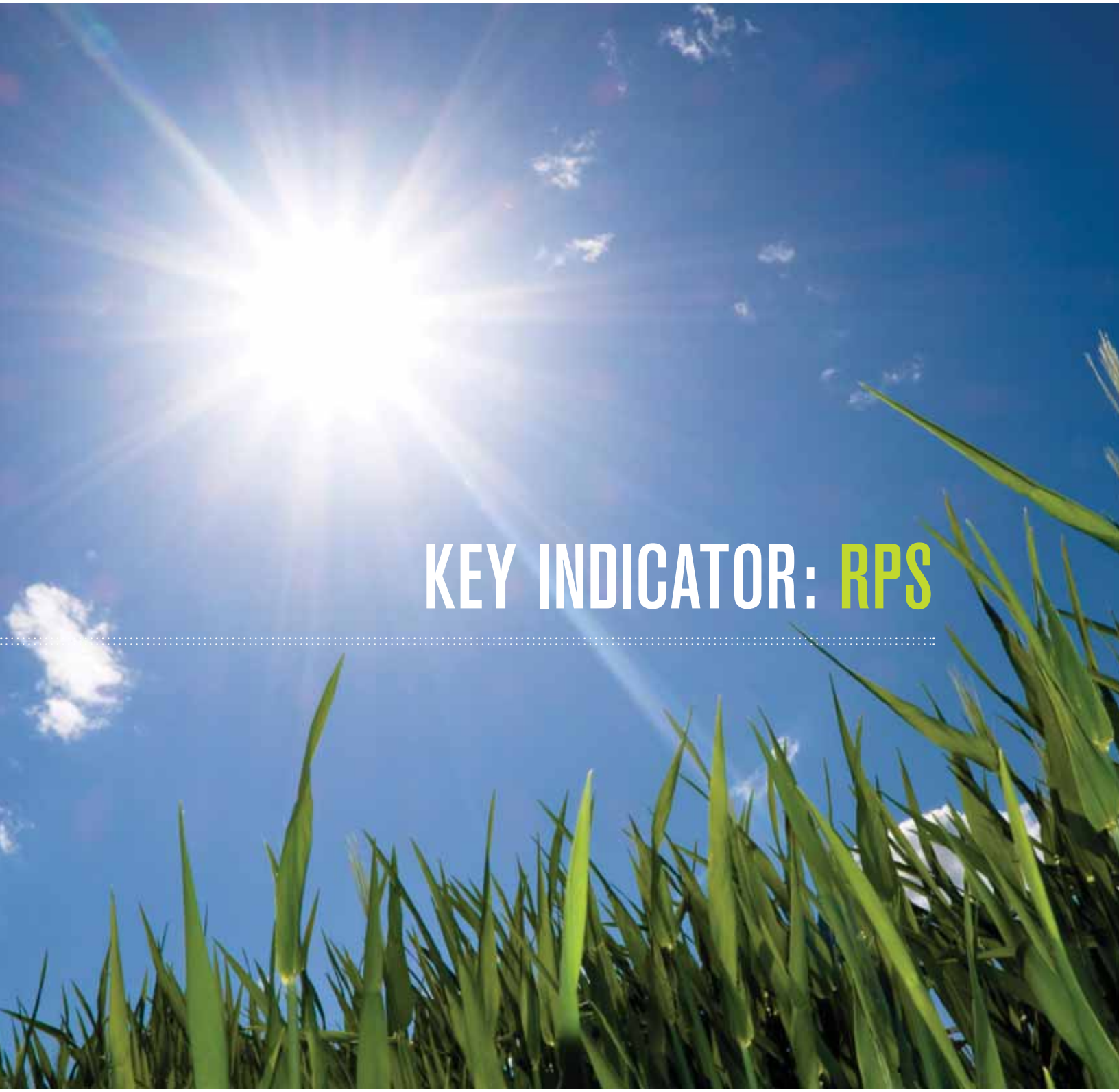
The State Energy Office is dedicated to establishing a sustainable alternative-fuel strategy to help reduce Hawaii's dependence on imported oil. A primary goal is to reduce the consumption of petroleum in ground transportation.

PLANNING & POLICY

The State Energy Office works toward energy efficiency and self-sufficiency, and greater energy security and reliability. The Office also collects and analyzes energy data to develop solutions that reflect Hawaii's unique resources, challenges, and opportunities in accordance with the State's overall energy objectives.

FUNDED PROJECTS (AARA, ESSF & GRANTS)

The State Energy Office has allocated invaluable state and federal funds toward key initiatives that support growth of Hawaii's clean energy economy and achieving the state's 70% clean energy by 2030 goal. Funding sources include the American Recovery and Reinvestment Act of 2009, Act 73 Energy Security Special Fund, and various grants.

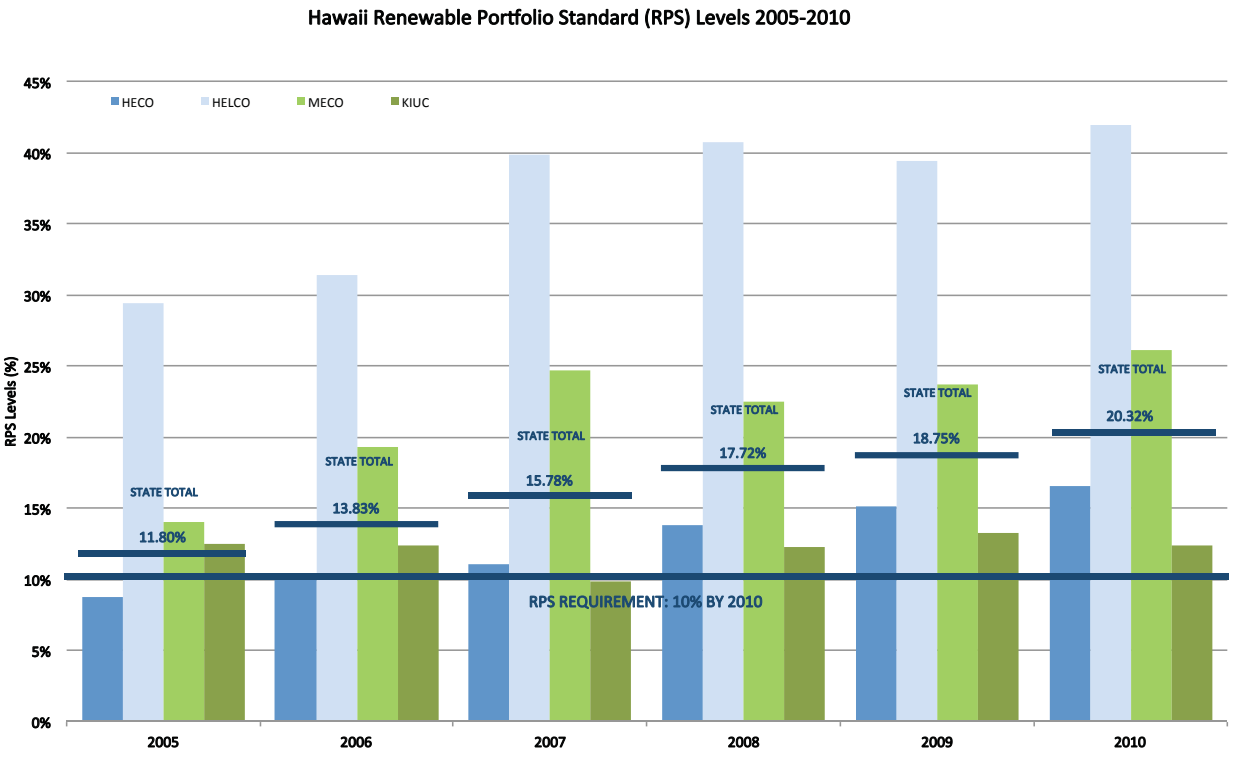


KEY INDICATOR: RPS

The state has made great strides in increasing the amount of locally produced renewable energy in the areas of geothermal, hydropower, solar, wind, bioenergy, and ocean (wave and thermal). We have (1) aligned government regulations and policies with clean energy goals; (2) increased certainty in the process for developing renewable energy; (3) deployed renewable generation and grid infrastructure; and (4) explored next generation technologies and new applications of existing technologies. Two major regulatory policy milestones achieved were decoupling and feed in tariffs, which have paved the way for our utilities and power providers to more efficiently add renewable energy onto the grid. These initiatives are critical, as Hawaii needs to have fully integrated renewable resources developed to reach its renewable energy goals.

Hawaii Renewable Portfolio Standard (RPS) Levels

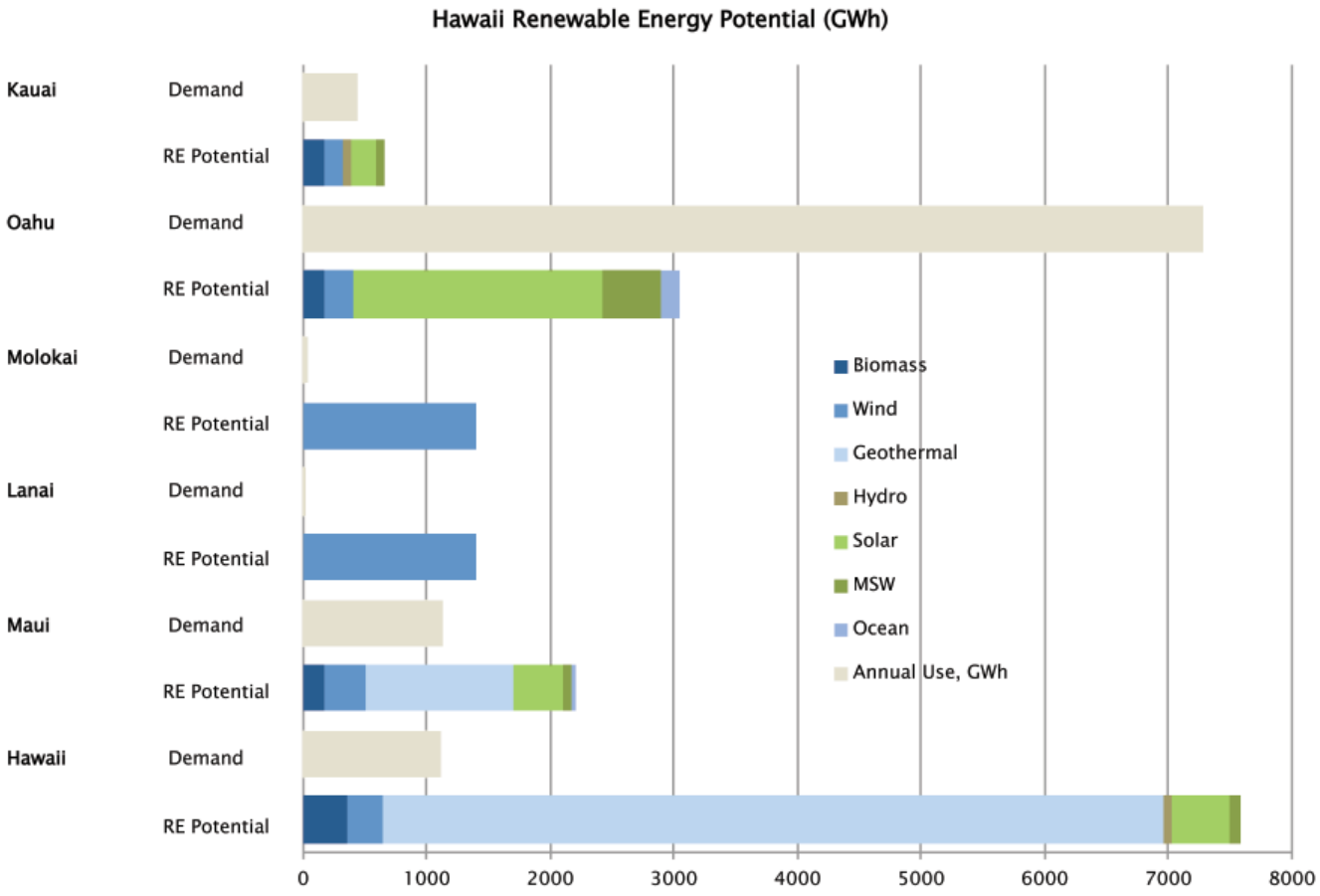
This chart shows Hawaii's Renewable Portfolio Standard (RPS) levels from 2005-2010. The RPS requires that by 2010 renewable electricity generation or energy conservation amount to 10% of electricity sold statewide. In 2005, the statewide RPS level was 11.80%. By 2010, the RPS level rose to 20.32%, meeting the 10% requirement.



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

Hawaii Renewable Energy Potential (GWH)

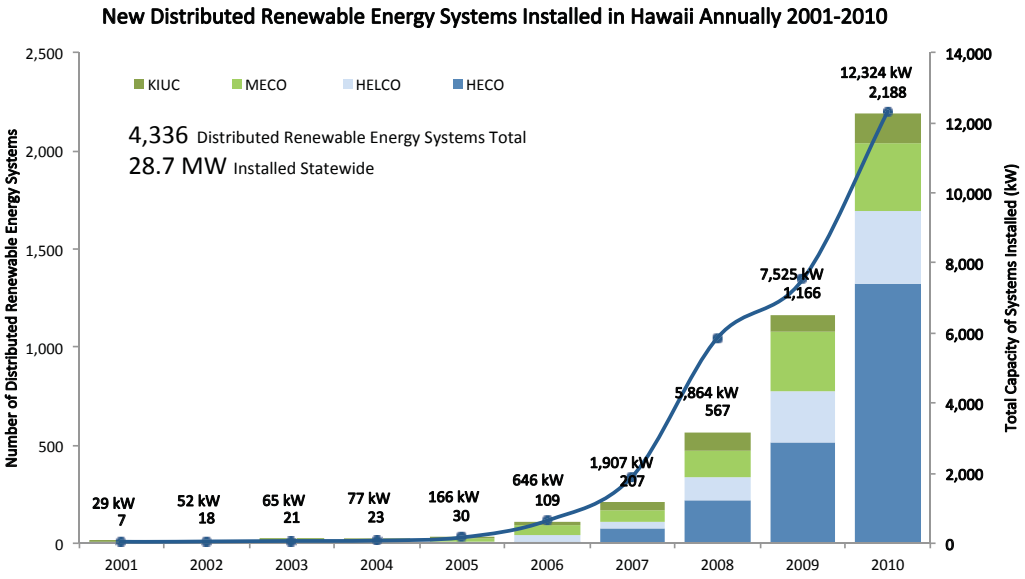
Most of our electricity demand is on Oahu while most of the renewable energy sources are on Hawaii, Maui, Lanai, Molokai and Kauai. For this reason we plan to construct an undersea cable to connect our islands into an integrated grid for both energy and broadband. With this cable, we can capitalize on our rich diversity of renewable resources and achieve economies of scale. This project is already receiving worldwide interest from investors who would like to fund the project because of the diversity of resources that it can accommodate.



Source: Department of Business, Economic Development & Tourism, 2011

New Distributed Renewable Energy Systems

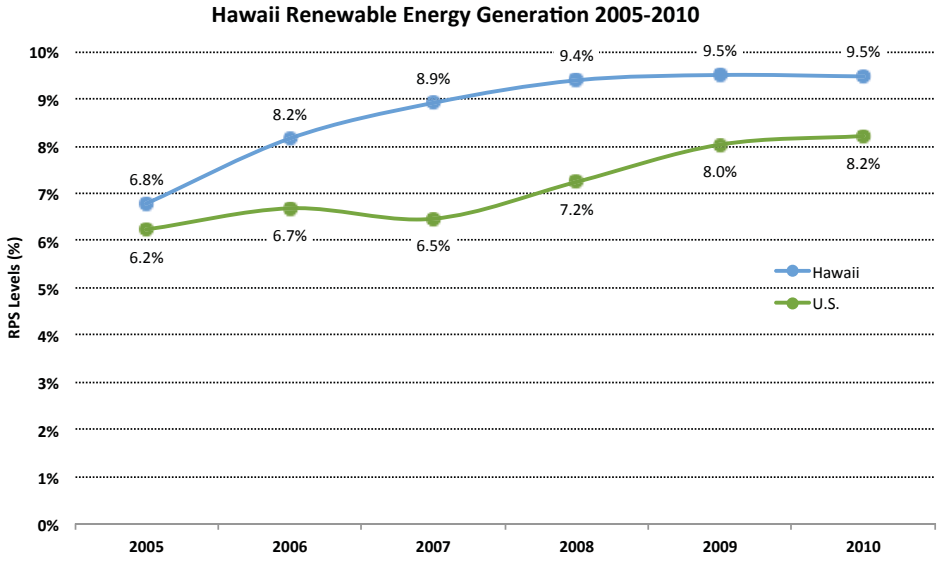
By 2010, 4,336 distributed renewable energy systems with a total capacity of 28.7 MWs were installed statewide under the utilities' Net Energy Metering and Schedule Q programs. Since 2006, distributed generation system installations have increased rapidly. Whereas only 30 systems with a total capacity of 166 kWs were installed in 2005, 2,188 systems were installed statewide with a total capacity of 12.3 MWs in 2010 alone.



Source: Net Energy Metering Status Reports, 2010 (Public Utilities Commission)

Percent of Total Energy Generation From Renewable Sources – Hawaii vs. US

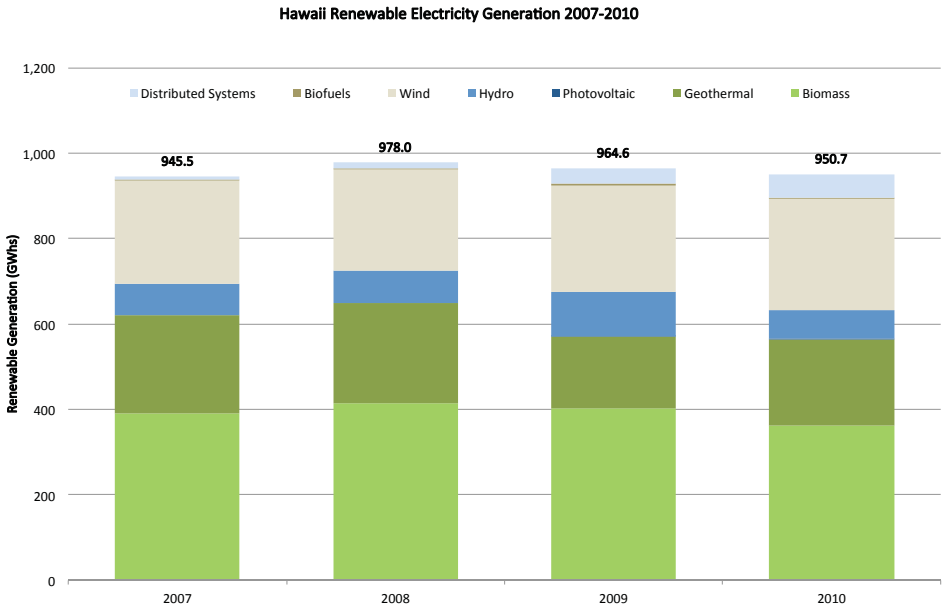
Since 2006, Hawaii's renewable electricity generation as a percentage of total generation has been on average 1.8% above that of the U.S.



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

Hawaii Renewable Energy Generation (Gigawatt Hours by Source) 2007-2010

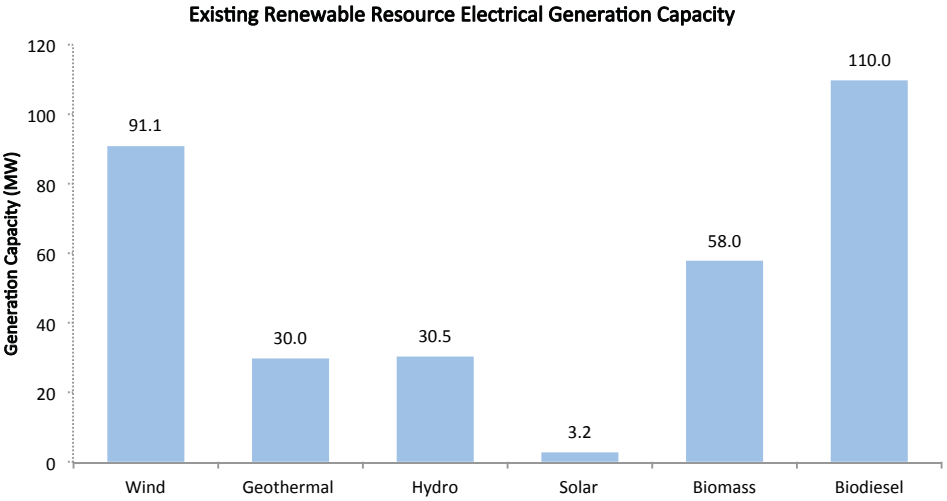
Of the electricity generated from renewable resources, those that are generated from biomass/waste-to-energy, geothermal and wind are most abundant. In 2010, over 87% of all electricity from renewable generation came from the aforementioned resources.



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

Existing Renewable Resource Electrical Generation Capacity

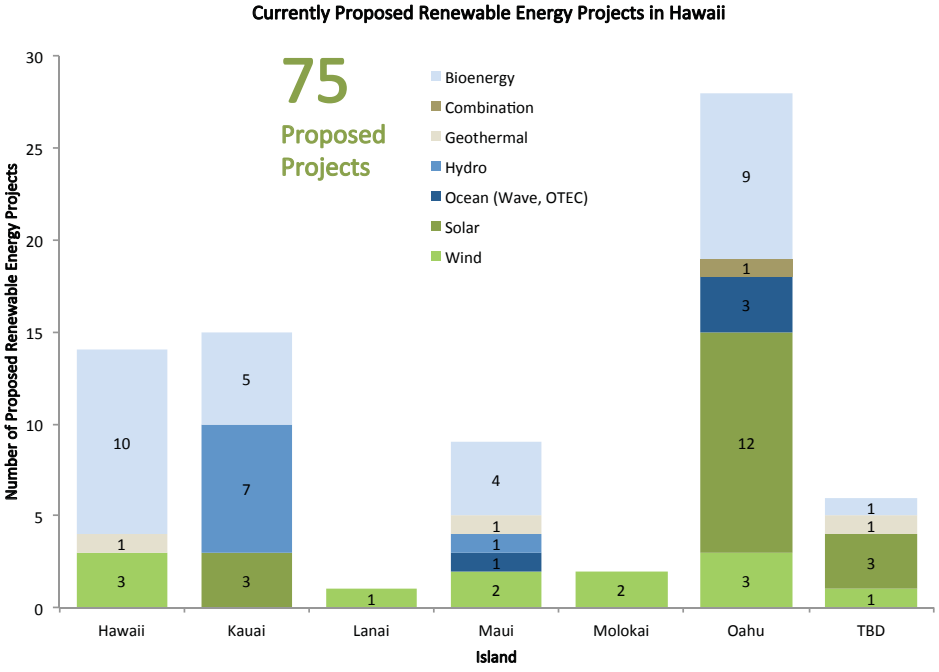
A total of 28 renewable energy generation facilities totaling 322.7 MWs in nameplate capacity currently exist on the islands of Hawaii, Kauai, Lanai, Maui and Oahu.



Source: Department of Business, Economic Development and Tourism, December 2011

75 Currently Proposed Renewable Energy Projects In Hawaii

Clean energy will do more than improve the environment; it will also supercharge Hawaii's economy. As the chart below indicates, 75 renewable energy projects are currently in progress and more are in development, thus proving that Hawaii is the ideal laboratory for clean energy development and investment.



Source: Department of Business, Economic Development and Tourism, December 2011

2nd in the Nation in PV Installed Per Capita

Hawaii was ranked second in the nation in cumulative installed photovoltaic capacity per capita in 2010 by the Interstate Renewable Energy Council, with 32.9 WDC per capita installed at the end of 2010. The cumulative installations were 4.7 times the national average of 7.0 WDC per capita.

Second in the Nation
Cumulative Installed Photovoltaic Capacity per Capita

State	Cumulative Through 2010 (W_{DC}/person)	2010 Installations (W_{DC}/person)
1. Nevada	38.8	25.3
2. Hawaii	**32.9**	**13.6**
3. New Jersey	29.6	15.1
4. California	27.4	6.8
5. Colorado	24.1	12.3
National Average	7.0	2.9

Source: 2010 U.S. Solar Market Trends, July 2011 (IREC)

• Key accomplishments for 2011

RENEWABLE ENERGY PROJECT ASSISTANCE

- Identified, researched, tracked, counseled and assessed over 75 utility scale projects proposing to produce energy from wind, solar, hydro power, biofuel, waste to energy, geothermal, ocean thermal and wave energy.
- Developed a list of renewable energy leaders demonstrating progress and with potential to assist Hawaii in achieving the energy goals of the Hawaii Clean Energy Initiative.
- Provided assistance and counsel to project developers in financial resources and referrals; permitting facilitation and guidance; potential site identification; and legislative review.

PERMIT FACILITATION

Two innovative online permitting tools are garnering national attention for application in other states and will be available for use in Hawaii by early 2012.

- **Hawaii Department of Health (DOH) e-Permitting Portal**
  A joint effort between DBEDT and DOH, the DOH e-Permitting Portal will enable the regulated community to electronically submit, monitor, and obtain all permits issued by DOH's Environmental Health Administration, will allow DOH/EHA to electronically manage and modify its forms, and will streamline the permitting processes.

- **Hawaii State Energy Office Permitting Wizard**
  Supplemented by "A Guide to Renewable Energy Facility Permits in Hawaii" (expected public release April 2012), the Permitting Wizard will help identify federal, state, and county permits required for individual projects. Designed to produce a "Permit Plan" in response to project-specific information provided by the user online, the Wizard links to information on over 160 permits and will also link to the DOH e-Permitting Portal. The guide is the first in Hawaii providing comprehensive guidance to various audiences – utility-scale developers, individual homeowners, investors, government, legislators – on permitting and siting of renewable energy projects in Hawaii.

FOOD, FEED, AND FUEL

The state participated in Pacific Command's Green Initiative for Fuels Transition Pacific (GIFTPAC), fostering the development of advanced biofuels, with D.O.D., U.S. D.O.E., U.S.D.A., and the Hawaii State Department of Agriculture. This group's work supported the release of a Request for Information on biofuels from the Defense Production Act Title III. The RFI's language contained a specific consideration for the production and supply of biofuels from Hawaii, recognizing that Hawaii is a "critical command location for all U.S. military services." Integrated bioenergy projects have the potential to support Hawaii's agricultural sector and to produce food, feed, and fuel.

SMART GRID

The State Energy Office led the coordination of the Hawaii-Japan Smart Grid Community Demonstration Project that culminated in the signing of a Memorandum of Understanding (MOU) between the State, the County of Maui, HNEI, and HECO, pledging Hawaii's commitment and cooperation in facilitating and supporting the project. This project is one of the six projects under the Hawaii-Okinawa Partnership which resulted under the Japan-U.S. initiative signed by President Obama and Japan Prime Minister Yukio Hatoyama in 2009.

On November 22, 2011, Governor Neil Abercrombie and Japan-based New Energy and Industrial Technology Development Organization (NEDO) President Hideo Hato signed a memorandum of understanding to memorialize ongoing efforts between the State of Hawaii and NEDO. NEDO is an arm of Japan's Ministry of Economy, Trade and Industry. They are set to build a first-of-its-kind smart grid demonstration project on the Island of Maui. The multi-million dollar project is aimed at improving integration of variable renewable resources, such as solar and wind power, and preparing the electric system for widespread adoption of electric vehicles.

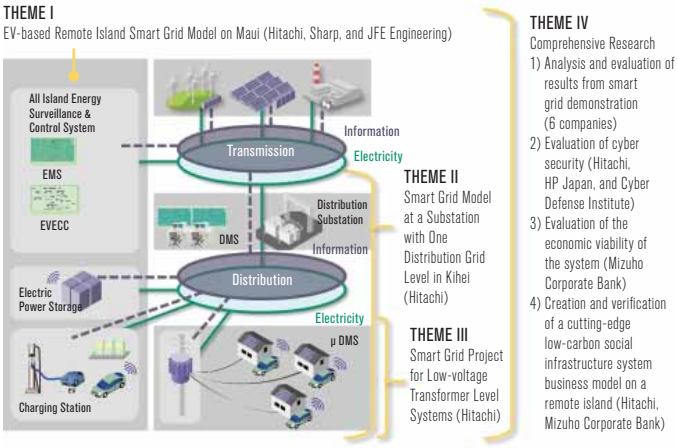


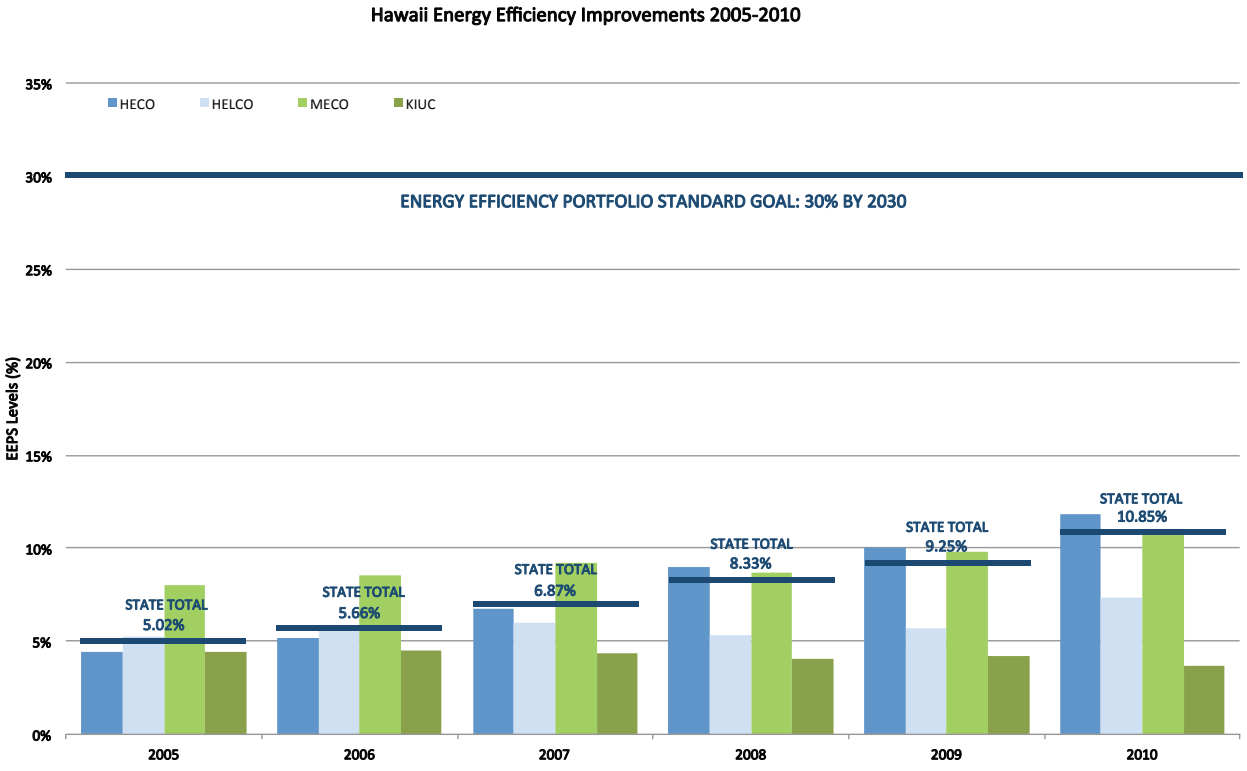
Illustration courtesy of Hawaiian Electric Company, Inc. and Hitachi, Ltd.

KEY INDICATOR: EEPS

The state's overall goal for energy efficiency is to meet the Energy Efficiency Portfolio Standard of 30% by reducing electricity demand by 4300 GWh by 2030. In order to meet this goal we will (1) align the efficiency regulatory policy framework with clean energy goals; (2) support the retrofitting of residential and commercial existing buildings; (3) strengthen new construction policies and building codes and (4) identify non-building related energy efficiency measures. As a result of the Energy Efficiency Portfolio Standard enacted since 2009, Hawaii has made great strides towards its 30% energy efficiency by 2030 goal. This means that dollars businesses and households save on energy can be reinvested into the economy. It's a great start, but there are vast opportunities for new efficiency gains, and Hawaii is looking to maximize efficiency with new technology, building practices, retrofits, and consumer behavioral change.

Hawaii Energy Efficiency Portfolio Standard 2005-2010

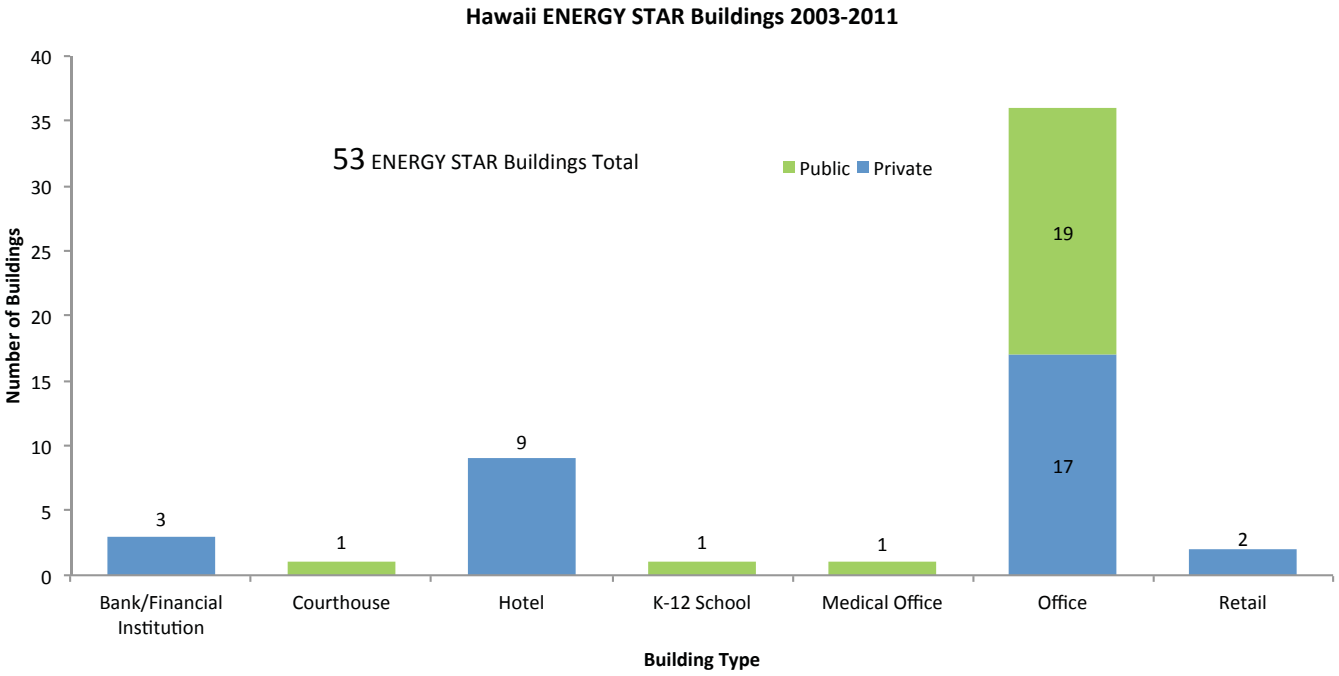
This graph shows Hawaii's Energy Efficiency Portfolio Standard (EEPS) levels from 2005-2010. The EEPS requires that by 2030 annual energy savings amount to 30% of annual electricity sales statewide. In 2005, the statewide EEPS level was 5.02%. By 2010, the EEPS level rose to 10.85%.



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

Hawaii ENERGY STAR Buildings

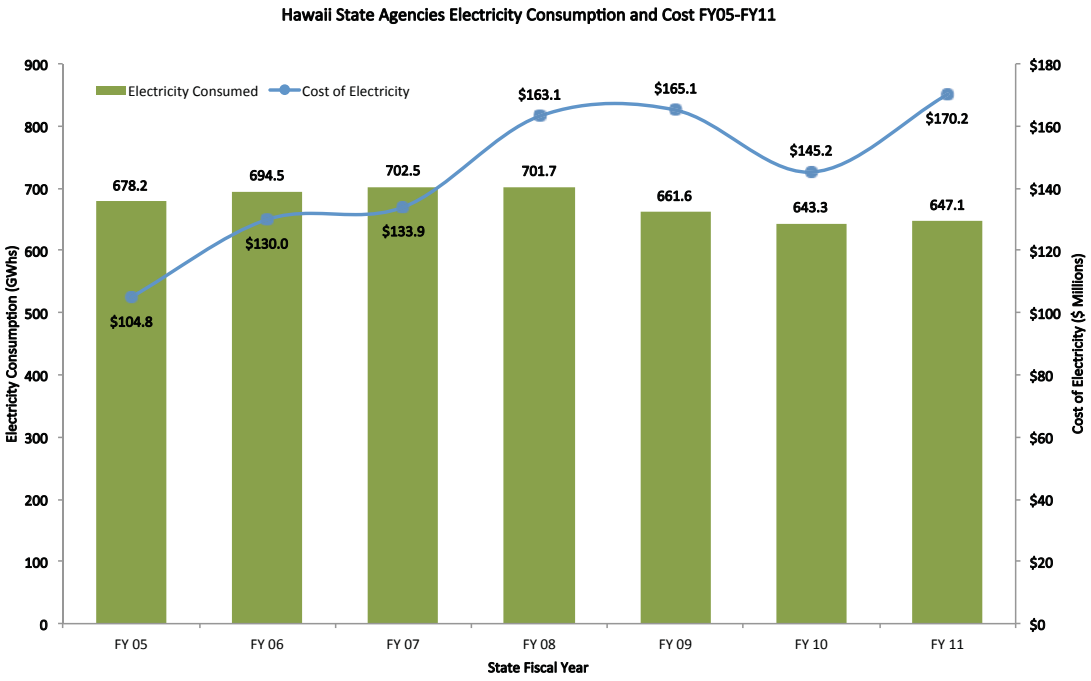
Agencies can benchmark buildings to compare energy usage with other buildings in their portfolio or similar buildings nationally to identify investment priorities. If a building's ENERGY STAR score ranks in the top 25% of all buildings of its type, it can be certified as an ENERGY STAR building. Since 2003, 53 Hawaii buildings have received the ENERGY STAR certification. They include 22 public and 31 private buildings.



Source: Energy Star.gov, December 2011 (US Environmental Protection Agency & US Department of Energy)

Electricity Consumption by State Agencies

The chart shows Hawaii state agency electricity consumption and cost increased slightly from fiscal years 2005 to 2007, from 678.2 GWhs to 702.5 GWhs. However, when the cost of electricity increased significantly from $133.9 million in fiscal year 2007 to $163.1 million in fiscal year 2008, electricity consumption declined as a result of efficiency measures. Noticeably, electricity consumption at state agencies continued to decline, with 643.3 GWhs consumed in 2010 at a cost of $145.2 million. There was a slight increase in 2011, mostly attributed to new facilities coming on line.



Source: Department of Business, Economic Development and Tourism, December 2011

#1 in Performance Contracting

Hawaii was ranked first in the nation for energy savings performance contracting by the Energy Services Coalition, with $117.09 per capita in energy savings performance contracts. This is 3.7 times the national average of $31.46 per capita.

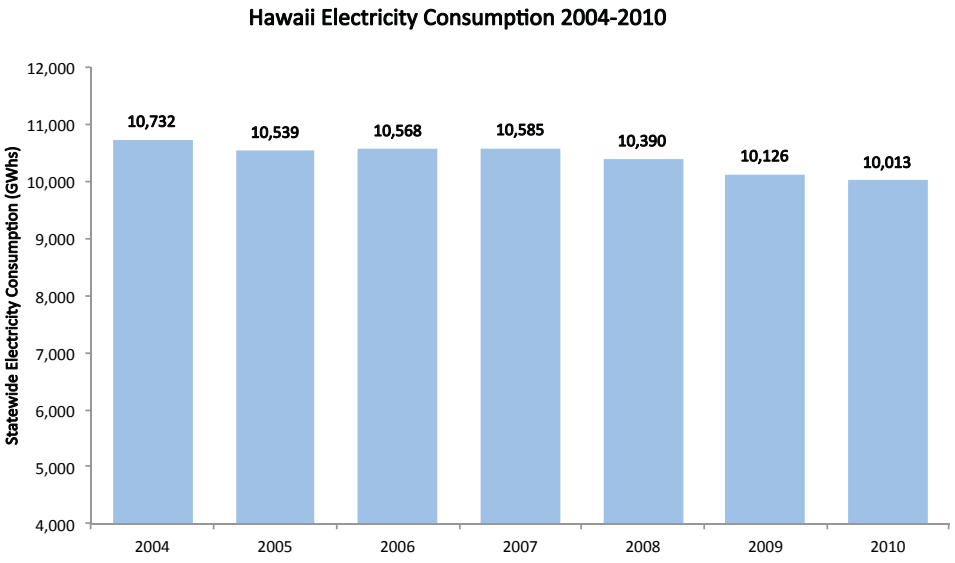
First in Nation
Energy Savings Performance Contracting Per Capita

State	Dollars per Capita ($)	Total Performance Contracting ($)	Jobs Created (Job Year)
1. Hawaii	**$117.09**	**$159,278,011**	**1,731**
2. Kansas	$90.81	$259,094,503	2,816
3. Idaho	$90.27	$129,000,000	1,402
4. Massachusetts	$71.53	$457,696,106	4,975
5. Utah	$66.89	$165,195,000	1,796
National Average	$31.46	$130,846,670	1,379

Source: Performance Contracting Impacts - State Comparison, December 2011 (Energy Services Coalition)

Hawaii Electricity Consumption

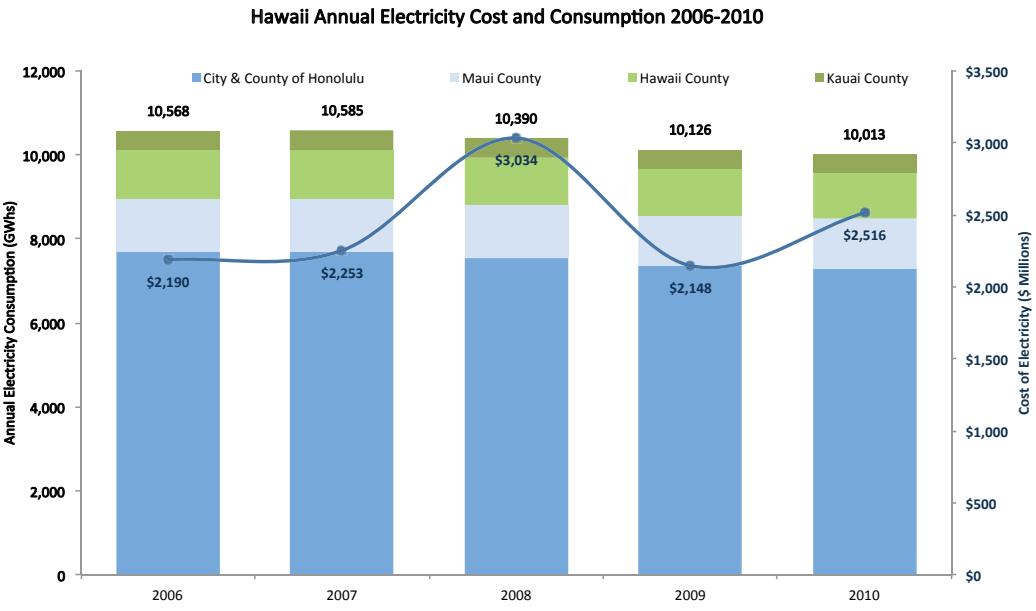
This chart shows a steady decrease in electricity consumption statewide from 10.7 TWhs in 2004 to 10.0 TWhs in 2010. This electricity consumption decrease can be attributed to energy efficiency measures and Hawaii's economic climate.



Source: State Energy Data System: Hawaii, December 2011 (Energy Information Administration)

Hawaii Annual Electricity Cost and Consumption

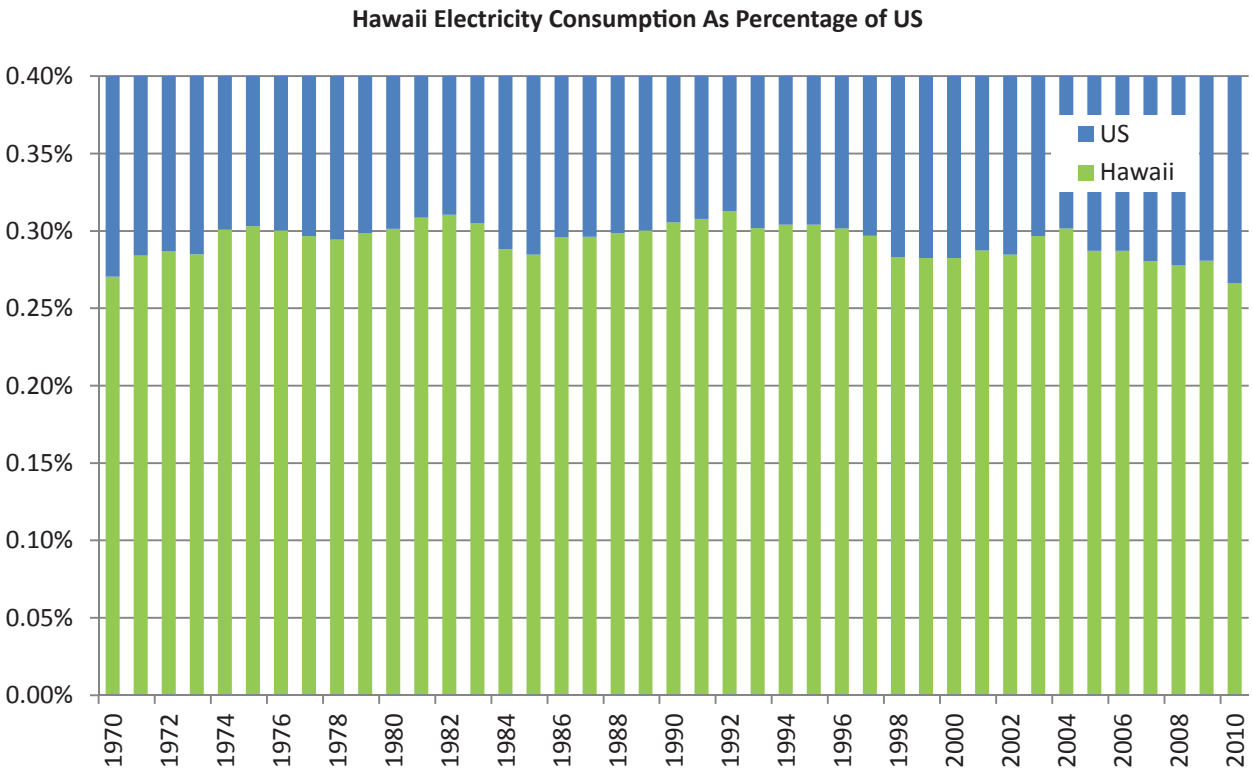
Hawaii's annual electricity consumption has decreased in the past 5 years from 10.6 TWhs in 2006 to 10.0 TWhs in 2010. However, the cost of electricity has varied as a result of fluctuations in fuel prices. At its peak, the annual cost of electricity in Hawaii rose to $3.0 billion from $2.2 billion in 2006. In 2009, the cost of electricity dropped to $2.1 billion, only to increase to $2.5 billion in 2010.



Source: Monthly Energy Trends, 2006-2010 (DBEDT)

Total Energy Consumption Relative to 1970's (Hawaii Total, Rest of the U.S. Total Consumption, Rest of the U.S. Per Capita, Hawaii Per Capita)

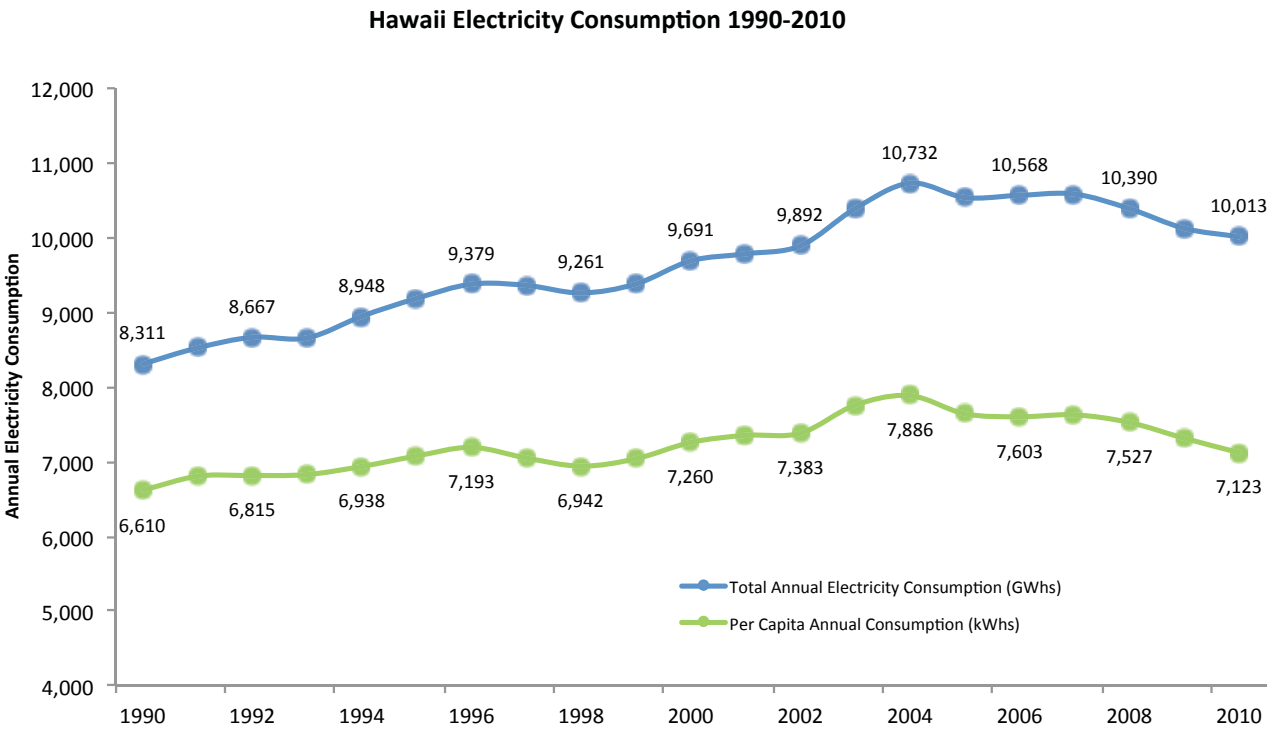
Since 1970, Hawaii electricity consumption has been on average 0.29% of U.S. electricity consumption. However, in 2010 Hawaii electricity consumption dropped to 0.27% of U.S. electricity consumption, a level unseen since 1970.



Source: State Energy Data System: Hawaii, December 2011 (Energy Information Administration)

Electricity Consumption for Hawaii Total and Per Capita 1990 – 2010

Hawaii's 2010 annual electricity consumption per capita of 7,123 kWhs is below consumption levels reached since 2000, when per capita consumption was 7,260 kWhs.



Source: State Energy Data System: Hawaii, December 2011 (Energy Information Administration)

• Key Accomplishments in 2011

GREENSUN HAWAII PROGRAM FOR ENERGY EFFICIENCY FINANCING (OCTOBER 2011)

DBEDT and Hawaii Community Reinvestment Corporation (HCRC) launched the GreenSun Hawaii program, an innovative energy financing credit enhancement program made available through a Recovery Act grant from the U.S. Department of Energy. In partnership with approved Hawaii-based solar contractors, the program enables customers to apply for financing for solar water heating and other energy-efficient equipment with up to three participating lenders of their choice through an easy-to-use online application. The improvements will reduce overall energy consumption and ultimately, yield significant cost savings to property owners. GreenSun Hawaii loans will feature longer terms and lower interest rates than loans offered outside of the program. The goal is to provide financing options that will result in lower monthly payments in comparison to the customers' current utility bills.

CAPITOL DISTRICT CLEAN ENERGY PROJECTS SAVES 30% IN ENERGY COSTS (JULY 2011)

The Department of Accounting and General Services (DAGS) installed 1,005 solar photovoltaic (PV) panels on the Kalanimoku Building in the downtown Honolulu Capital District as part of the State's ongoing efforts to lead by example in reducing Hawaii's dependence on imported oil. The system is saving 12 percent of the building's use, resulting in $300 of daily savings in electricity costs.

Kalanimoku's PV panels, each rated at 236.2 watts of direct current (DC) power generating capacity, has been producing electricity at or above its expected monthly output. Annually, the system will generate a minimum of 296,849 kilowatt-hours (kWh) of clean energy and reduce greenhouse gas emissions by about 500,000 pounds (carbon dioxide equivalents). Depending on weather conditions, the PV system could produce as much as 374,810 kWh each year for a reduction of 564,000 pounds of green house gas emissions.

Kalanimoku Building

The Kalanimoku PV project is part of the $33.9 million Energy Savings Performance Contracting (ESPC) project awarded by DAGS in 2009 to improve the energy efficiency for 10 office buildings, located in the downtown State Capital District, with high annual utility bills. The ESPC project will reduce total energy consumption in the 10 buildings by about 30 percent, about 6.3 million kWh of energy per year, enough to power more than 10,000 homes. The 10 buildings are the State Capitol, Kalanimoku, Keelikolani, Kekauluohi (State Archives), Kekaunaoa, Keoni Ana, Kinau Hale, Queen Liliuokalani, No. 1 Capitol District, and Leiopapa-a-Kamehameha.

Hawaii State Capitol

STATE CAPITOL BUILDING NAMED A MIDPOINT FINALIST IN EPA'S 2011 NATIONAL BUILDING COMPETITION: BATTLE OF THE BUILDINGS (JULY 2011)

The U.S. Environmental Protection Agency's (EPA) ENERGY STAR program marked the midpoint of the 2011 National Building Competition: Battle of the Buildings by releasing a list of Top Contenders for each building category as well as the progress of all participants in the competition. The State Capitol building was named a finalist in the Office building category.

Teams from 245 buildings around the country are going head-to-head in this year's ENERGY STAR National Building Competition to see who can reduce their energy use the most. In the first six months of the competition alone, the competitors together have saved more than $3.7 million on utility bills and reduced greenhouse gas emissions equal to the electricity used by 2,300 homes annually.

DBEDT DIRECTS ADDITIONAL AMERICAN RECOVERY AND REINVESTMENT ACT (ARRA) FUNDS TO SUPPORT HAWAII ENERGY SOLAR WATER HEATING REBATE PROGRAM (APRIL 2011)

Hawaii Energy reported over 600 households have purchased solar water heating systems, exhausting the federal stimulus money that had been allocated for this enhanced rebate. Due to the ARRA-funded program, Hawaii Energy experienced an unprecedented demand for solar water heating systems and currently 220 customers are waitlisted for the rebate program.

DBEDT authorized Hawaii Energy to redirect remaining ARRA funds to fulfill the waitlisted customer applications for the $1,500 rebate and to provide further applications with a $1,000 rebate for solar water heating systems, as long as ARRA funds are available and on a first-come-first-serve basis.

HAWAII GREEN BUSINESS HOTEL AWARDS (MARCH 2011)

The following hotels were recognized based on criteria including: completing a self-audit checklist evaluating their environmental practices ranging from pollution prevention to water and energy conservation; recycling; environmental purchasing; sharing their information with other participants; attending forums and workshops on greening practices; and participating in quarterly meetings. The hotels demonstrated their "green" practices through exemplary energy and water conserving practices, pollution prevention, and solid waste reduction and recycling efforts.

Hotel Award Recipient: Turtle Bay Resort

- **Hyatt Regency Waikiki:** As an ENERGY STAR labeled hotel, three years in a row and a two time Hawaii Green Business participant, the Hyatt Regency installed an Environmental Management System in 1,229 rooms, 6,000 LED bulbs and fixtures throughout the hotel, they have re-lamped every guest room to CFLs, and have realized a 1,428,325 kWh reduction in electricity use as well as a 4.5 million gallon reduction in water usage. Over the past 5 years, the Hyatt estimates a 20% reduction in their electricity, gas and water usage.

- **JW Marriott Ihilani at Ko Olina:** With Marriott's "Spirit to Serve" the community, the JW Marriott Ihilani has implemented green measures such as lighting retrofits and provision of recycling bins in common areas, meeting facilities, outdoors and landscaping, maintenance and operations, kitchen area, and has recycled and kept 62 tons out of the landfill.

- **Kahala Hotel & Resort:** As their second time participating in the Hawaii Green Business Program, the resort's air conditioning systems are on an energy management system, and ceiling fans were installed in all guestrooms that can be used as an alternative for A/C. The property also uses deep water wells to cool their chiller system saving the property 380,000 kWh of electricity and 4.5 million gallons of water annually. The CFL retrofit in guestrooms resulted in an estimated reduction of 180,000 kWh per year. With the installation of high efficiency water aerators and fixtures, the Kahala Hotel has estimated a 40-50% reduction in water usage.

- **Kilauea Lakeside Estate:** Nearly all of this private retreat's energy (25 kW) is provided by 120 PV panels providing energy for the facility. Most of the lighting is LED, and all of the water heating is provided with solar hot water systems. Also, low-flow toilets and shower heads have also been installed as water conservation methods and 100% of the resulting water usage is addressed with their on-site water catchment system. Steve and Janine Hunt have dedicated 30 years developing this sustainable retreat on Kauai.

- **Ritz-Carlton Kapalua:** Ritz-Carlton Kapalua runs a Jacques Cousteau Ambassadors of the Environment program which teaches guests about natural tide pools, the rainforest, humpback whales and local ecosystems through interactive activities with trained naturalists. The property has estimated an 8.6% reduction in electricity and 10.4% reduction in gas, and an 8.9% reduction in water consumption.

- **Turtle Bay Resort:** Located on the North Shore of Oahu, the Turtle Bay's green initiatives include: use of locally grown and organic produce, lighting retrofits with nearly 70% of the resort's lighting converted to CFLs resulting in a 12% reduction in electricity usage, and recycling - with an average increase of 1.8 tons of recycled over the last two years. The property has also converted hundreds of gallons of cooking oil into bio-diesel by partnering with Brigham Young University.

- **Wyndham at Waikiki Beach Walk:** This recently renovated property replaced and retrofitted all fixtures with incandescent bulbs to compact fluorescents and implemented energy saving occupancy sensors in office and public restrooms. From 2008-2010, the resort has reduced kWh consumption by 5.4%, and reduced gas usage by 6.5%.

  All guestrooms feature low-flow showerheads, low-flow toilets, and sink aerators to decrease water usage. All reusable hotel items such as furniture, dishes, small appliances, carpeting are donated to local charities and schools.

Hawaii State Senate

HAWAII GREEN BUSINESS AWARDS (APRIL 2011)

Six companies, the State Senate, and the East-West Center received this year's Hawaii Green Business and Green Government Awards. The awards recognize organizations for their outstanding efforts in greening their business practices. The Hawaii Green Business Awards Program is a partnership between the State Departments of Health, Business, Economic Development, and Tourism, the City and County's Department of Environmental Services Recycling Office and Board of Water Supply, as well as the Hawaii Chamber of Commerce. The program encourages businesses and organizations to share information and support one another in operating in an environmentally sustainable manner. Participants benefit from onsite compliance assistance, green business promotions as well as public recognition for their efforts in building a green business.

- **Central Pacific Plaza:** The downtown office building has earned the Energy Star building designation for the last seven years, the longest of any building in Hawaii. Last year, the building saved 1,397,600 kWh, or approximately 25 percent less than their 2003 baseline, and 397,000 gallons of water, over 50 percent off their 2003 baseline. It also uses green cleaning products.

- **East-West Center:** Electricity use dropped 37.5 percent (27,160 kWh) at Lincoln Hall and 22.5 percent (474,600 kWh) at Burns Hall via new CFL lighting, LED exit signs, motion detectors, timers, and less air conditioning use. The Center's Sustainable EWC Initiative attracts more than 100 student volunteers, representing over 30 countries, who have contributed a combined 2,400 hours to lessening EWC environmental impact. Student-led sustainability activities include hands-on organic farming experience at Ma'o Farms; a monthly discussion group; a weekly film series, and a Sustainable EWC newsletter.

- **Hawaii State Senate:** The Senate's Paperless Initiative reduced paper use by 80%. A Green Office Working Group implements energy conservation and recycling measures and participates in ongoing conservation initiatives at the State Capitol.

- **Honeywell Utility Solutions:** The company, which assists in the fulfillment of energy efficient rebates offered by Hawaii Energy, uses only recycled paper products and printer toners; implements a workplace recycling program; permits only washable (no plastic) utensils; and subsidizes bus passes to cut employee transportation energy use.

- **PBR Hawaii and Associates:** The landscape architecture company conserves with lower refrigerator temperatures, low-flow faucet aerators, recycling or donation of electronic equipment, and using only recycled paper products made up of 30 to 100% post-consumer waste.

- **Sustainable Island Products:** This Hilo-based supplier of eco-friendly paper goods, office supplies, and cleaning materials buys carbon offset credits for company vehicles; offers free packaging reclamation; and uses 100 percent recycled office paper. It also funded the planting of a Koa tree on the Hamakua Coast to offset its carbon footprint.

- **WATG Architects:** The firm reduced paper use by one third through double-sided printing, uses shredded paper for packing, and saved 80% on plastic and paper products costs through conservation measures. It also uses natural or low emission building materials, carpets, and furniture.

- **Whole Foods Maui:** Part of the first major retail chain to offset 100 percent of its energy use with wind energy credits, the grocery store diverts 58 percent of the 20,000 pounds of trash generated on average per month through efforts like donating spoiled produce and biodegradable waste to Freebird Farm, where it is turned to compost; and donating all HI 5 containers to the Community Work Day Program. Last month, the Maui store diverted 34 tons of trash.

KEY INDICATOR: JOBS

Growth in renewable energy and energy efficiency has not only decreased our dependence on oil; it has also given rise to growth in clean energy jobs. By attracting green business and creating a local green workforce, clean energy will contribute to the growth of Hawaii's economy. Hawaii now ranks third in the nation for clean economy job growth. Ongoing investment in Hawaii's clean energy economy will continue to create green jobs.

Third in the Nation in Clean Economy Job Growth

Hawaii was ranked third in the nation in clean economy job growth by the Brookings Institute with 6.52% in clean economy job growth from 2003 to 2010. It exceeded the national average clean economy job growth of 3.45%.

Third in Nation

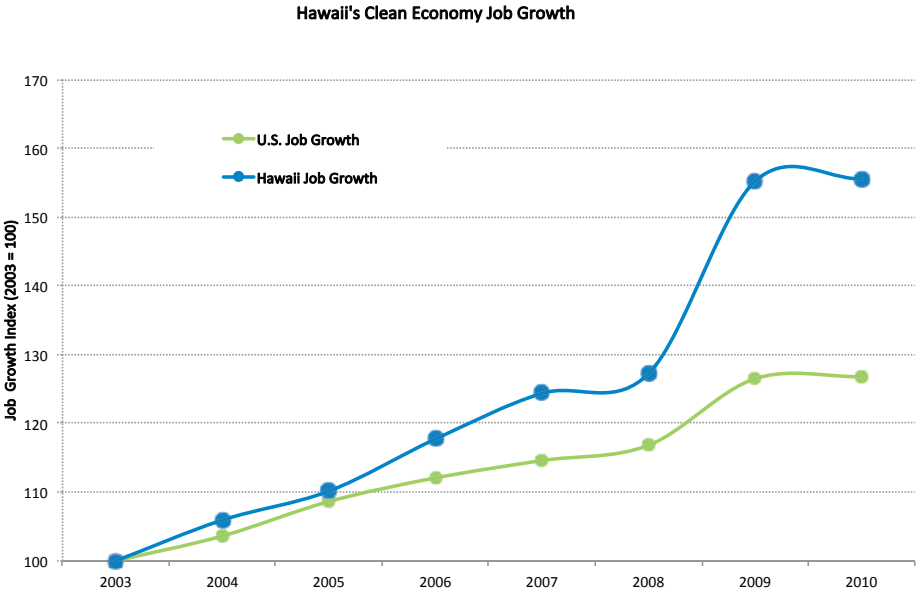
Clean Economy Job Growth 2003-2010

State	Job Growth 2003-2010 (%)
1. Alaska	10.23%
2. North Dakota	6.71%
3. Hawaii	**6.52%**
4. Wyoming	6.31%
5. New Mexico	5.96%
National Average	3.45%

Source: Sizing the Clean Economy, August 2011 (Brookings Institute)

Hawaii's Clean Economy Job Growth Index (U.S. vs. Hawaii)

In terms of its overall size the clean economy in Hawaii ranks 45th among the 50 states and the District of Columbia. This chart shows between 2003 and 2010 Hawaii added 3,969 clean jobs growing the sector by 6.5 percent annually.



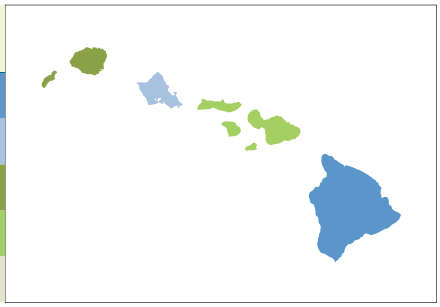
Source: Sizing the Clean Economy, August 2011 (Brookings Institute)

Department of Labor and Industrial Relations Green Jobs

Clean energy is powering Hawaii's economy by attracting green business and creating a workforce for the future. The chart below illustrates a state total of 11,145 private sector green jobs with an additional 2,903 by 2012. This demonstrates Hawaii's clean energy economy serves as a model for the U.S. and the world.

Department of Labor and Industrial Relations Green Jobs

County	Private Sector Green Jobs	% Of County Jobs	Additional Green Jobs By 2012
Hawaii	1,222	2.5	510
Honolulu	6,866	2.0	1,885
Kauai	460	1.9	71
Maui	2,597	4.6	437
State Total	11,145	2.4	2,903



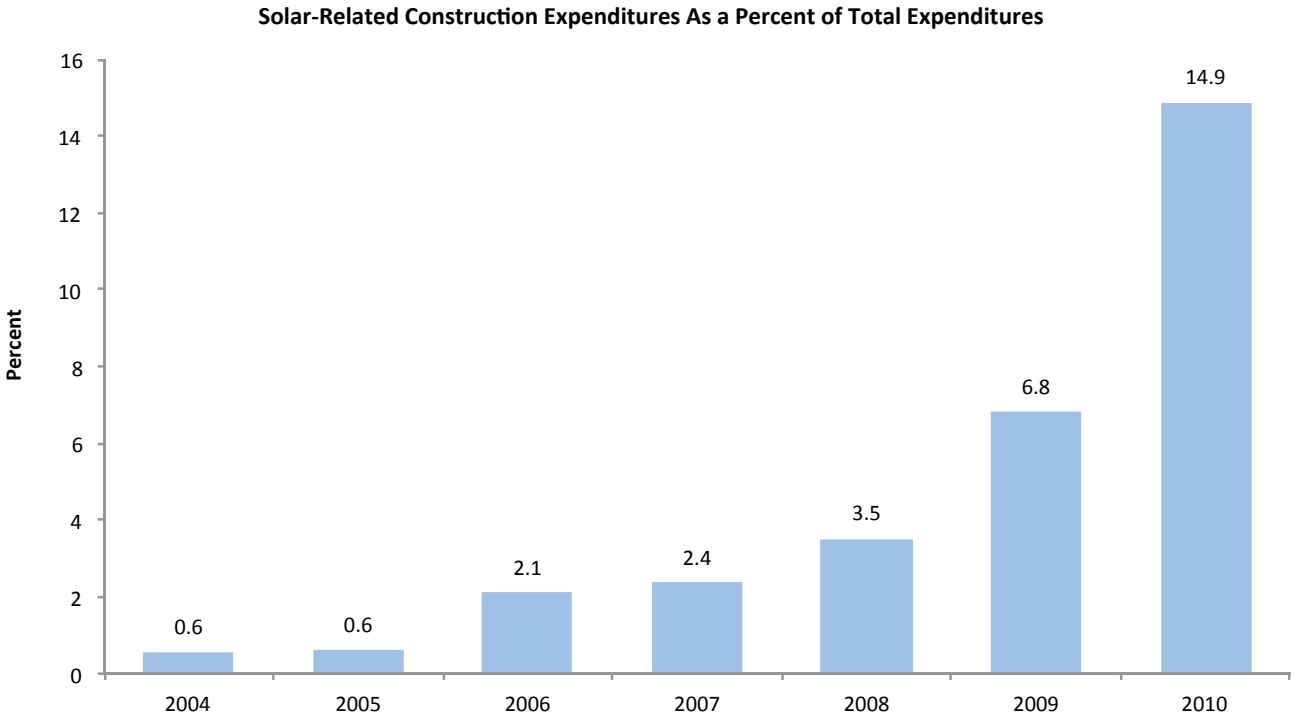
Source: Hawaii's Green Workforce: A Baseline Assessment, December 2010 (Department of Labor and Industrial Relations)

KEY INDICATOR: REVENUE

Growth in green businesses and green jobs translates to growth of Hawaii's clean energy economy and in turn economic recovery and growth for the state as a whole. As Hawaii continues to transition from an oil economy to a clean energy economy, new economic opportunities will emerge.

Solar-Related Construction Expenditures

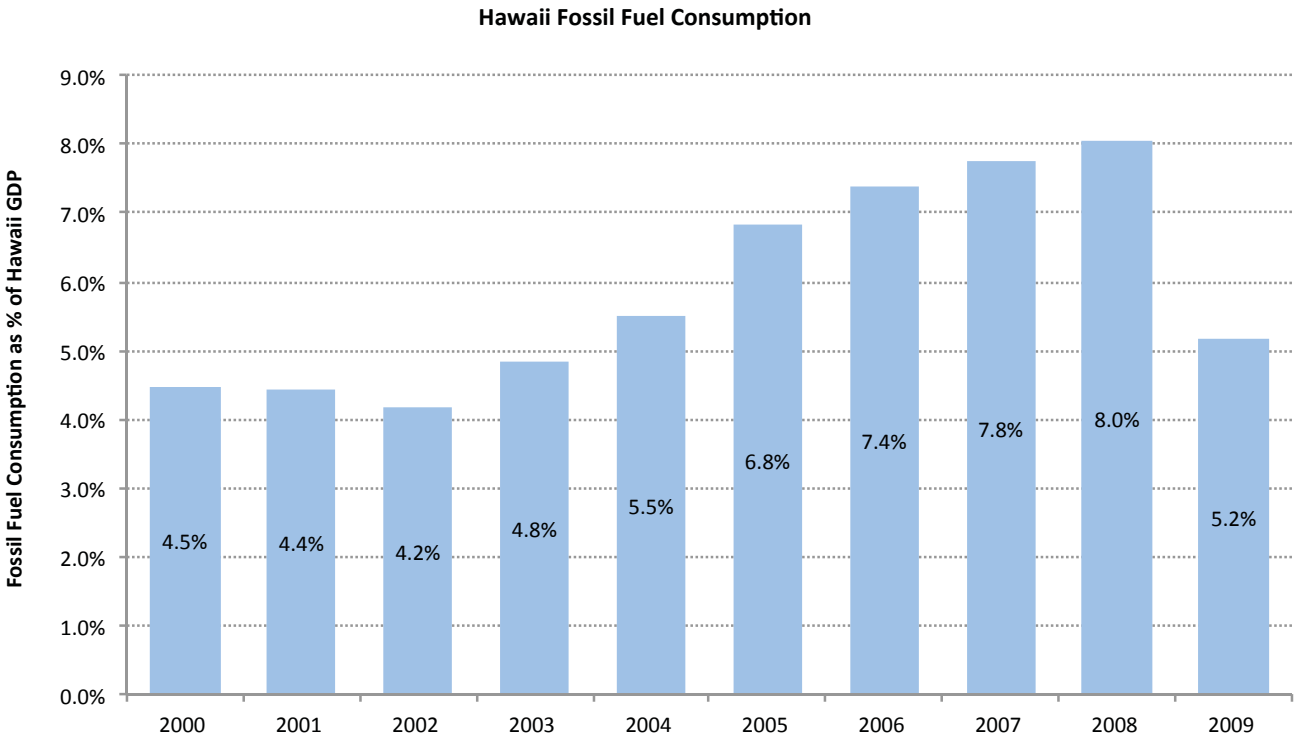
Clean energy is good for businesses. It provides a critical boost to our economy by attracting investments from companies around the globe while benefiting local entrepreneurs. The chart below illustrates the solar industry accounting for 15% of all construction expenditures in the State and has provided a stimulus for our construction industry which has been experiencing difficulties due to the downturn in real estate development.



Source: Department of Business, Economic Development and Tourism, 2011

Energy Costs as a Percent of GDP

This chart shows energy cost in relation to Hawaii's gross domestic product and the impact of oil volatility has on our economy. Then when oil prices rose between 2005 and 2008, energy costs accounted for an outsized portion of our GDP.



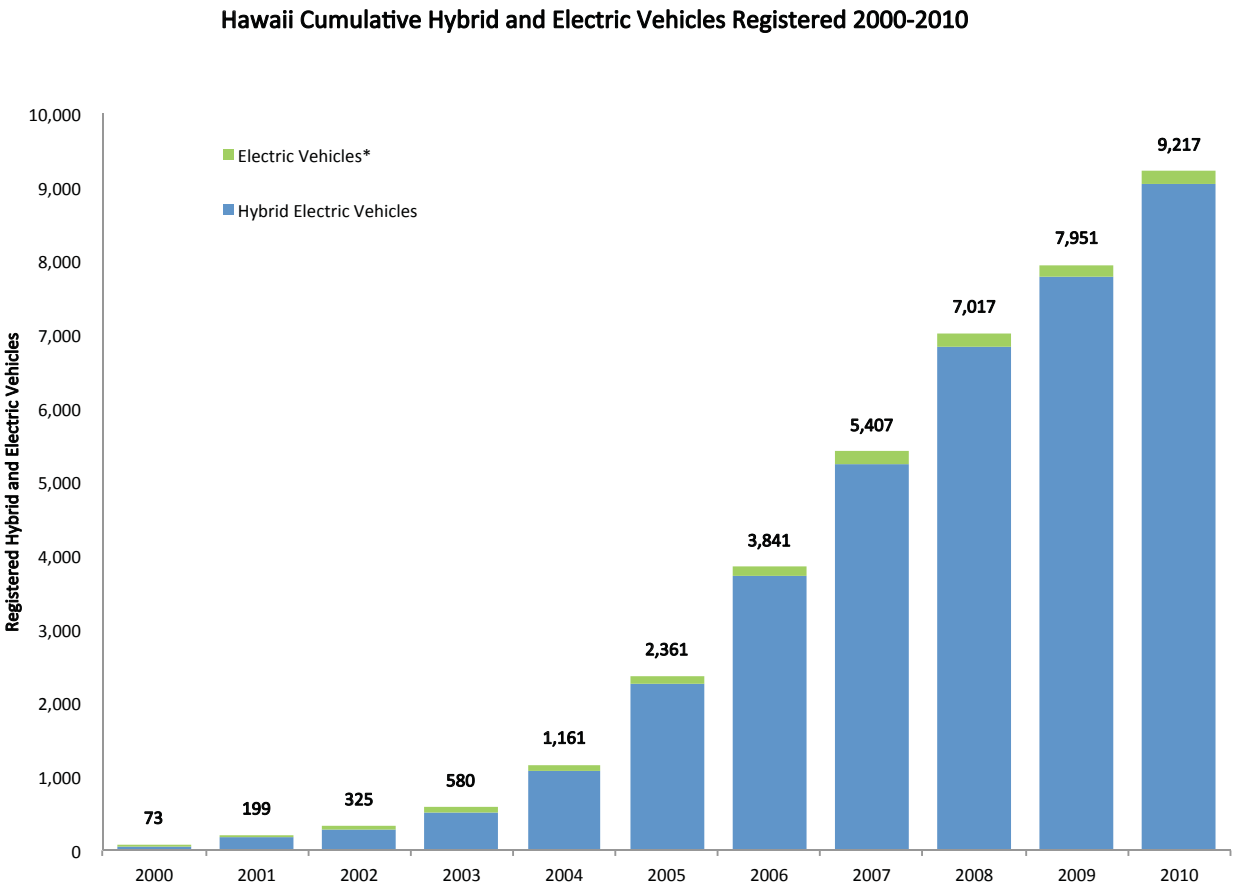
Source: *State Energy Data System: Hawaii Primary Energy Use*, June 2011 (Energy Information Administration)
2010 State of Hawaii Data Book (Department of Business, Economic Development & Tourism

TRANSPORTATION

Hawaii's focus in the transportation sector has historically been on the reduction in the use of petroleum fuel for ground transportation. Hawaii's transportation demand is driven by personal behavior across a range of areas. The transportation strategies include (1) improve standard vehicle efficiency of fleet; (2) reduce vehicle miles traveled; (3) incorporate renewable fuels into transportation sector; (4) accelerate the deployment of electric vehicles (EVs) and related infrastructure.

Hawaii Cumulative Hybrid and Electric Vehicles Registered 2000 – 2010

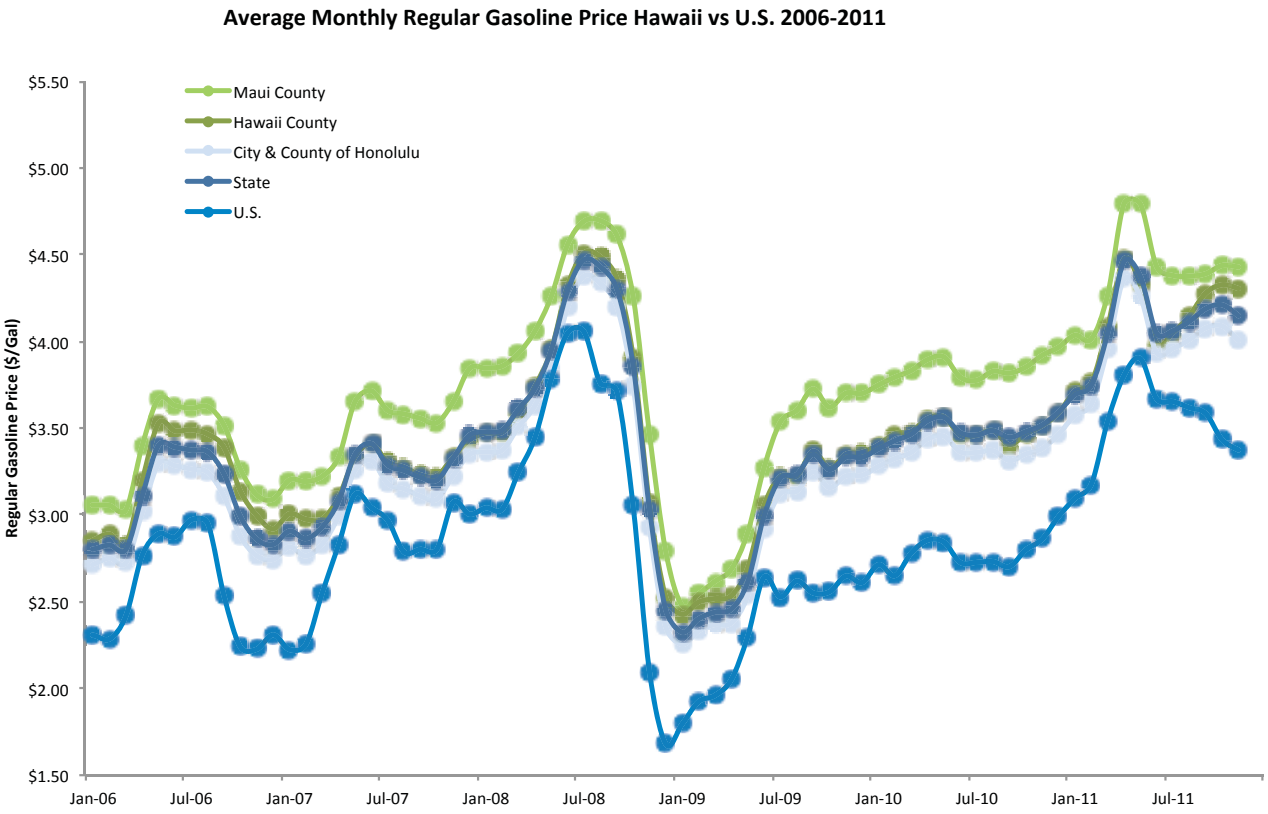
This chart shows an upward trend in the cumulative number of hybrid and electric vehicles registered in the State of Hawaii. From 2000 to 2010, hybrid and electric vehicles cumulatively increased from 73 to 9,217.



Includes Neighborhood Electric Vehicles
Source: National Renewable Energy Laboratory, August 2011

Monthly Regular Gasoline Prices in Hawaii vs. U.S.

Hawaii's gasoline prices are consistently higher than the national average. From 2006 to 2010, the monthly state average regular gasoline prices ranged from $2.32 to $4.47 per gallon, whereas the national average ranged from $1.65 to $4.06 per gallon. Of the various counties in the state, Maui County consistently had the highest gas prices followed by Hawaii County and the City & County of Honolulu. Kauai County data points are not included as the data source for this chart does not track monthly regular gasoline prices for Kauai County.



Source: Monthly Energy Trends, 2006-2011 (DBEDT)

• Key accomplishments in 2011

HAWAII'S ELECTRIC VEHICLE (EV) GRANT PROGRAM

$2.6 million in Recovery Act-funded grants were awarded to six organizations in 2011 to promote, install, and deploy charging stations and EVs across the state of Hawaii. Backed by matching funds, program grants ranged from $50,000 to $854,000 to attract first-market-release of EVs, build local knowledge, and showcase Hawaii's opportunities for clean energy through the deployment of EVs.

EV Ready Awardees Include:	
Better Place	For installation of charging stations across the state and the introduction of EVs to a rental car fleet
AeroVironment	For installation of charging stations across the state, conducting grid integration analysis, and accelerating EV introduction to dealerships and vehicle fleets
GreenCar Hawaii	To introduce EVs to car-sharing services within the hospitality industry
County of Kauai	For installation of charging stations across Kauai and the purchase EVs for the County fleet
City & County of Honolulu	For installation of charging stations on Oahu, purchase of EVs for City and County fleet, and streamlining City and County of Honolulu's residential EV permitting process
Plug In America	To develop the Hawaii EV Ready Guidebook and conduct public education and outreach.

The six contracts developed under the EV Ready program will lead to approximately 210 charging stations installed, at roughly 140 sites across all counties. Additionally 18 EVs (minimum) are to be introduced to several public and private fleets.

EVs FOR THE STATE MOTOR POOL

$475,500 in EV Ready funding was allocated to the state of Hawaii Department of Accounting and General Services Automotive Management Division to lead-by-example through the purchase of EVs for the state motor pool, and for the installation of charging stations at public lots and state motor pool. There are 5 charging stations at State-owned buildings downtown Honolulu including one public charger in the State Capitol basement and one public charger at the First Circuit Court building. There are also eight EVs in use by state agencies.

REBATES FOR EVS AND EV CHARGERS

$1.4 million in Recovery Act funding for the EV Ready program was allocated to accelerate the deployment of EVs and charging stations. Qualified residents, businesses, government agencies, and non-profits received rebates for the purchase of new electric vehicles (20% of the EV price with a maximum of $4,500), and for the purchase and installation of electric vehicle chargers (30% of the charging system cost, up to $500). Rebates are available until January 31, 2012, or until rebate program funds are exhausted. From early January to mid-November 2011, 405 rebates have been approved for 237 electric vehicles and 168 chargers.

EV GROWTH

As of November 2011, there were 970,401 registered taxable gasoline passenger vehicles in the state, 7.0% increase from the same period last year (November 2010). There were 10,604 registered passenger hybrid vehicles, accounted for 1.1% of the total 990,325 registered passenger vehicles in November 2011, and represented an increase of 204 vehicles or 2.0% from October 2011.

PLANNING & POLICY

The State Energy Office works to ensure dependable, efficient, and economical energy production and delivery. It also promotes increased energy self-sufficiency and greater energy security and reliability, and seeks ways to reduce overall greenhouse gas emissions. The Office collects and analyzes energy data to develop solutions that reflect Hawaii's unique resources, challenges, and opportunities in accordance with the State's overall energy objectives.

ENERGY POLICIES – HAWAII'S REGULATORY FRAMEWORK

The State Energy Office continues to lead DBEDT's participation in the major energy policy related Public Utility Commission proceedings to ensure the regulatory transformation necessary to reduce Hawaii's dependence on imported fossil fuels. In 2011, several PUC Orders were issued in these dockets implementing major changes in Hawaii's regulatory framework including the following:

- **Decoupling**

  One major transformative change to the Hawaii utility regulation is the implementation of a decoupling mechanism for the Hawaiian Electric Companies (HECO/MECO/HELCO). Decoupling is an alternative form of utility ratemaking which de-links the utility's revenues from its kilowatt-hour sales. The implementation of a decoupling mechanism approved by the Hawaii Public Utilities Commission (PUC) on August 31, 2010 in Docket No. 2008-0274, is a first major and unprecedented change in Hawaii's regulatory framework that will have a significant and positive impact on the utilities financial security. The decoupling mechanism which went into effect on March 1, 2011 on Oahu, is a significant milestone aimed at helping align the utilities' financial interest with helping achieve the State's transformation to a clean energy economy by 2030.

- **Feed-In Tariffs**

  Another significant milestones in reducing Hawaii's dependence on imported fossil fuels and facilitating the achievement of the state's RPS goals is the approval and implementation of the Feed-in tariffs program for the HECO Companies' service territories. Feed-in tariffs program (FITs) is a utility procurement mechanism for purchasing renewable energy from eligible renewable energy generators based on standardized purchased power rates with specified terms and conditions. The FITs program approved by the PUC is aimed at promoting and accelerating the addition of new renewable energy resources in the HECO Companies' generation portfolio to help achieve Hawaii's RPS goals, by providing predictability and certainty in the purchase power rates as well as transparency in the procurement process. The FITs program approved by the PUC by Orders issued on October 13, 2010 and November 22, 2011, provides FITs rates by resource type and project size up to 5MW for Oahu and 2.72 MW for the islands of Maui and Hawaii (Big Island). To date, the FITs projects capacity in HECO's active queue total 33 MW, 3.5MW in HELCO's active queue, and 3.9MW in MECO's active queue.

- **Interconnection Requirements & Process**

  Promoting and accelerating the addition of renewable energy resources in the utilities' generation portfolio requires transparent and efficient interconnection requirements and process. In a Decision and Order issued November 29, 2011 in Docket No. 2010-0015, the PUC approved revisions to the HECO Companies' Rule 14H Tariffs, which govern the interconnection of distributed generating facilities operating in parallel with the HECO Companies' electrical distribution system. The revisions are intended to provide transparency and certainty to the interconnection requirements, procedure, and timeline. Another major revision is the addition of a supplemental screen that essentially eases the 15% of circuit peak load threshold for requiring interconnection requirements study (IRS) especially for smaller projects.

- **Clean Energy Scenario Planning Framework**
  On March 14, 2011, the PUC approved the clean energy scenario planning framework (CESP) to govern the electric and gas companies' energy resource planning. This revised planning framework which replaces the Integrated Resource Planning Framework established by the PUC in 1992 to govern the companies generation resource planning, aligns the companies' resource planning with the state's energy goals. The new CESP framework is intended to allow for more effective, inclusive, and comprehensive planning process that acknowledges the dynamic and constantly changing utility environment as Hawaii transitions to a clean energy future. The approval of the CESP framework is another regulatory change that will help reduce Hawaii's dependence on imported oil.

- **Energy Efficiency Portfolio Standards**
  On March 8, 2010, the PUC initiated a docket to evaluate establishing and implementing energy efficiency portfolio standards (EEPS) for the State of Hawaii pursuant to Act 155, Session Laws of Hawaii 2009 (SLH 2009). The Act established an EEPS goal of 4,300 GWH of electricity use reductions statewide by 2030, accounting for 30% of the HCEI goal, and mandated the PUC to establish the EEPS goals for the interim years 2015, 2020, and 2025. The docket's procedural schedules have been concluded and the PUC is expected to issue its Order in the docket early 2012.

- **On-Bill Financing Program**
  Pursuant to Act 204, SLH 2011, the PUC initiated a docket on October 3, 2011 to evaluate establishing and implementing an On-bill Financing program to help consumers with the upfront costs of installing energy efficiency measures and renewable energy systems. The docket is currently in-progress.

ENERGY ASSURANCE PROGRAM

The State Energy Office leads the state government's effort to ensure a robust, secure, and reliable energy infrastructure through its energy assurance and energy emergency planning program. The State Energy Office is continuing to manage the development of the State's Energy Assurance Plan through funding received under the 2009 ARRA. When completed, the Plan will ensure the state's sustained capability to maintain energy assurance and security planning and the state's ability to effectively respond to any energy emergency situation.

In November 2011, the State Energy Office participated in the development and implementation of the Critical Infrastructure Protection Subcommittee Operational Plan for the Asia-Pacific Economic Cooperation (APEC) National Special Security Event (NSSE) held in Hawaii. The State Energy Office coordinated with the United States Secret Service, the U.S. Department of Homeland Security, and other key critical infrastructure agencies. This critical infrastructure planning process brought together key agencies and personnel involved in energy assurance, and as such, helped build new and solidify existing cooperative relationships with stakeholders.

FUNDED PROJECTS: ARRA, ESSF & Grants

DBEDT's Strategic Industries Division has received funds from state and federal sources, including the American Recovery and Reinvestment Act of 2009, Act 73 Energy Security Special Fund, and various grants. The State Energy Office has allocated these resources toward pivotal energy-related programs that will further renewable energy development and energy efficiency initiatives in support of growing Hawaii's clean energy economy and achieving the Hawaii Clean Energy Initiative (HCEI) goal of 70% clean energy by 2030.

AMERICAN RECOVERY AND REINVESTMENT ACT PROJECTS

The Federal Government's American Recovery and Reinvestment Act (ARRA) of 2009 has allotted over $37 million for Hawaii's energy-related programs. ARRA stipulates that funds are to be directed towards:

- Transforming energy markets to accelerate near-term deployment of energy efficiency and renewable technologies;
- Promoting an integrated portfolio of energy efficiency and renewable energy solutions to meet U.S. energy security, economic vitality, and environmental quality objectives;
- Strategic market intervention to cause permanent structural change;
- Promoting collaboration across public and private agencies; and
- Improving measurement of program performance and communication of success.

Hawaii's ARRA-State Energy Program activities have been designed to meet the requirements and limitations of the Federal programs, while also meeting State requirements and energy objectives. ARRA supports the following four programs:

State Energy Program ($25,930,000)

The State Energy Program provides financial and technical assistance to states through formula and competitive grants. States use their formula grants to develop state strategies and goals to address their energy priorities. Competitive grant solicitations for the adoption of energy efficiency/renewable energy products and technologies are issued annually based on available funding. States provide a 20% match under SEP annual formula allocations. SEP emphasizes the state's role as the decision maker and administrator for the program activities within the state. The energy offices in each state and territory are a vital resource for delivering energy benefits, addressing national energy goals, and coordinating energy-related emergency preparedness across the nation.

Energy Efficiency and Conservation Block Grant Program ($9,953,500)

The Energy Efficiency and Conservation Block Grant (EECBG) Program, funded for the first time by ARRA, represents a Presidential priority to deploy energy efficiency and conservation initiatives across the country - the cheapest, cleanest, and most reliable energy technologies we have. The Program, authorized in Title V, Subtitle E of the Energy Independence and Security Act (EISA) and signed into law on December 19, 2007, is modeled after the Community Development Block Grant program administered by the Department of Housing and Urban Development (HUD). It is intended to assist U.S. cities, counties, states, territories, and Indian tribes to develop, promote, implement, and manage energy efficiency and conservation projects and programs designed to:

- Reduce fossil fuel emissions;
- Reduce the total energy use of the eligible entities;
- Improve energy efficiency in the transportation, building, and other appropriate sectors; and;
- Create and retain jobs.

Efficient Appliance Rebate Program ($1,236,000)

The Efficient Appliance Rebate Program is designed to help Hawaii residents replace older, inefficient refrigerators with ENERGY STAR qualified refrigerators. The state-wide program runs through Hawaii's Public Utilities Commission and Kauai Electric Utility Cooperative.

Enhancing State Government Energy Assurance Capabilities and Planning for Smart Grid ($318,196)

The objectives of the Enhancing State Government Energy Assurance Capabilities and Planning for Smart Grid initiative are to: 1) strengthen and expand State and local government energy assurance planning and resiliency efforts by incorporating response actions for new energy portfolios and Smart Grid applications; 2) create jobs; and 3) build in-house state and local government energy assurance expertise. The program focuses on building regional energy assurance capabilities that allow the State to better coordinate and communicate statewide on energy security, reliability, and emergency response issues.

For the 2012 fiscal year, the Strategic Industries Division is allocating funds as follows:

SID Budget for the Hawaii Clean Energy Initiative Fiscal Year Ending June 30, 2012	
Description	Amount
Personnel	$ 4,666,744
Other Operating Expenses:	
Expedited Permitting Work	$ 550,000
Energy Security Special Fund	$ 1,372,518
State Energy Program	$ 2,430,147
State Energy Efficiency & Renewable Energy Activities	$ 500,000
Rebates and Electric Vehicle Grants	$ 4,000,000
Administrative Operations	$ 1,601,295
Total	$ 15,120,704

The following projects fall under the four program areas. Each project is working to support the State Energy Office's primary initiatives in electricity, energy efficiency, transportation, energy security/ energy assurance, and outreach/community involvement.

CONTRACTOR NAME	START DATE	END DATE	AMOUNT	PURPOSE
Hawaiian Electric Co., Inc.	1/26/10	4/25/10	50,000	Prepare a Request for Information (RFI), review all information collected & responses, provide recommendations and reports.
University of Hawaii	1/22/10	1/21/11	150,000	Conduct submersible dives to assess specific conditions in potential cable areas.
Honolulu Community Action Program	7/19/10	9/30/11	210,000	Provide Weatherization Assistance Program (WAP) Services for Low-Income Persons.
Hawaii County Economic Opportunity Council	8/5/10	9/30/11	100,000	Provide Weatherization Assistance Program (WAP) Services for Low-Income Persons.
Kauai Economic Opportunity, Inc.	7/19/10	9/30/11	80,000	Provide Weatherization Assistance Program (WAP) Services for Low-Income Persons.
Maui Economic Opportunity, Inc.	7/22/10	9/30/11	110,000	Provide Weatherization Assistance Program (WAP) Services for Low-Income Persons.
Dowling Company, Inc.	5/7/10	12/30/11	725,000	Homestead Energy Program: Assist Homesteaders with energy efficiency retrofits of their homes to reduce energy consumption and costs.
Council for Native Hawaiian Advancement	4/20/10	12/30/11	725,000	Homestead Energy Program: Assist Homesteaders with energy efficiency retrofits of their homes to reduce energy consumption and costs.
Honolulu Community Action Program	5/7/10	12/30/11	1,050,000	Homestead Energy Program: Assist Homesteaders with energy efficiency retrofits of their homes to reduce energy consumption and costs.
Maui Economic Opportunity, Inc.	4/1/10	12/30/11	400,000	Homestead Energy Program: Assist Homesteaders with energy efficiency retrofits of their homes to reduce energy consumption and costs.
University of Hawaii	7/27/10	12/31/11	200,000	Provide a comprehensive written report evaluating the environmental costs & benefits of a district-wide Sea Water Air Conditioning System (SWAC) for Waikiki.
Kauai Island Utility Cooperative	5/3/10	2/10/12	500,000	Provide rebate for ENERGY STAR qualified refrigerators and properly dispose/recycle old inefficient appliances, retrofit State, County & non-profit buildings on Kauai with energy efficiency measures, provide rebates for solar water heaters.
University of Hawaii	3/24/10	3/23/12	150,000	Conduct additional seafloor sonar surveys.
County of Kauai	1/25/11	3/30/12	276,000	Simultaneously support electric vehicles, chargers, and communication with the public to establish non-petroleum transporatation energy options.
City & County of Honolulu	3/10/11	3/30/12	400,000	Simultaneously support electric vehicles, chargers, and communication with the public to establish non-petroleum transporatation energy options.
Better Place	3/17/11	3/30/12	581,943	Simultaneously support electric vehicles, chargers, and communication with the public to establish non-petroleum transporatation energy options.
AeroVironment	3/1/11	3/30/12	820,000	Simultaneously support electric vehicles, chargers, and communication with the public to establish non-petroleum transporatation energy options.
Plug In America	3/10/11	3/30/12	50,000	Simultaneously support electric vehicles, chargers, and communication with the public to establish non-petroleum transporatation energy options.

CONTRACTOR NAME	START DATE	END DATE	AMOUNT	PURPOSE
Department of Accounting and General Services	6/30/10	3/30/12	475,500	State facility compliance with electric vehicle parking, charging, and advanced technology vehicle requirements.
University of Hawaii Hilo Conference Center	9/24/10	4/30/12	160,000	Provide conference, workshop, seminar, training, etc. facilitation services.
Milici Valenti Ng Pack	9/1/10	4/30/12	500,000	Provide public relations and communications support to further the state's clean energy goal of 70 percent clean energy by 2030.
The Chong Group, LLC	6/30/10	4/30/12	119,059	Provide ENERGY STAR technical assistance to hotels and commercial buildings in Waikiki to attain an ENERGY STAR label.
Green Building Services, Inc.	6/30/10	4/30/12	300,000	Provide technical assistance for high energy-efficient buildings including but not limited to owner, developers, county building code officials to ensure that new and renovated buildings are designed with high efficiency.
InSynergy Engineering, Inc.	7/29/10	4/30/12	367,000	Provide technical assistance for high energy-efficient buildings including but not limited to owner, developers, county building code officials to ensure that new and renovated buildings are designed with high efficiency.
R.W. Beck, Inc.	3/29/10	4/30/12	7,165,889	Provide rebates for energy efficient appliances and equipments for utility customers served on Oahu, Maui, and Hawaii. Another contract serves customers of Kauai.
James Flanagan Associates, Inc.	4/12/10	4/30/12	135,360	Provide rebates for energy efficient appliances and equipments for utility customers served on Oahu, Maui, and Hawaii. Another contract serves customers of Kauai.
PB Americas, Inc.	9/28/10	4/30/12	150,000	Final editing and development of the Hawaii Renewable Permits and Approvals Guidebooks, assistance on the Renewable Energy Facility Siting Process, and develop a web-based tool that will enable users to generate a customized permit plan outlining the required permits for development of renewable energy facilities in Hawaii.
GreenCar Hawaii LLC	1/4/11	3/30/12	200,000	Simultaneously support electric vehicles, chargers, and communication with the public to establish non-petroleum transporatation energy options.
AECOM	5/20/10	4/30/12	2,997,947	Perform environmental studies supportive of a programmatic EIS for Interisland Undersea Cable.
Department of Health	5/27/10	4/30/12	375,000	Develop on-line permitting application for DOH environemtnal health permits, information gathering, form creation, monitoring and tracking process to help implement the consolidated permitting process.
Department of Commerce and Consumer Affairs	5/26/10	4/30/12	1,424,780	Accelerates the adoption of electric drive vehicles and related charging equipment in Hawaii through the Transportation Energy Diversification Project.
Maui Electric Company, Ltd.	9/22/10	6/30/12	1,200,000	Increase utility grid ability to manage penetration of intermittent renewables: battery energy storage system on Maui grid; Molokai system equipment based on circuit-wide interconnection requirements study.
Hawaii Electric Light Co., Inc.	9/22/10	6/30/12	900,000	Demonstrate the application of energy storage devices for stabilizing voltage & frequency fluctuations on the Hawaii Island grid.
Science Applications International Corporation	12/15/10	8/14/12	229,072	Professional and technical services for energy assurance planning and program development.
Kobayashi, Sugita, Goda	8/20/09	8/15/12	200,000	Provide special deputy attorney general services for the Interisland Cable project.
Hawaii Community Reinvestment Corporation*	2/2/11	9/20/12	296,898	Expand the capital available to fund building retrofits and energy improvements across all building segments by creating and funding a loan loss reserve fund and program.
*Loss Reserve Fund		9/20/12	2,660,324	See above.
Navigant Consulting, Inc.	10/13/10	12/31/12	700,000	Provide technical expertise & act as the state's representative through the planning, design, procurement & construction phases of the Interisland Electrical Transmission Cable project.

ACT 73 – ENERGY SECURITY SPECIAL FUND

In 2010, the Hawaii State legislature concluded it is in the best interest of Hawaii's residents to become self-sufficient in energy and food needs and to protect the health and function of the environment. Recognizing that Hawaii is endowed with the assets needed to significantly improve its energy independence and food sustainability over the next twenty years if appropriate personnel resources and funding are used wisely, the legislature agreed that the state must ensure both immediate and long-term strategies are well-resourced, coordinated, and focused. As such, the legislature passed Act 73 – Energy Security Special Fund (ESSF) to allocate critical resources to HCEI and the State Energy Office. More specifically, Act 73 is designed to:

1. Promote economic development for local food and energy businesses by providing necessary funding, guidance, and infrastructure;
2. Ensure Hawaii is energy- and food self-sufficient and sustainable to the maximum extent feasible;
3. Help Hawaii's natural resources and population adapt and be resilient to the inevitable challenges brought on by climate change;
4. Create a Hawaii economic development task force to accelerate and support public and private efforts to make Hawaii energy- and food-self-sufficient, consistent with the "Hawaii 2050 Sustainability Plan," the "Hawaii Clean Energy Initiative," and other government and community planning efforts.
5. Establish an agricultural development and food security special fund to fund activities intended to increase agricultural production or processing that may lead to reduced importation of food, fodder, or feed from outside the state; and
6. Establish a clean energy initiative to manage the state's transition to a clean energy economy.
7. Establish an energy systems development special fund within the Hawaii Natural Energy Institute at the University of Hawaii.

The legislature also agreed that undertaking the important task of energy and food security requires a long-term commitment and the investment of substantial financial resources. To that end, Act 73 also increased the per-barrel tax on petroleum products under the environmental response, energy, and food security tax, formerly known as the environmental response tax.

Energy Security Special Fund – Obligated & Planned Investments

INITIATIVE	2011 Obligated	2012 Budgeted
Agricultural Business Plan Competition - Kauai EDB		$37,500.00
Agriculture Web Portal Expansion - Hawaii County EDB		$35,000.00
Biopower System Evaluation - Kauai EDB		$37,500.00
Clean Energy Analysis / Studies – State Energy Office		$60,000.00
Clean Energy E-nitiative - Hawaii County EDB		$40,000.00
Community Engagement Meetings - Enterprise Honolulu (Oahu EDB)		$75,000.00
County of Hawaii – County specific focus, but in congruence with the State	$70,920.00	
DLNR Permitting – State Energy Office		$11,000.00
DOH On-line Permitting – State Energy Office	$150,000.00	
Energy Education / Outreach – State Energy Office		$208,000.00
Hawaii State Energy Office – Personnel Costs		$2,054,254.00
HEDTF Neighbor Island Travel / Car rental / Per Diem	$7,105.00	$10,194.00
Interisland Cable Specifications – State Energy Office	$500,000.00	
Kauai County – County specific focus, but in congruence with the State	$72,269.00	
NREL / OP GIS Layers for REZ – State Energy Office		$100,000.00
Program Support – State Energy Office		$513,141.00
Represent Energy Community Interests & Expand Services - C&C Honolulu		$75,000.00
Represent Energy Community Interests & Expand Services - County of Maui		$71,811.00
Renewable Energy Resource Center – Maui EDB		$50,000.00
State Matching Funds to Federal Grants – State Energy Office		$96,600.00
WaterStory Outreach – Maui EDB		$25,000.00
TOTAL	$800,294.00	$3,500,000.00

Source: State Energy Office

GRANT AWARDS

The State Energy Office applied for and was awarded a number of competitive and non-competitive grants.

Hawaii State Energy Office – Grant Awards

Funding Agency	Competitive Award Title	Total Award Funding	Grant Objective	Partners
USDOE - NETL	Clean Cities Community Readiness & Planning for EVs and Charging Infrastructure	$299,693.00* *$78,000 DBEDT share for FY12	Develop a statewide EV penetration plan with a focus on Maui, as a test site. The Hawaii State Energy Office's focus in the initiative is to implement policies, procedures, and incentives that facilitates the Statewide development of electricity as a transportation fuel for increased EV use.	Maui College Clean Cities Honolulu Univ. California - San Diego County of Maui Industry
USDOE - EERE	SunShot Initiative - Reducing Market Barriers and Non-Hardware Balance of Systems Costs	$750,000.00* *multiyear award	Facilitate the development of regulatory and utility solutions to address non-hardware balance of system costs for PV, best practices, and a framework for streamlined and standardized permitting. HSE0's proposed work for the first year would fund a technical review committee to assist the PUC on dockets relating to feed-in tariffs, net energy metering and Rule 14H – interconnection standards.	Hawaii PUC
USDA -Rural Development	Energy Audits and Renewable Energy Development Assistance	$100,000.00	Reduce energy use of farm operations and small rural businesses in Hawaii. Received a letter of support to partner from Hawaii Energy, as well as, a commitment to provide rebates for the audits.	Hawaii Energy
ARPA-E	Conferences, Outreach, and Networking for New Energy Communities and Technologies	$6,357.00	Send three interns to the 'Behavior, Energy, & Climate Change Conference, November 30 -December 2, 2011 in Washington D.C. to share information on the University of Hawaii's Information Computer Sciences - Kukui Cup initiative on energy and its project to create greater energy awareness by students living in dorms.	Univ. of Hawaii - Information and Computer Science
Funding Agency	**Formula Award Title**	**Total Award Funding**	**Grant Objective**	**Partners**
USDOE - NETL	State Energy Program (SEP) Program Year 2011 Formula Grant	$283,000.00	Maximize the benefits of energy efficiency and renewable energy though technology deployment, developing partnerships and resources, and through communications and outreach.	N/A
	TOTAL	$1,217,357.00	Awarded to DBEDT	