

An aerial photograph of the Hawaiian Islands, showing the main island of Hawaii in the foreground and several smaller islands to the northwest. The islands are green and brown, set against a deep blue ocean. A green gradient bar runs horizontally across the bottom of the image.

the greener workforce

GreenBuildingHawaii.
c o m

A stylized green leaf graphic, partially overlapping the text and the bottom edge of the image.



Consulting • Testing • Certification

John Bendon

LEED AP, LEED AP Homes

RESNET Certified Energy Rater

LEED for Homes Green Rater

BPI Building Analyst

John@GreenBuildingHawaii.com



CERTIFIED
PROFESSIONAL

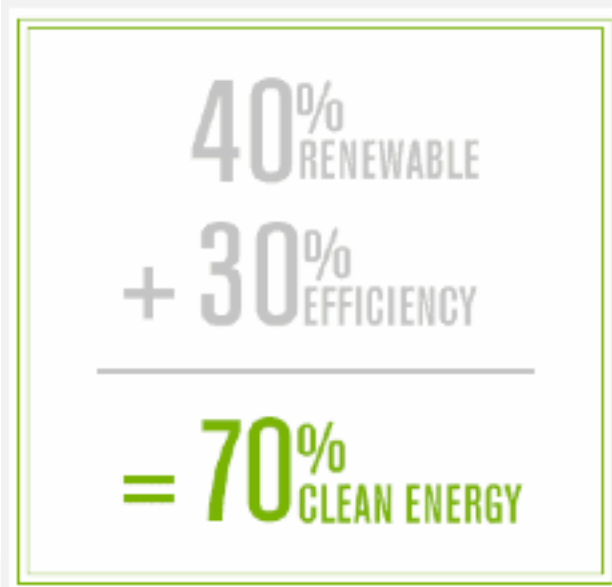




“Hawaii’s most important economic enterprise right now is to pursue energy independence.”

– Governor Neil Abercrombie

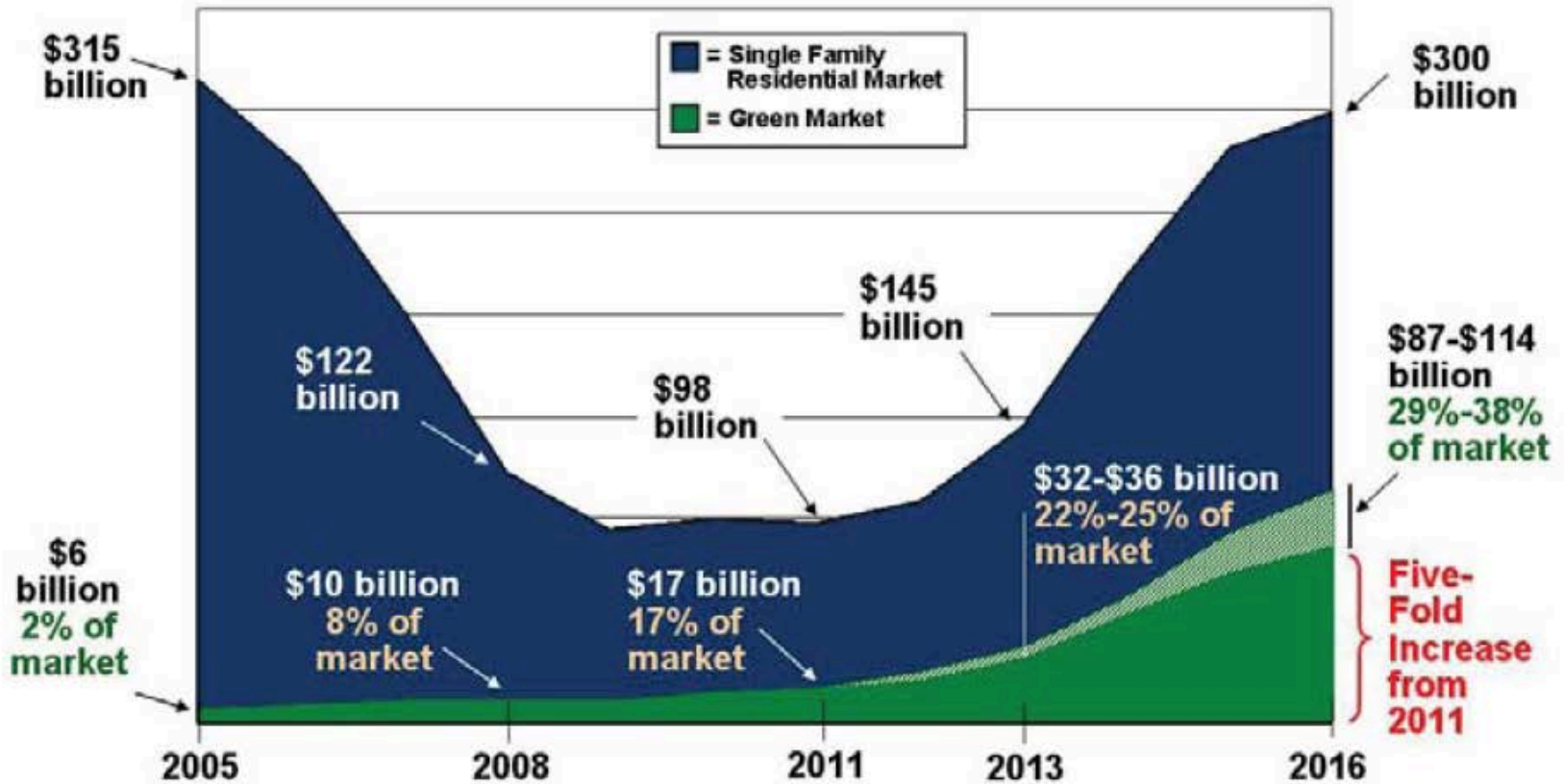
Hawaii Clean Energy Initiative



State of Hawaii: “A green job is one that engages in economic activity that makes a positive impact on the environment or energy sustainability.



Green Residential Market Sizing



Source: Green Market Size: calculation McGraw-Hill Construction; base value of construction market from McGraw-Hill Construction Market Forecasting Service, as of February 2012

Green Homes Market Grows to \$17 Billion Opportunity

- Green homes market grows to \$17 Billion opportunity in latest McGraw-Hill construction green residential market estimate
- Since 2005, the green share of new single-family residential construction has grown dramatically—increasing from 2% in 2005 to 17% in 2011
- This 17% market share equates to a \$17 billion market opportunity
- McGraw-Hill Construction estimates the green market share will continue to increase, reaching 29%–38% by 2016—representing an \$87–\$114 billion opportunity based on the overall residential construction forecast as of February, 2012

Hawai'i Green Workforce Projections

- Green Jobs to grow by 26% from 2010-2012

--Hawaii's Green Workforce

- Energy efficiency provisions will create an additional 2,100 new jobs in the State of Hawai'i in the next 10 years

--American Council for a Energy Efficient Economy (ACEEE)



Hawaii's Green Workforce Report



Kauai County

460 Green Jobs
1.9% of County Jobs

71 Additional Green Jobs
by 2012



Honolulu County

6,866 Green Jobs
2.0% of County Jobs

1,885 Additional Green Jobs
by 2012



Maui County

2,597 Green Jobs
4.6% of County Jobs

437 Additional Green Jobs
by 2012



Hawaii County

1,222 Green Jobs
2.5% of County Jobs

510 Additional Green Jobs
by 2012

State of Hawaii Total

11,145 Green Jobs
2.4% of Private Employment

2,903 Additional Green Jobs by 2012

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



Hawaii's Green Workforce Report

- Key findings in the The Department of Labor and Industrial Relations (DLIR) report include:
- Community colleges and trade schools fulfill 62 percent of the education and training requirements for reported green jobs.”
- Need to cultivate an educated and skilled workforce capable of meeting the needs of a clean-energy economy.”
- “Educators and training providers must provide timely and relevant curricula.”
- “Workers or those seeking employment will need to update existing skills and competencies to maintain their competitiveness.”

Source: Hawaii's Green Workforce: A Baseline Assessment, December 20, 2010

Training the Greener Workforce

Objectives:

- Produce well-trained individuals capable of working with homeowners and business owners to help them reduce their building environmental impact and energy use
- Provide potential gateway to other professional accreditations and areas of work

Establishing Partnerships

Providing cutting-edge green building and energy efficiency training through collaboration to prepare Hawaii's workforce and build a sustainable, greener economy



HAWAII CHAPTER
U.S. GREEN BUILDING COUNCIL



HAWAI'I CHAPTER

U.S. GREEN BUILDING COUNCIL

The screenshot shows the website's layout. At the top left is the chapter logo. A navigation bar contains links for Home, About USGBC, Learning Center, Committees, LEED, and Event Calendar. Below this is a banner with the Hawaiian phrase 'NA HAWAI'I ALAKA'I I KE KUKULU 'ANA I NA KAI AULU KUPONO'. The main content area features two LEED AP exam prep workshops: one for Building Design + Construction (BD+C) on March 30, 2012, and one for Operations & Maintenance (O+M) on April 12, 2012. Below the workshops is a link to Green Building LLC with the URL GreenBuildingHawaii.com/classes.html. A footer section contains five promotional tiles: 'USGBC HAWAII students' with a 'CLICK HERE' button, 'LEGISLATIVE Advocacy COMMITTEE' with a 'MORE INFO' button, 'GREEN SCHOOLS' with the tagline 'Promoting & encouraging energy neutral schools', 'Existing Buildings: Operations & Maintenance', and 'The Learning Center'. Below these tiles are three columns: 'Upcoming Events' with a webinar on March 15, 2012; 'Latest News' with a headline for '2012 HAWAI'I BUILD AND BUY GREEN'; and 'Gold Sponsors' featuring the Pankow logo.

Partnership with UH College System



Honolulu Community College



Leeward Community College



UH Maui College



Hawaii Community College



Kauai Community College



University of Hawaii at Manoa

UNIVERSITY of HAWAII[®]
KAUA'I
COMMUNITY COLLEGE



UNIVERSITY of HAWAII[®]
HAWAII
COMMUNITY COLLEGE



UNIVERSITY
of HAWAII[®]
SYSTEM



UNIVERSITY of HAWAII
HONOLULU
COMMUNITY COLLEGE

UNIVERSITY
of HAWAII[®]
MĀNOA

Sustainable Living Institute of Maui



UNIVERSITY of HAWAII®
MAUI COLLEGE





State Energy Sector Partnership & Job Training Grant

SESP is a 3-year, \$6 million award that Hawaii's Department of Labor and Industrial Relations – Workforce Development Council received from the U.S. Department of Labor under funding provided by the American Recovery and Reinvestment Act ("ARRA") to help states build their renewable energy and energy-efficiency industries.

Benefits of Professional Certification & Accreditation

- When an individual becomes certified in a designated field, his/her professional achievement is recognized in the eyes of colleagues, as well as prospective employers and clients.
- Certification establishes a standard of professional competence which is recognized throughout the industry.
- Certification fosters professional development through encouragement of long-term career goals.
- Certification promotes quality through continuing education to assure a high level of competence in constantly changing fields.

USGBC Mission

To transform the way buildings and communities are designed, built and operated, establish an environmentally and socially responsible, healthy and prosperous environment that improves the quality of life.



LEED Green Associate Exam Prep



- The LEED GA designation is targeted in all our green classes
- Provides participants the ability to sit for the Exam and the knowledge to pass with confidence



Expansions onto the LEED Green Associate Exam Prep

- Offer 2 and 4 day trainings. The goal is to provide participants with a stronger base in the field before taking the LEED GA exam preparation class
- Two day class agenda is:
 - Day 1- Intro to Green Building
 - Day 2- LEED GA Exam Preparation

Intro to Green Building & Energy Management

- Four day class that covers basic green building and energy efficiency concepts. This course includes site visits and hands on components.
- Course Agenda:
 - Day 1- Intro to green building
 - Day 2- LEED for Homes with tour and case study
 - Day 3- The Home Energy Audit
 - Day 4- LEED GA exam preparation



Green Building Basics & LEED Green Associate Exam Prep

Molokai





Green Building Basics & LEED Green Associate Exam Prep

Lanai



LEED Specialty Accreditations



LEED AP
OPERATIONS & MAINTENANCE
EXAM PREP WORKSHOP

HONOLULU, HAWAII
PACIFIC GUARDIAN CENTER
APRIL 12, 2012

To register: GreenBuildingHawaii.com

The LEED AP O+M logo, featuring the text "LEED AP" in white on a teal square background, with "O+M" in white on a dark grey rectangular background below it. A small "TM" trademark symbol is visible in the top right corner of the teal square.

LEED AP
BUILDING DESIGN + CONSTRUCTION
EXAM PREP WORKSHOP

SUSTAINABLE MARKETPLACE OF THE PACIFIC
HONOLULU, HAWAII 96813
MARCH 30, 2012

To register visit: GreenBuildingHawaii.com

The LEED AP BD+C logo, featuring the text "LEED AP" in white on a light green square background, with "BD+C" in white on a dark grey rectangular background below it. A small "TM" trademark symbol is visible in the top right corner of the light green square.

LEED AP Specialty Accreditations

- The next step beyond LEED Green Associate
- Need to show involvement on a LEED project.
- Intermediate Green Building class will be a project experience program that is launched in the fall.



RESNET Home Energy Survey Professional

- Designation for level 1 home or small business audits
- Train participants in the basics of building science and energy management
- Selected because no specialty equipment is needed to perform audit tasks



RESNET Home Energy Survey Professional

The class is 5.5 days, includes hands on audits, HESP test, and covers the following key topic areas:

- Building Science
- Mechanical systems
- Lighting & appliances
- Building envelope
- Renewable Energy
- Utility bill analysis and rebate programs
- Performance testing and testing equipment
- Audit procedures

A rectangular poster for the Home Energy Survey Professional training. The background is yellow with a red wavy border at the bottom. The text is in black and red. It includes the title "Home Energy Survey Professional", the subtitle "Energy Audit Training & Exam Prep", the location "Honolulu Community College", and the dates "January 30 - February 4, 2012". The RESNET logo is prominently displayed in red, with the tagline "Setting the Standards for Quality" underneath. At the bottom right, it says "Tuition assistance may be available".

Home Energy Survey Professional
Energy Audit Training & Exam Prep
Honolulu Community College
January 30 - February 4, 2012

RESNET
Setting the Standards for Quality

Tuition assistance may be available

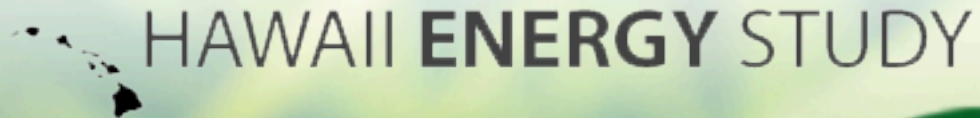
KUPU – Youth Energy Assessment Hawaii



KUPU



- On O’ahu, homes that have signed up for the Hawaii Energy Study (HES) are selected for a home assessment
- Auditors completed the RESNET Home Energy Survey Professional training
- Partners on the HES are committed to bettering our local communities through this collaborative effort to ‘reducing Hawaii’s energy consumption by making energy efficiency and energy conservation solutions more accessible and actionable.’



KUPU – Youth Energy Assessment Hawaii

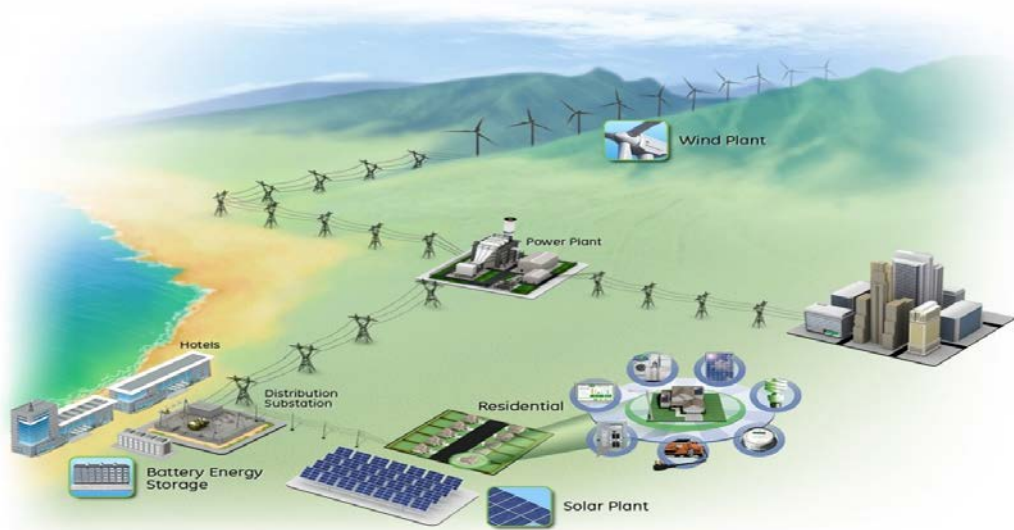


Hands-on training in energy auditing in the field

KUPU – Youth Energy Assessment Hawaii



Maui Smart Grid Project



- The project involves the use of smart meters & smart grid technology on Maui.
- Students from UH-Maui College will conduct home audits as part of their training toward becoming certified as a Home Energy Survey Professional (HESP). Training and student audits will be conducted under supervision of Green Building LLC.





Water Efficiency Programs

EPA WaterSense Inspector Training



Renewable Energy Programs



- Entry Level Photovoltaic Design and Installation
- Advanced Photovoltaic Design and Installation
- Photovoltaic Technical Sales
- NABCEP Certification Testing
 - North American Board of Certified Energy Practicioners is the “gold standard” for PV and solar heating installation
- Small Wind Turbine Design and Installation
- Solar Thermal Training

Other Programs for a Greener Workforce



Building Operators Certification[®]

- An nationally recognized energy efficiency training and certification program in commercial energy auditing
 - Licensed by the Northwest Energy Efficiency Council (NEEC)
 - U.S. Environmental Protection Agency (EPA) has named NEEC as a winner of the 2012 ENERGY STAR Award for Excellence for its contributions through the BOC[®] program.
-
- Offered at UH Manoa and UH Maui College
 - Topics include facility operations and maintenance, electrical, HVAC & lighting systems, indoor air quality, environmental health & safety, and energy conservation



Building Operators Certification®

- Over 50% of BOC graduates report increases both in job responsibilities and compensation after receiving the certification
- A total of 56 hours of classroom training over several months, and five project assignments, with each taking approximately four hours to complete. This is a total time commitment of 74 hours which gives participants:
 - The most current techniques in building operations. an improved skill set in facility maintenance and operation
 - Advanced skills in maintaining, troubleshooting and optimizing performance of building systems
 - Increased opportunities for employment advancement

Solar Technical Sales and Estimation - For Solar PV and Solar Thermal Systems



- Hands-on solar system sales & estimating instruction for people seeking employment in the solar industry
- Solar Training Institute Maui – Wailuku, Maui
- Students who complete the course qualify to take the NABCEP Technical Sales Certification Exam

Hawaii Energy Workshop Series

Brought in San Francisco based EEFG, Inc., led by renowned expert Mark Jewell, to present the following three workshops on Oahu, Maui, & Kauai

- “Learning to S.E.E. (Sell Efficiency Effectively)™” — covers financial metrics, presentation formats and selling approaches that help get viable energy-saving projects approved.
- “Energy Efficiency’s Role in Your Sustainability Agenda” – new perspectives on why energy efficiency should be a top priority for any organization that values “green” attributes.
- “Benchmarking Your Commercial Building and What’s Next” – demonstrates how important and easy it is to gauge your current energy performance, set targets for improvement, and track your progress toward those goals.



Certified Energy Manager Training Program

- Hawaii Energy partnered with the Association of Energy Engineers (AEE) to present their Certified Energy Manager® Training Program
- Program is specifically designed to serve as preparatory courses for AEE professional certification candidates
- To be eligible to take the exam, candidates must have a four year degree and 3-5 years of experience in energy engineering/management or a two-year degree and 6-8 years of experience.
- Candidates who have not earned a degree must have 10 years of energy engineering or energy management experience.

Home Energy Professional Certification Pilot Project



U.S. DEPARTMENT OF
ENERGY



CERTIFIED
PROFESSIONAL

- New Home Energy Professional Certification Pilot tests are still in development
- No one specific training program for these certifications
- Offered by BPI (Building Performance Institute) & funded by the U.S. Department of Energy (DOE) & its National Renewable Energy Laboratory (NREL)
- Written & field practical exams will be rolled out in June 2012
 - Energy Auditor
 - Retrofit Installer
 - Crew Leader
 - Quality Control Inspector
- Exams may be scheduled by contacting one of BPI's Test Centers
- Cost: \$250 for the written exam & \$500 for the field practical exam
-

Training Registration



Green Building LLC is an approved training provider for the SESP funded scholarships. Contact for info:

- **Oahu WorkLinks:** Sylvia Silva, (808) 768-5707
- **Big Island Workplace Connection:** Blayne Hanagami, (808) 981-2860
- **Worksource Maui:** Kevin Kimizuka, (808) 984-2091
- **Workwise Kauai:** Adele Manera, (808) 274-3056

www.sesphawaii.org

For training and scholarship information:

The screenshot shows the top section of the SESP website. The header features the SESP logo on the left, a blue wave graphic in the center, and the text 'PART OF THE hawaii'i green jobs initiative' on the right. Below the wave graphic is the text 'State Energy Sector Partnership & Job Training Program' and 'Hawaii Workforce Development Council'. A 'Find us on facebook' button is located in the top right corner. Below the header is a navigation menu with the Workforce Development Council logo and several menu items. The main content area displays the heading 'Training Programs Available Now' and a list of options for selecting where to look for training programs.

SESP PART OF THE **hawaii'i green jobs initiative**
State Energy Sector Partnership & Job Training Program
Hawaii Workforce Development Council
Find us on **facebook**

WORKFORCE DEVELOPMENT
COUNCIL

Take a Training Course
Scholarship Eligibility
For Employers
For Sub-Recipients
For Prospective Training Providers
What is SESP?
What is the WDC?

Training Programs Available Now

Select where you'd like to look for available training programs.

- Oahu**
- Hawai'i (Big Island)**
- Maui**
- Kaua'i**
- I'd like to take a course online.**

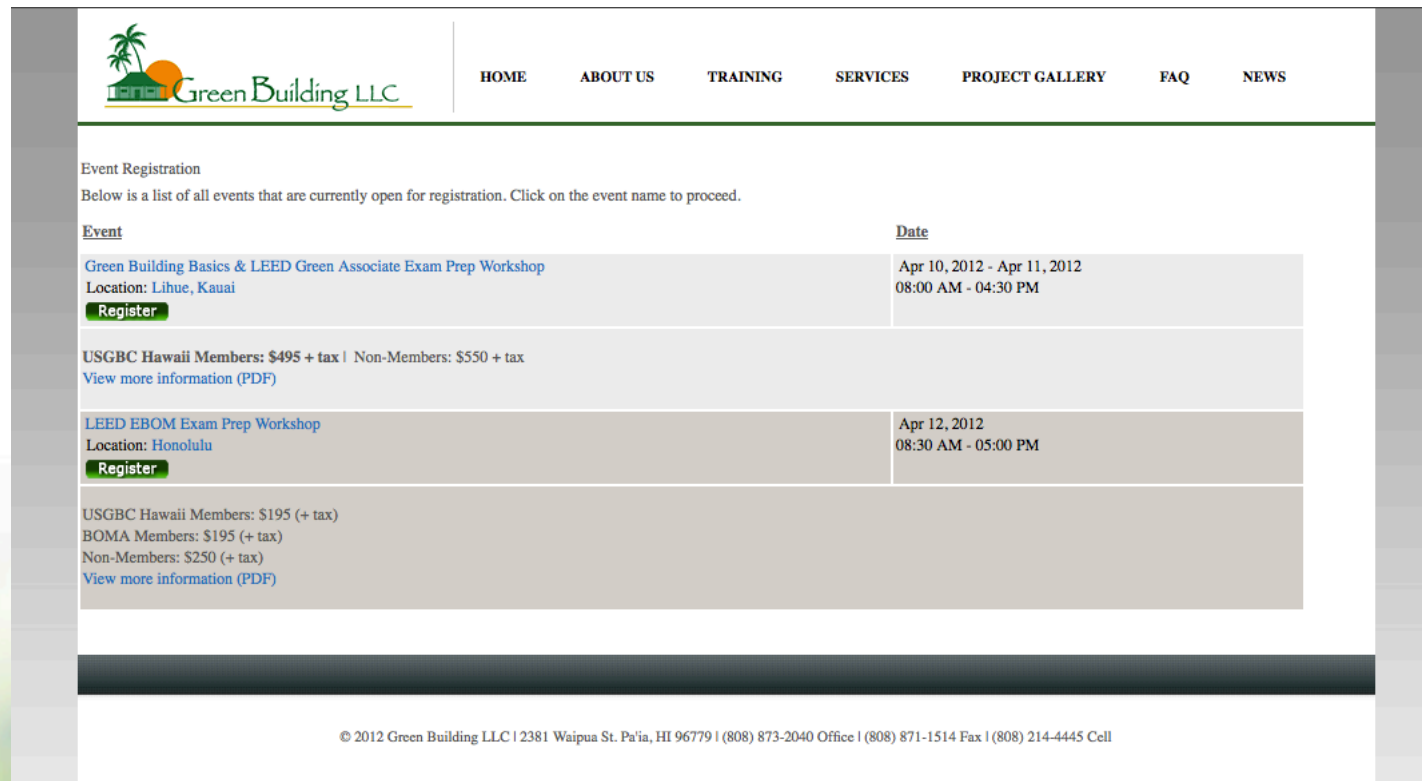
Register at a UH Campus

Register for classes at the University of Hawaii colleges:

- **Honolulu Community College:** Preshess Willets-Vaquilar, (808) 845-9407
- **Kapiolani Community College:** Carol Hoshiko, (808) 734-9568
- **Leeward Community College:** Michael Moser, (808) 455-0470
- **Windward Community College:** Jane Uyetake, (808) 235-7433
- **Maui College:** Jennifer Chirico, (808) 984-3379
- **Kauai Community College:** Tracy Hirano, (808) 245-8351
- **Hawaii Community College:** Tony Kent, (808) 934-2700

www.GreenBuildingHawaii.com

Register for off-campus classes on our website



The screenshot displays the website's navigation menu and an event registration section. The navigation menu includes links for HOME, ABOUT US, TRAINING, SERVICES, PROJECT GALLERY, FAQ, and NEWS. The event registration section lists two workshops with their respective dates, locations, and registration buttons.

Green Building LLC

HOME ABOUT US TRAINING SERVICES PROJECT GALLERY FAQ NEWS

Event Registration
Below is a list of all events that are currently open for registration. Click on the event name to proceed.

Event	Date
Green Building Basics & LEED Green Associate Exam Prep Workshop Location: Lihue, Kauai Register	Apr 10, 2012 - Apr 11, 2012 08:00 AM - 04:30 PM
USGBC Hawaii Members: \$495 + tax Non-Members: \$550 + tax View more information (PDF)	
LEED EBOM Exam Prep Workshop Location: Honolulu Register	Apr 12, 2012 08:30 AM - 05:00 PM
USGBC Hawaii Members: \$195 (+ tax) BOMA Members: \$195 (+ tax) Non-Members: \$250 (+ tax) View more information (PDF)	

© 2012 Green Building LLC | 2381 Waipua St. Pa'ia, HI 96779 | (808) 873-2040 Office | (808) 871-1514 Fax | (808) 214-4445 Cell

Mahalo!



John Bendon

www.GreenBuildingHawaii.com

John@GreenBuildingHawaii.com