

DBEDT ENERGY UPDATE

HAWAII'S CATALYST FOR A CLEAN ENERGY FUTURE | Edition 2, March 2012



DEPARTMENT OF BUSINESS
ECONOMIC DEVELOPMENT & TOURISM



Clean energy is a matter of energy security and a means of protecting the environment; and it is also good for business. It provides a critical boost to our economy by attracting investments from companies around the globe while benefiting local workers, companies and entrepreneurs. This issue of the DBEDT Energy Update will address the role the clean energy industry currently plays in Hawaii's economy and the great potential for future growth.

HAWAII'S GREEN ECONOMY

Clean energy is powering Hawaii's economy by attracting green business and creating a workforce for the future. The State Department of Labor and Industrial Relations' (DLIR) Hawaii Green Jobs Initiative identifies 11,145 current positions related to the clean energy sector and projects a 26 percent increase in 2012. With this, Hawaii ranks third in the nation in green job growth, and we are hopeful that our position will be elevated in the coming months. 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)

The DBEDT Energy Update serves Hawaii's businesses and policy makers in making informed decisions about future investments, job creation, and policy decisions. The energy industry is a significant catalyst for economic development, now and in the future, to replace fossil fuel import expenditures with home-grown industries that pay business taxes and create jobs for Hawaii residents.

Richard Lim
Director, DBEDT

GREEN JOBS 2012

Industry	O'ahu	Hawai'i	Maui	Kaua'i	Total
Construction	3,392	585	724	94	4,796
Administrative & Support & Waste Mgmt & Remediation Services	1,597	81	1,298	189	3,164
Professional, Scientific, & Technical Services	1,069	62	177	13	1,321
Wholesale Trade	690	185	26	14	916
Other Services	623	124	111	48	907
Retail Trade	559	43	134	9	745
Agriculture, Forestry, Fishing, & Hunting	37	393	51	15	495
Manufacturing	250	28	111	10	398
Accommodation and Food Services	36	132	78	30	276
Utilities	135	15	58	18	226
Health Care and Social Assistance	120	0	82	0	202
Arts, Entertainment, and Recreation	42	0	52	88	182
Transportation and Warehousing	175	0	0	0	175
Educational Services	15	83	37	2	136
Real Estate and Rental and Leasing	5	1	91	0	98
Information	0	0	6	0	7
Mining	3	0	0	0	3
Finance and Insurance	0	0	0	0	0
Management of Companies & Enterprises	0	0	0	0	0
Total	8,750	1,732	3,035	531	14,048

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

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)

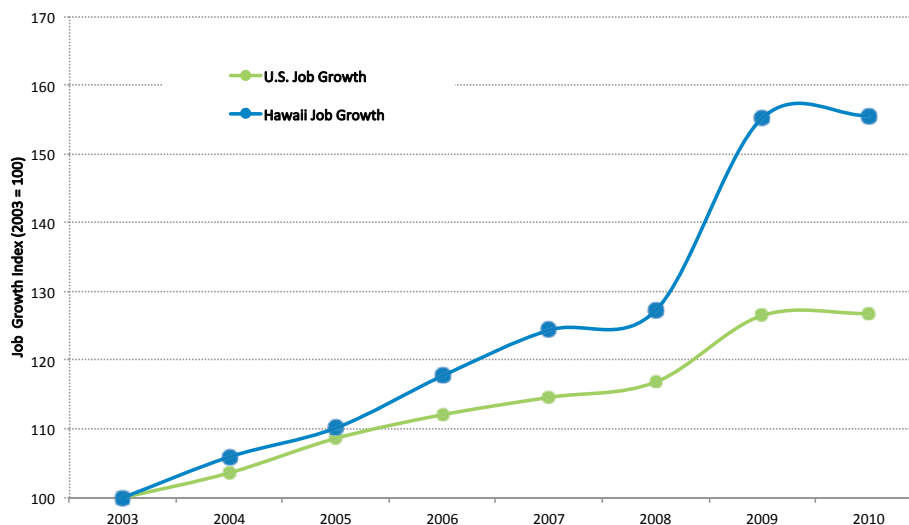
FIRST IN NATION

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'S CLEAN ECONOMY JOB GROWTH

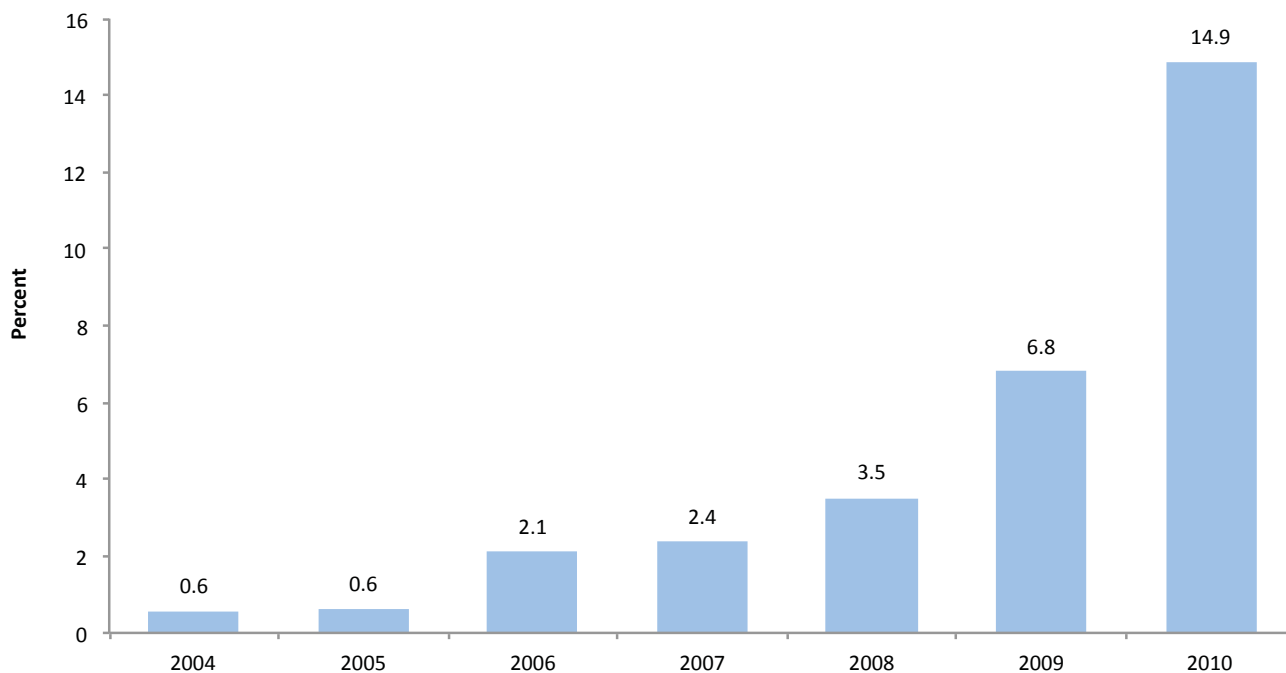


Source: Sizing the Clean Economy, August 2011 (Brookings Institute)

Many of the green jobs in Hawaii are in the burgeoning solar industry, which has been steadily employing electricians, construction workers, engineers, designers and project managers to keep up with the demand for photovoltaic (PV) and solar thermal systems. Accounting for 15 percent of all construction expenditures in the state, the solar industry has provided a stimulus for our construction industry, which has been experiencing difficulties due to the downturn in real estate development. Hawaii is now second in the nation for PV installations per capita.



SOLAR-RELATED CONSTRUCTION EXPENDITURES AS A PERCENTAGE OF TOTAL EXPENDITURES



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

SECOND IN THE NATION

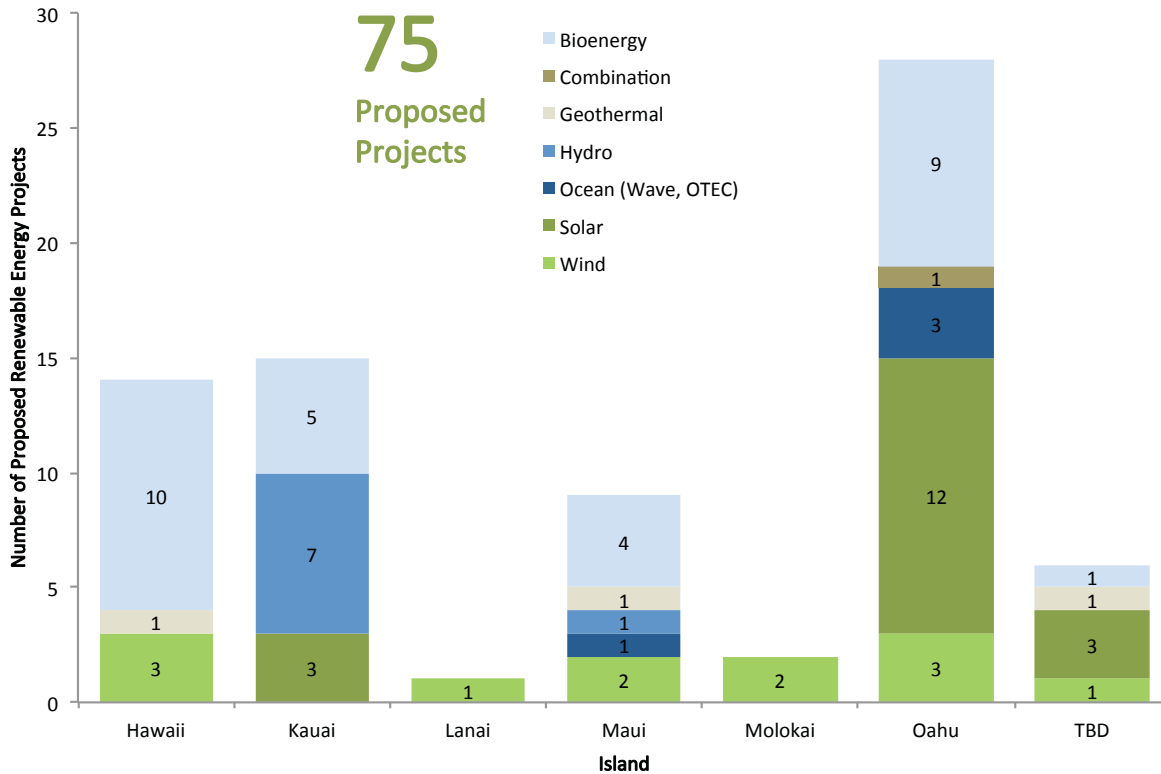
Cumulative Installed Photovoltaic per Capita

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)

Solar projects are just part of the picture. Clean energy projects being planned have the potential to significantly lift the job market. Currently, the Department of Business, Economic Development, and Tourism (DBEDT) is tracking project activity from over 70 utility scale renewable energy projects featuring Hawaii's diverse array of renewable sources, including wind, sun, hydropower, biofuel, waste-to-energy, geothermal, ocean thermal and wave energy. These projects represent thousands of jobs for Hawaii. For example, Honeywell's biorefinery project, which recently broke ground at Tesoro's plant at Campbell Industrial Park, can generate some 1,000 production and refinery jobs if its pilot program succeeds in converting biomass to green gasoline.

CURRENTLY PROPOSED RENEWABLE ENERGY PROJECTS IN HAWAII



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

Our remarkable and wide mix of renewable resources, coupled with state support and the goal to achieve 70 percent clean energy by 2030 is also attracting ongoing attention for R&D projects that can produce models for replication worldwide. Governor Abercrombie recently signed agreements with the Republic of Korea's Ministry of Knowledge Economy, China Council for Promotion of International Trade and Japan's New Energy and Industrial Technology Development Organization for cutting edge, business minded programs here in Hawaii.



Governor Abercrombie with Chinese delegates at China Forum, November 2011

Developments like these not only position Hawaii as a great test bed and launch pad for emerging energy technologies, they infuse new money in what is becoming one of the state's growth industries. Considering that Japan and China represent about 1/6 of the world's GDP, increasing trade with these countries offers great promise for Hawaii's emerging clean energy economy.

MOVING FORWARD

For those looking for companies working in the clean energy arena, DLIR recently launched its Hawaii Directory of Green Employers, which can be found at www.lmi.ehawaii.gov/green/welcome.html. The online directory lists 350 companies that offer a variety of clean energy and sustainability positions.

To capture a majority of the upcoming job opportunities locally, Hawaii needs to ensure we have a workforce that is appropriately trained and is ready to mobilize. To do this, training mechanisms are being implemented statewide. Through its departments of Engineering, Law, Business, and Environmental Sciences, the University of Hawaii is offering students appropriate background and experiences to step into these positions. There are many others doing wonderful things to help prepare our workforce as well. An extensive list of training programs can be found at www.HawaiiCRCS.Org.

Moving forward, we hope to build out a well rounded energy category that creates a diverse range of jobs that people in Hawaii can take advantage of. Blue collar, white collar, research, technical, and entrepreneurial opportunities will grow as this category expands within our islands.

Please visit www.energy.hawaii.gov for more information on Hawaii's progress and plans in developing a strong clean energy economy.

