

Rebuild Hawaii

Partnering with Rebuild America



Working together for energy and resource efficiency

ESPC COGEN in Kona Hospital

The Hawaii Health Systems Corporation (HHSC) and NORESKO have recently completed the first in a series of Energy Savings Performance Contracting (ESPC) projects for the Statewide Hospital system. The project at the Kona Community Hospital includes a cogeneration system which produces 455 kilowatts of prime power electricity for the hospital. Waste heat is captured and is used to produce domestic hot water and chilled water (via an absorption chiller). HHSC and NORESKO are proud to report that the cogeneration plant has been in operation since mid February with all applicable interconnection agreement documentation executed with Hawaii Electric Light Company, Inc.

Other Energy Conservation Measures (ECM's) at the Kona Community Hospital include:

- ◆ Chiller plant upgrades
 - New energy efficient screw chiller
 - Primary-secondary pumping
 - New energy efficient cooling tower
- ◆ Lighting upgrades
- ◆ Kitchen exhaust system controls
- ◆ New Energy Management System
- ◆ Domestic water booster pump upgrades
- ◆ Premium efficiency motors
- ◆ Window tinting

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Generator enclosures and fuel tanks at the Hilo Medical Center

Follow-up: Energy Smart Schools Maui

Schools in Maui County are looking brighter and reducing their energy use by renovating to energy efficient lighting. In June 2001 a report was presented to Department of Education (DOE) and Department of Accounting & General Services (DAGS) that compiled results of lighting audits conducted in 32 Maui County public schools. Since the release of the report, County schools are undergoing lighting retrofits as a part of a new statewide push for repair and maintenance renovations on older schools.

The lighting audits were part of a Rebuild Hawaii Consortium project called Energy Smart Schools Maui Lighting Retrofit Program. Hawaiian Electric Company, Inc. put together the report for DOE and DAGS so that they would

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President's Corner



*Rebuild Hawaii Consortium
President Steve Holmes*

Energy Within the Context of Sustainability

Sustainable Honolulu, our latest Rebuild Hawaii partnership, launched this last month to a great deal of national attention. Sustainable Honolulu will be working on energy efficiency upgrades, biogas utilization, biofuels, building code updates, green purchasing, solar water loans, photovoltaics, hydropower, and water conservation. It is this scope of interest that makes it unique.

Increasingly, energy efficiency is being viewed within the broader context of sustainability. As a state made up of small islands in the middle of the Pacific Ocean and incredibly dependent on imported resources, we are particularly mindful of the need to promote sustainability.

So what is a good working definition of sustainability? The simplest definition of sustainability is making decisions as if your grandchildren's lives depended on them.

Sustainable energy promotes the use of energy efficiency as the highest priority followed by renewable energy resources such as biomass, wind, and solar. Sustainable energy takes an ecosystem approach to looking at the impacts to atmosphere and climate, watersheds, habitat and biodiversity, and nutrient cycling.

All of us in the Rebuild Hawaii Consortium can take pride in the fact that we are taking actions today that will protect our valuable natural resources for future generations. We are taking an active role as stewards of our planet.

Happy Earth Day!

Rebuild Hawaii Meetings Deliver Energy Solutions



*Old lighting system
on floor P-4*



*New lighting system
on floor P-5*

The introduction of new energy efficient products at Rebuild Hawaii meetings is a great way to discover an application that may meet your needs. An example of this resulted after James Thomas, Stingray Lighting, presented a new lighting system called the "Stingray Dual Reflector Induction Garage Light." This fixture also incorporates Philips Lighting's QL induction lamp that uses a revolutionary technology of light generation that combines the basic principals of induction and gas discharge in an A-lamp design. This new technology delivers an unprecedented 100,000 hours of high quality white light.

After this presentation, Mr. Bob Martin, Chief Engineer of 1132 Bishop Street Building, which is managed by Colliers Monroe Friedlander Management Inc., knew of the perfect application for the product. The high energy consuming light system in the building's parking garage.

The Stingray Dual Reflector System is currently installed in two of the five floors in the parking structure and retrofitting of the remaining floors will be completed in the future. This new technology is the first of its kind in Hawaii. The garage lighting is noticeably brighter due to the white light verses yellow light (HPS).

In addition the 1132 parking garage will save approximately 50% of its former energy costs not to mention the maintenance savings generated due to the long life of the Philips Induction System. Hawaiian Electric has authorized a rebate of approximately \$68.00 per fixture under its customized rebate program for this product.

Be sure to look for new product and technology presentations at future Rebuild Hawaii meetings. You just might hear about a product or technology that will benefit your building and help Hawaii to conserve energy and improve the environment. To learn more about this lighting visit www.stingraylighting.com or contact Tom Brennan, ECO-LITE, at (808) 923-4271.

*Thanks to Tom Brennan for
contributing to this story.*

Upcoming Meetings & Events

Energy Efficiency Purchasing Seminar

April 22, 2003, 1:00-3:00 p.m.
Federal Building
Honolulu, HI

For more information contact Elizabeth Raman at email: eraman@dbedt.hawaii.gov or phone: (808) 587-3806

Build and Buy Green Conference & Expo

April 22, 2003, 8:00 a.m.-4:15 p.m.
Ala Moana Hotel
Honolulu, HI

For more information go to: www.hawaii.gov/dbedt/ert/epc02
Or contact: Cynthia Mckeague or Melinda Eyre at (808) 541-1776
Email: cynthia.mckeague@gsa.gov or melinda.eyre@gsa.gov

Lighting for the Aging Eye Virtual Seminar

April 23, 2003, 1:00-2:30 p.m.
HEI Training Room, 8th Floor
American Savings Tower
Honolulu, HI

For more information email Ralph Dobson at: rdobson@hei.com or phone (808) 543-4754

Energy Economics for Hawaii Business Advisors Workshops Hilo

May 13, 2003, 9:00 a.m.- 1:00 p.m.

State Building, 1st Floor

Honolulu

May 15, 2003
9:00 a.m.- 1:00 p.m.

HEI Training Room, 8th Floor
Pacific Tower

For registration and information call 969-0118 or email tmiyashi@hei.com.

Kona Hospital COGEN Project

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The project also includes 12 years of full coverage maintenance on the cogeneration equipment (generator, engine, heat exchangers). Total cost of the project was \$4,044,900 and NORESKO will be guaranteeing savings in excess of \$5 million over the twelve-year term.

HHSC and NORESKO are also in the construction phase of two additional projects at the Hilo Medical Center and Kauai Veteran's Memorial Hospital. These projects also include cogeneration and the plants are scheduled to be on line in May and July of this year respectively.

Thanks to Tracy Taoka, NORESKO, for contributing this story.

Energy Smart Schools Maui

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have a comprehensive report detailing lighting usage in Maui County schools. The report recommended that schools replace existing fluorescent T12 lamps with magnetic ballasts with T8 lamps utilizing electronic ballasts. This could reduce the lighting portion of the electric bill by 34% and increase lighting levels by 3 to 10 percent. Benchmark analysis was provided and ranked schools on criteria such as Energy Utilization Index (EUI), operating costs, electric rates, population, energy savings, payback, costs and rebates, and lighting load.

The report contributed to the prioritization of installing energy efficient lighting in Maui and Baldwin High Schools. Both ranked highest out of all the schools for energy savings opportunity. Baldwin High is estimated to have a savings potential of around \$30,730 and Maui High around \$30,660.

The DOE and DAGS are currently focused on statewide renovations of older schools. Schools are ranked according to the greatest need for repair and maintenance. Ranking covers considerations such as interior and exterior paint, windows, doors, blackboards, floors and lighting. If a classroom is ranked as in need of repair then the entire room is gutted and everything is replaced, including the lighting. So schools are in the process of changing over to T8 lamps and electronic ballasts through renovations. If all of Maui County's public schools were to convert their lighting it would result in an estimated reduction of 1.8 million kilowatt-hours per year. The annual cost savings from the energy reductions would be approximately \$369,000 and the payback period for cost of retrofit would be 5.7 years.

The Energy Smart Schools Maui Lighting Retrofit Program provided a comprehensive report for DOE and DAGS to refer to and is helping them to better determine the value of retrofitting to energy efficient lighting. This report, along with DOE's focus to renovate older schools, is helping to improve the learning environment in Maui District schools and effectively increase the use of energy efficient technologies in the State.

Rebuild Hawaii

Rebuild Hawaii is a statewide consortium dedicated to promoting efficient energy and resource utilization.

Rebuild Hawaii is working with Rebuild America, a U.S. Department of Energy program, to help community partnerships make profitable investments in existing buildings through energy-efficient technologies.

The partnering of public and private business interests enables Rebuild Hawaii to employ innovative solutions to promote economic growth, lower energy costs, create jobs, and protect the environment.

There is opportunity for anyone to join Rebuild Hawaii. It is a voluntary program with no membership fee.

For more information contact:

Rebuild Hawaii
c/o Department of Business,
Economic Development &
Tourism
Energy, Resources, and
Technology Division
State Office Tower
235 South Beretania Street,
Room 506

Mailing Address:

P.O. Box 2359
Honolulu, Hawaii 96804-2359
Telephone: 808-587-3806
Facsimile: 808-587-3820

Or contact:

Jennifer Tosaki at
jenwebb@hawaii.rr.com

Visit our web site at:

www.hawaii.gov/dbedt/ert/rebuild/index.html

Rebuild Hawaii Projects

Rebuild Hawaii currently supports the following projects:

- ◆ University of Hawaii School of Architecture Portable Classroom Cooling Design Guidelines
- ◆ Hawaiian Electric Company Energy Smart Schools project to increase awareness of energy efficiency in schools and communities on the islands of Oahu and Maui
- ◆ Hawaii County Energy Smart Schools project at West Hawaii Exploration Academy; Hawaii County Department of Water Supply Energy Conservation project
- ◆ Kauai Lagoons Golf Course Energy Audit
- ◆ A series of four sustainability workshops aimed at the planning, architectural, and engineering communities
- ◆ Greening The Campuses, a project to implement resource efficiency at the community colleges
- ◆ Green Office exhibit and awareness program
- ◆ Workshops and technical seminars
- ◆ Multi-disciplinary programs to teach energy and resource management skills at universities and schools

Consortium Members

Counties

City & County of Honolulu*
County of Hawaii*
County of Kauai*
County of Maui*

State

Department of Business, Economic
Development & Tourism*
Department of Education*
Housing & Community Development
Corporation of Hawaii*
Judiciary
Hawaii Army National Guard
Hawaii Public Library System*
Maui Community College*
University of Hawaii
Community Colleges*
University of Hawaii at Hilo
University of Hawaii at Manoa,
School of Architecture*

Federal

Army
Coast Guard
Hickam Air Force Base
Marine Corps Base Hawaii
Navy Public Works Center Pearl Harbor
Navy Region Hawaii Pearl Harbor
Pacific Division Naval Facilities
Engineering Command
Pearl Harbor Naval Shipyard
Intermediate Maintenance Facility
U.S. Department of Energy, Pacific Liaison
U.S. Department of Housing & Urban
Development

Utilities

The Gas Company/Citizens Energy Service*
Hawaiian Electric Company, Inc.*
Hawaii Electric Light Company, Inc.
Maui Electric Company, Inc.

Private Sector

Chaney, Brooks & Company, Inc.
Eco-Lite
Energy Conservation Hawaii
Global Energy Partners, LLC
Hawaii Society for Healthcare Engineering
of North America
Scheibert Energy Company
SSFM Engineers International

* Rebuild America Partner

Next Meeting

May 13, 2003
7:30-12:00
HEI Training Room #2
8th Floor Pacific Tower

Previous Meeting

January 2003

Consortium members identified over 20 new potential Rebuild Hawaii projects. Working groups outlined steps to develop and implement 4 of the projects.

For a copy of minutes

Visit: <http://www.hawaii.gov/dbedt/ert/rebuild/news.html>

or Email: eraman@dbedt.hawaii.gov