

THE GREEN FLASH

CELEBRATING THE FIRST YEAR



JANUARY 5,
2010-2011

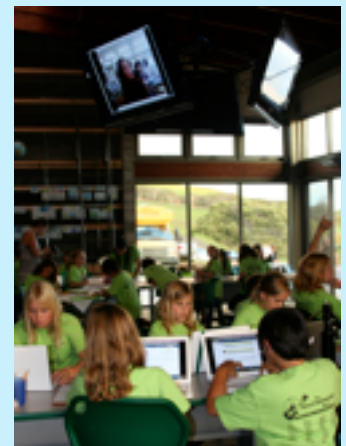
In November the Energy Lab. achieved certification for LEED Platinum 2.0 for schools, the highest level award in Leadership Energy and Environmental Design. This standard is based on criteria including sustainability, comfort, and impact on the environment. HPA is the first school in the state and only the third in the world to receive this award.



In January 2011, the Energy Lab was awarded the top Grand Conceptor Award in the 2011 American Council of Engineering Companies of Hawai'i Engineering Excellence Awards competition.

ROCK MY WORLD

Kristin Tarnas' and Cobey Doi's students teamed up with other students from seven continents to compose original music, make movies, and meet each other in live video chats. The project culminates with the international Family Night where all of the classes came together in a live worldwide webcast. "Rock Our World" is an international global collaboration project developed in 2004 by California teacher Carol Anne Maguire.



UPCOMING ELAB. EVENTS AND CLASSES

Upcoming Year Events: Tarnas' Tech. Tribe, Greentech., Environmental Science, AP Environmental Science, Environmental Literature: Place and Identity, Robotics, Cornell University, Hoku A Aina Summit, Student Sustainability Conference



Mrs. Tarnas' Tech. Tribe students (l to r): Ruby Johnson, Keanu Young, Karly Noetzel, Thierry Devost, Kailer Garcia, and Sophia Peterson.



Danny Cook, Greentech class, prepares a tower for a wind turbine.



Mrs. Clark's Environmental Literature: Place and Identity class.



Mr. Emmons' and Dr. Wiecking's Environmental Science class look at factors that support healthy bio-diverse ecosystems.

Hoku A Aina

"From the Stars to the Land"

During the week of March 21-25 teachers, scientists, and other professionals will participate in the Elab's pilot sustainability summit. Guest speakers Nainoa Thompson—Polynesian Voyaging Society, and Guy Toyama—NELHA will open the summit with workshops to follow at various locations: NELHA, Gateway Center, Cellana, Keahole Solar Power, Mauna Loa Observatory, KECK, Hale Pohaku and the Jagger Center. The summit will be the Elab's pilot program for the Teachers Sustainability Conference to be held in 2012.

Living Building Challenge



Sixteen Prerequisites
16 requirements in six different areas

One Challenge
Go beyond LEED Platinum to build sustainable, living buildings

Living Building Challenge
The goal of the Living Building Challenge is to push the boundaries of sustainable building and more rapidly bring the built environment back into harmony with the natural one



In January, the final paper work was submitted for the Living Building Challenge, an advanced green building rating system that goes above and beyond LEED certifications. Living Building challenge is a philosophy, advocacy tool, and certification program that covers development at all scales. It is comprised of seven performance areas: site, water, energy, health, materials, equity, and beauty. Nothing in the building can be toxic in production, use or disposal; so called "cradle to grave" responsibility. During February 23-25 the LBC committee will be here to audit the Elab. We are hopeful the Elab will become the third building in the world to achieve LBC certification and the first K-12 school.



Part of the Waimea Ocean Film Festival took place at the Elab, with tours and a talk with Director Bill Wiecking. Above: Two participants take in an amazing view from the Elab. Below: Bill demonstrates the Elab's passive ventilation air system.

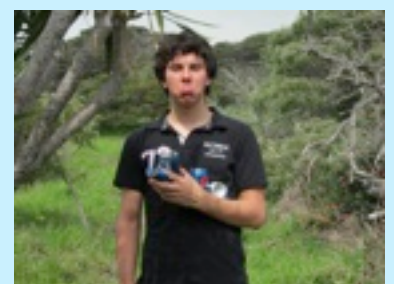


Environmental Science Classes Biofuel Research/Garden

The HPA Hawai'ian Terrace Restoration Project (HTRP) is a model for sustainable agriculture and preservation at HPA's Upper Campus. Central to the project are recently cultivated rows of 'uala (sweet potato) and kalo (dryland taro). In addition to the collection of corresponding weather data, students have been engaged in running soil analysis tests, researching and exploring plant propagation techniques, mulching studies, irrigation methods and % yield production of harvested crops. Ongoing student-based projects serve as a model for showcasing the value of research, fieldwork, and bringing to light the rich, cultural heritage of Hawai'ian agricultural practices.

The project goals include working closely on related studies with local schools and initiating community partnerships.

Located adjacent to the terrace project area is an expansion proposal that includes the design and development of a fruit orchard, organic vegetable and herb garden, and an experimental bio-fuel plot where bio-fuel plants like Jatropha will be propagated and harvested to process the plant's seed oil into a bio-fuel.



Left: Environmental Science students, left to right: Olina Cavedoni, Yasu Miyakawa, Aniela Chertavian, Brittany Cushnie, Jhernie Evangelista, Pamela Lynn, George Twigg-Smith, (sitting) Bobby Souza, John White
Above: John White, not happy with the trash he found.



Above: Students use the program "Star Walk" on iPads to gaze at the heavens above.

6th Grade Day @Elab

The day before Christmas break the sixth grade class spent the day at the Elab learning about the stars, wattage usage, the garden, and just having fun.

Energy Lab Calendar

D and E periods: Environmental Science, Environmental Literature And Green tech

F periods: Robotics

Wednesdays: 5th grade and Tech. Tribe

Jan. 25 -28: Bill Wiecking guest presenter: "Elab as a Learning Lab," MacWorld Conference

Jan. - May: Cornell University spring semester program of environmental and Earth systems study

Feb. 23-25: LBC Audit

March 21-25: Hoku A Aina Summit

June: Student Sustainability Conference



Energy Futures

Listen to "Energy Futures," the [Hawaii Public Radio](http://www.hpa.edu/energylab) program featuring Dr. Bill Wiecking and two of his students from HPA, Katie Ho and Robert Reed, discussing the Energy Lab, the Third Annual Student Congress on Sustainability, and Footprint Futures (length - 1 hour).

The feature can be heard online at <http://www.hpa.edu/energylab>



Energy Lab Fun Facts

Annual average energy use:
 IT building: 15.1 kWh/sf " kilowatts hours/per square foot."
 Hawaii average: 12.7 kWh/sf
 National average: 11.2 kWh/sf
 Energy lab: 3.23 kWh/sf

Elab's energy savings for the year @35 cents kWh, saved \$10,221 for the school.

Energy Lab Tours - Wednesdays

3:30-4:30 p.m.

For reservations,

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