

In partnership with HLTA

HLTA's Hotel Engineers Advisory Council

Hyatt Regency Waikiki - Ekahi Room



Thursday, January 19, 2017 8:30 am-10:30 am



HAWAI'I LODGING & TOURISM

ASSOCIATION



Welcome and Introductions





Hyatt Regency Waikiki Beach Resort and Spa









Green Hotel Initiatives – featuring:

- ✤ Ala Moana Hotel
- Hawaii Prince Hotel
- Hyatt Regency Waikiki Beach Resort and Spa
- Kahala Hotel and Resort
- Moana Surfrider, A Westin Resort and Spa
- The Royal Hawaiian, a Luxury Collection Resort
- Sheraton Waikiki Hotel and Resort
- Trump Hotel
- Waikiki Beach Marriott Resort and Spa
- Hawaii Energy
- HGBP and Other Announcements
- Back of House Tour







ALA MOANA HOTEL

Honolulu's Landmark Hotel





Ala Moana Hotel - Highlights

- The Ala Moana Hotel Condominium has:
- 1176 guestrooms, and
- 15 elevators and 2 escalators
- There are:
 - 2/800 ton chillers, a heat pump and 4 cooling towers,

 - 41 chilled water air handlers throughout the building, providing conditioned air: to public areas, offices, meeting rooms / ballroom / back of house / restaurants and nightclub. Chilled water is also supplied to all guestroom fan coil units.

• We have recently replaced 6 air handlers with a cost of over \$1 million.



For 2017 - Reduction of Energy Usage

- We are looking to possibly replace 4: air handlers, drawings have been completed and ready for permit.
- The Cooling Towers design was completed and presently in the permit department. Bid packages have been sent out and hopefully this project will be completed by end of year. The design of a new chiller plant has started and is expected to be completed by years end.
- We're testing LED down lighting in the Lobby.
- Ongoing guestroom light bulb change out to LEDs -10 years ago guestroom light bulbs were 50W halogen and 60W and 100W incandescent. We first replaced the halogen bulbs with 13W CFL's and we are now replacing it with 10W LEDs.
- The 60W and 100W incandescent bulbs were replaced first with 13WCFL's and 18WCFL's and are now replaced with 10W LEDs.
- 10 years ago, average guestroom light bulbs used 645W per room. Our goal by the end of 2017, is to reduce that to 80W by using LED bulbs.

Reduction of Water Usage & Recycling

- All guestrooms feature low-flow toilets
- Landscape sprinklers only used during non-daylight hours
- Dishwashing equipment was updated to promote energy and water savings
- Dishwashers are equipped with heat recovery units that take the heat from the drying cycle to preheat the incoming water to 120 degrees. In addition, these machines recycle the water from the rinse cycle to the wash cycle, which saves on the water usage
- "Protect the environment" cards give guests the option to opt out of having the bedding and towels changed daily
- Water provided on request only in restaurant outlets
- In 2016, placed recycle containers on all guestroom floors for plastic bottles.
- New ice machines on guest floors have ice/water dispensers, reducing the need for guest to buy bottle water daily.



Solid Waste, Recycling, Pollution Prevention

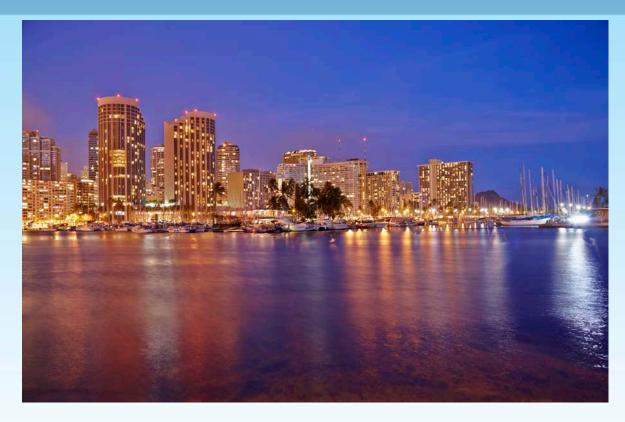
- ✤ A recycling program for glass, aluminum and cardboard
- ✤ All servable leftover foods are recycled
- Recyclable laser and copier toner cartridges are used
- Priority to order marketing materials made of recycled products and are eco-friendly
- A food waste composting program is in place
- Compostable containers are used in food outlets
- Office paper recycling is in place
- Priority to order marketing materials made of recycled products and are eco-friendly
- Minimal printing of collateral materials in favor of electronic files
- A salt water system is used in the swimming pool, minimizing the use of chemicals
- No petroleum based cleaning products are used in the Housekeeping Department
- Biological (not chemical) additives are used for grease interceptors

Donation and Community Involvement

- Partially used amenity bottles
- Unneeded furniture, supplies, electronics and scrap material
- Participation in the Kaneohe MCAS Earth Day Expo which raises awareness for and the level of understanding of sustainability and conservation
- As a Hawaii Lodging & Tourism Association HEPP (Hotel Education & Partnership Program) participant, Ala Moana Hotel partners with Kaimuki High School to provide educational opportunities for students
- Sponsorship of a scholarship for a high school student through the Hawaii Lodging & Tourism and Department of Education Citizenship Awards
- Mentorship of junior college and university marketing students, providing guidance and assistance on assignments, projects and papers
- Conduct front/back of the house tours for students and provide information about occupations at hotels



HAWAII PRINCE HOTEL WAIKIKI and golf club





Reduction of Energy Usage

- Replaced the hotel's original Baltimore Air Coil forced draft cooling tower motors with Evapco Stainless Steel Cooling Towers
- Chiller and Domestic Water System Energy Feasibility Study Michael Chong - June 2010 (Hawaii Energy \$14,500.00)
- Replaced hotel's original Trane Chillers with (3) York High Efficiency Chillers (R-134a) with new Metasys Energy Management controls. Replaced original 60HP condenser and 40 HP chill water pumps with 50HP high efficiency condenser pumps and 40HP high efficiency chill water pumps with variable frequency drives.
- Complete preventive maintenance on all air handler units and 2-4 cell cooling towers to increase cooling efficiency and reduce chiller load



Reduction of Energy Usage

- Standard policies and procedures adhered to for thermostat settings in all public areas including restaurants. All areas have locked thermostat covers to also prevent tampering.
- Energy Management System (Metasys) schedules on/off times for all air handler operations following Banquet Event Orders (BEO), restaurant hours of operations and back of the house operations to control chill water supply.
- (6) Observation elevators air conditioning units were set at 5:30am on to 10:30pm off and changed to 7:30am on to 8:30pm off.
- Replaced the 10 year old cooling tower fill grates (4 cells) to increase maximum water circulation to maximize cooling for the chillers condenser water.



Reduction of Water Usage

- Redesign and reconstruction of the hotel's waterfall filtration and discharge system including replacing all pool equipment to comply with current State and Federal regulations related to the discharge of water.
- September 2011 Waterfall Renovation replaced original recirculating 75 HP recirculating pump motor with ½ HP filtration pump motor, 3/4 HP bubbler pump motor and 5 HP recirculating pump motor to recue kWh consumption.
- Reduced the height of the waterfall and reduced the volume and size of the pool approximately 80% and converted to landscaping, with planting such as Rhapis palms, Plumeria and Macarthur palms and smaller shrubs such as spider lily and red Ti.
- Install water meter on the waterfall auto fill supply to monitor water fall water consumption.
- All guest rooms and kitchens have low flow faucet aerators (2.0 gpm 1.5 gpm had resulted in water spouting problems and guest complaints).
- Low flow shower heads and hand held shower units (Corport) in Hawall STATE of the regy office quart rooms.

Reduction of Water Usage

- New waterfall designed with battered walls, so the water does not free fall and is less susceptible to overspray in order to reduce the amount of overspray onto the pedestrian walkways below.
- Install Flood Safe water supply hoses on the basin and toilet hot and cold water supply to prevent guestroom flooding for ruptured water hoses that waste water and causes costly water damages and water removal, de-humidification services.
- Worked closely with the Board of Water Supply and partnered with them for their Maddaus Water Management seminar and hotel operations tour.
- The Board of Water Supply replaced the original main water meter and we continue to log daily water meter readings. We monitor increased water consumption and locate and fix water leaks and follow water saving tips and best management practices that can save thousands of gallons every year.
- Replace existing (54) 4.6 gpf (gals per flush) public and employee restroom toilets with new 1.6 gpf low flow toilets to reduce water consumption.



Reduction of Water Usage

- Work closely with Water Treatment Solutions to conduct monthly water tests and analysis on our cooling tower and steam condensate water blow downs to conserve water and water treatment chemicals. Valuable water treatment training by Water Treatment Solutions for engineers provides the working knowledge and importance our accurate and consistent water treatment program to control scaling and other concerns which will increase electric and water consumption.
- Install water meter on the waterfall auto fill supply to monitor water fall water consumption.
- All guest rooms and kitchens have low flow faucet aerators (2.0 gpm 1.5 gpm had resulted in water spouting problems and guest complaints).
- Low flow shower heads and hand held shower units (2.5 gpm) in guest rooms.
- Irrigation of landscape during the evening hours to eliminate evaporation.



Solid Waste Reduction and Recycling

- Utilization of monthly recycling services of Honolulu Recovery. Recycle the following: white paper, colored/brochure papers, magazines, newspaper, cardboard, glass bottles, and plastic bottles to reduce the trash tonnage that is sent to the landfills and H-power.
- Use of recycled paper.
- Photocopiers produce two-sided copies to minimize paper consumption
- Discarded linen is donated to various charitable organizations such as the Next Step shelter, Habitat and Goodwill annually.
- Purchased recycled plastic materials to fabricate projects at the golf course to protect against the extreme weather conditions and termite damage.
- Purchased recycled plastic speed bumps.
- Housekeeping is collecting Hi-5 plastic bottles from the guest rooms. They are averaging around \$100 monthly through HI-5 efforts.
- Since 2001, guests participate in water conservation program through the green program in guest rooms (changing of sheets and towels).
 - On average 50% of beds are remade with existing sheets and 30% of towels are reused daily.
 - Saving laundering costs such as electricity in machines, water consumption and chemicals used to sanitize linen

WAIKIKI BEACH RESORT & SPA



Reduction of Energy and Water Usage

- Installed new LED lights in public areas
- Installed new Trane Tracer program to run plant more efficiently and Variable Frequency Drives adjust fan speeds when less energy is required
- ✤ Installed low flow aerators to all guestroom sinks to .5 gpm
- Install drain screens in kitchens to allow only water to flow into pipes
- Implemented "Totally Green" program inviting guests to opt out of getting maid service



Solid Waste Reduction and Recycling

- Implemented recycling program to track efforts of employees who take water bottles and cans from property to recycle (Bags weighed and checked by security)
- Designed and installed new trash bins in public areas with compost/bottles/paper slots to add in recycling efforts
- Donated partially used shampoos and soaps to churches with individuals in need



Community Involvement and Activities

- Hyatt Regency Waikiki continues to have two on-site cultural practitioners to share Hawaiian stories, hula, chants, historic tours, and culture with their guests and associates.
- In addition, activities such as lei making, ukulele & hula lessons, and Hawaiian history are all offered every weekday in E Makani 'Ehā – their space dedicated to the cultural practitioners and Hawaiian lessons





THE KAHALA HOTEL & RESORT

Honolulu, Hawaii





Reduction of Energy and Water Usage

- A/C and lighting systems for the property are operated on an energy management system.
- A/C programmable digital thermostats installed in guestrooms and automated to shut off when lanai door is open.
- Ceiling fans installed in all guestrooms can be used as an alternative for A/C.
- Blackout drapes installed in all guestrooms replaces 75-watt incandescent bulbs in guestrooms with compact fluorescents with an estimated reduction of approximately
- ✤ 180,000 kilowatt-hours (kWh) per year.
- Heat produced by the chiller system is used to heat swimming pool.
- Variable frequency speed drives installed on major equipment.
- Thermal sliding-glass doors and windows install in all guest rooms.
- Energy Star equipment featuring energy efficient washers and dryers install on property.
- Dryers include dampness sensors.
- High-efficiency hot water heaters install on property for domestic and laundry use.
- High-efficiency motors install in elevators.
- Lighting retrofits on property include high-efficiency fluores control by Control by

Solid Waste Reduction and Recycling

- Communications on recycling efforts to employees.
- Employee contributions including suggestion box, community clean ups, incentives, best practices departmental-wide, health and wellness programs.
- Green waste recycle container (plant material only for compost use).
- Waste cooking oil is collected and processed into bio-diesel fuel.
- Food waste recycling (pig farmer uses waste as animal feed).
- Compost generated in-house from using worms (vermin composting).
- Landscaping utilized to create herb/vegetable garden which provides fresh herbs/vegetables for our restaurants and employee cafeteria.
- ✤ Grass-cycling
- Food & Beverage recycling containers collect aluminum cans, bottles, glass, fiber (office paper, corrugated cardboard, newspapers), wood, and scrap metal. Each month diverts approximately 9.5 tons of recyclable materials from the island's landfills.

Pollution Prevention and Food Service

- No chemicals used near property's lagoon marine life and beach
- Landscaping practices include integrated pest management by choosing biological controls over chemicals through use of traps and barriers
- Boric acid-based products used for its eco-friendly and safe contents
- Recycle toner cartridges for copies and printers.
- Recycle fluorescent bulbs and batteries
- Green Housekeeping products used for cleaning
- Encourage employees to use commuter alternatives and to minimize trips related to operations
- Lockers and showers provided for employees who walk, jog or bicycle to work
- Exterior of hotel and interior guest rooms and corridors painted with eco-friendly paint
- Painted Hills: Burgers served in restaurants on property are made with beef from cattle that are raised on no added hormones and no antibiotics; fed natural products; and raised on a property of the server vegetarian diet

MOANA SURFRIDER A WESTIN RESORT & SPA WAIKIKI BEACH





Reduction of Energy and Water Usage

- Replacement of A/C chiller with high efficiency chiller.
- Installation of heat pumps and exchangers to recover waste heat for hot water.
- Changing of hotel lighting to energy efficient lamps.
- Implemented fully automated building management system to control, monitor and optimize central plant.
- Replacement of pumps and compressors with modern energy efficient equipment.
- Installation of energy saving smart thermostats in all guest rooms.
- Installation of energy glass and/or window film in all guest rooms.
- Installation of Variable Speed Drives on all chill water, condenser water and booster pumps.
- ECM motors installed in walk-in refrigerators and freezers.
- Conversion to low flow toilets, shower heads and other plumbing fixtures.
- Replacement of towels only if guests indicate by placing towels in the bathtub. If not indicated, room attendants neatly fix existing towels on the rack.

Solid Waste, Recycling and Pollution

- Initiation of a recycling program to recycle all wet waste, paper, cardboard, cooking oil, plastic, aluminum, metals and glass
- Paper products in guest rooms are made from recycled paper
- Switching to environmentally-safe water based paints and cleaners
- No aerosol cleaning products are used





THE ROYAL HAWAIIAN A LUXURY COLLECTION RESORT

Waikiki





Reduction of Energy and Water Usage

- Pool heating by using waste heat (condenser water) from chillers.
- Installation of efficient heat pumps for domestic hot water and to pre-cool chill water
- Implemented fully automated building management system to control, monitor and optimize central plant
- Implemented solar thermal system to provide hot water to the tower building and pool heating
- Changing of hotel lighting to energy efficient CFL & LED lamps, completed majority of public areas
- Replacement of pumps and compressors with modern energy efficient equipment
- Installation of energy saving smart thermostats in all guest rooms
- Installation of energy glass and/or window film in all guest rooms
- Installation of Variable Speed Drives on all chill water, condenser water and booster pumps
- Application of energy efficient roof coatings
- ✤ Occupancy sensor lighting in stairwells that dim to 10%.
- ECM motors in walk-in refrigerators and freezers

Solid Waste, Recycling, and Pollution

- Paper products in guest rooms are made from recycled paper
- No aerosol cleaning products are used
- Implemented a waste sorting system separating food from paper waste. Foods collected from trash bins are transported to local farms to be prepared as meals for animals
- Initiation of a recycling program to recycle all wet waste, paper, cardboard, cooking oil, plastic, aluminum, metals and glass
- Switching to environmentally safe water based paints and cleaners





Sheraton°

WAIKIKI





Reduction of Energy and Water Usage

- Pool heating by using waste heat (condenser water) from chillers.
- Installation of efficient heat pumps for domestic hot water and to pre-cool chill water.
- Implemented fully automated building management system to control, monitor and optimize central plant.
- Replacement of pumps and compressors with modern energy efficient equipment.
- Changing of hotel lighting to energy efficient CFL & LED lamps, completed majority of public areas.
- Installation of energy saving smart thermostats in all guest rooms.
- Installation of energy glass and/or window film in all guest rooms.
- Installation of Variable Speed Drives on all chill water, condenser water and booster pumps.
- ✤ Application of energy efficient roof coatings.



Reduction of Energy and Water Usage

- First hotel in Hawaii to install vehicle charging stations.
- Occupancy sensor controlled lighting in stairwells that dim to 10%.
- ECM motors in walk-in refrigerators and freezers
- Changing of bed linens only if guests indicate by placing the "tent card" on the bed. If not indicated, room attendants remake beds using existing linens.
- Replacement of towels only if guests indicate by placing towels in the bathtub. If not indicated, room attendants neatly fix existing towels on the rack.
- Conversion to low flow toilets, shower heads and other plumbing fixtures.



Solid Waste, Recycling, and Pollution

- Paper products in guest rooms are made from recycled paper.
- ✤ No aerosol cleaning products are used.
- Implemented a waste sorting system separating food from paper waste.
- Foods collected from trash bins are transported to local farms to be prepared as meals for animals.
- Initiation of a recycling program to recycle all wet waste, paper, cardboard, cooking oil, plastic, aluminum, metals and glass.
- Switching to environmentally-safe water-based paints and cleaners.



Community Involvement and Activities

- Sheraton Waikiki's Kai Market strives to perpetuate the heritage of Hawaii's multi-ethnic communities that made up the Islands' plantation workforce by recreating time-tested dishes from China, Japan, Korea, Philippines and Portugal
- The hotel also features a living wall of herbs which supplies fresh herbs for the Kai Market



TRUMP® INTERNATIONAL HOTEL

WAIKIKI





Reduction of Energy and Water Usage

- Utilizing a combination of LED and Compact Fluorescent lighting in all guest accommodations, each unit has experienced a 40-50% reduction in energy (Kwh) utilization and cost. All three restaurants in the building have been entirely retrofitted with LED lights, as well as the common area and landscape lighting.
- FAST DR Controlled Energy Load Shed is accomplished via Trane Energy Management System. Certain loads controlled by Hawaiian Electric Company are intermittently shut down for periods of up to an hour at a time. This takes power off the grid for Hawaiian Electric Company and provides the hotel with a projected cost savings per year of \$24,160, while conserving less energy.
- INNcom thermostat system with infrared and wireless technology interfaces with the hotel Property Management System to determine if a unit is occupied. Infrared sensors report lack of activity in a room and tell the system to go to a predetermined unoccupied temperature, and each unit has experienced a 25-30% reduction in energy utilization.



Reduction of Energy and Water Usage

- USES (Universal Shunt Efficiency System) system reduces facility power consumption, provides surge protection, decreases power factor, and extends the life of electrical and electronic equipment in the facility by reducing harmonic imbalance, thereby providing cleaner power and providing the hotel with a projected annual savings of \$169,112, while conserving more energy.
- Low flow toilets, low flow sink faucets, low flow shower heads, and energy and water efficient appliances including washers and dishwashers are installed throughout the property.
- As part of Trump Waikiki's Linen Reuse program, bed linens are changed every other day, unless the guests request otherwise, to conserve water.



Solid Waste Reduction and Recycling

- Trump Waikiki has partnered with Easter Seals Hawaii, naming them as beneficiary of their large-scale recycling efforts. Easter Seals clients with intellectual disabilities are tasked with coming to the hotel to pick up the recycling (glass, cans, plastic bottles.)
- Recyclables are taken off-site and sorted by Easter Seals clients and redeemed for the HI\$.05. The money received from the HI\$.05 are used towards paying the Clients' hourly wage.
- This unique recycling program helps to provide wages to those individuals who may otherwise not have opportunities for employment and promotes more independence for the Clients.
- Corrugated cardboard, office paper, newspaper, wood, glass/metal/plastic containers are recycled.
- Additionally, damaged guest towels and linens are made into rags for housekeeping and shredded paper is used instead of Styrofoam pellets or bubble wrap for packaging needs



Solid Waste Reduction and Recycling

- Food Scraps to Farms and Cooking Oil to Biodiesel Recycling Program - All food scraps from F&B outlets and employee cafeteria are collected and delivered to Al's Hog Farm in Waianae to feed hogs. All cooking oil from F&B outlets and employee cafeteria is donated to Pacific Biodiesel (http://www.biodiesel.com/.)
- Guest Room Recycle Program All guest rooms contain a specific receptacle for guests to recycle metal, glass, and plastic. An instructional card is placed in refrigerator and near kitchen sinks to educate and remind guests to properly dispose of their recyclable containers.
- Digital Media Library Daily newspapers are not distributed to guest rooms. Instead, all guests are provided complimentary access to Trump Waikiki's Digital Media Library, providing access to the NYTimes and Wall Street Journal as well as 2,500 leading magazine and newspaper publications.











Reduction in Energy and Water Usage

- Installed more energy-efficient fluorescent lighting
- Replaced chillers and refrigeration equipment with new units that contain environmentally friendly refrigerants as well as replacing aging air conditioning units with newer energy efficient units.
- Installed variable frequency drives to larger horsepower motors to reduce consumption
- Upgraded air handling pumps, supply fans and exhaust fan motors with premium energy efficient motors
- Upgraded the Energy management system, adding more systems on and expanding load shedding of systems to control demand spiking.



Reduction in Energy and Water Usage

- With new chillers and energy efficient lighting fixtures, the resort recorded an annual savings of \$350,000. In addition, the resort received over \$220,000 in rebates from Hawaiian Electric Company (HECO) as part of the company's Energy\$olutions for Business Program.
- The Waikiki Beach Marriott Resort & Spa has been awarded the Energy Star seal of approval for the third consecutive year, distinguishing it as one of the top 25 percent of environmentally efficient buildings. The award was presented by the United States Environmental Protection Agency (EPA), acknowledging the resort's accomplishment as a top energy performer and recognizing its role in environmental leadership
- Installed water flow-restriction devices
- Changing of bed linens only if guests indicate by placing the "tent card" on the bed. If not indicated, room attendants remake beds using existing linens.
- Replacement of towels only if guests indicate, by placing towels in the bathtub. If not indicated, room attendants neatly fix existing towels on the rack.

Solid Waste, Recycling, and Pollution

- Marriott embraces the popular "reduce, recycle, reuse" philosophy when it comes to handling waste and excess.
- Recycles glass, plastic and other materials since opening day, and have developed creative ways to cut back on unnecessary packaging and paper consumption.
- Donates extra food and supplies to charitable organizations to benefit local communities.
- Uses kitchen oil of approximately 2,600 gallons is recycled monthly to be converted to alternative fuel.
- Replaced existing heating, ventilation and cooling equipment with more efficient systems, often in partnership with local utilities.



Community Involvement and Activity

- Published energy savings tips in Associates' monthly newsletter
- Established Energy Awareness Bulletin Board displaying energy saving tips for daily practice and tracking of monthly recycling tonnage.
- Organized "Spirit to Serve" campaigns, cleaning up the streets, parks, beaches and other public spaces is one of their favorite ways to contribute to the communities in which they live and work.





Lily Koo Hawaii Energy Program Incentives



Hawaii Green Business Program

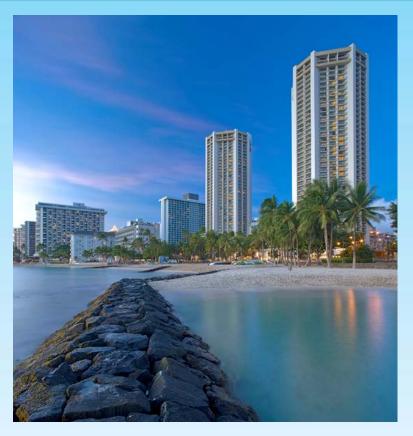
and other announcements

- 2016-2017 Hawaii Green Business Awards Checklists due by the end of January 2017
- Green Business Award Ceremony this Spring 2017
- Recognition ceremonies in Spring and Summer 2016
- Green Hotel Initiative Ten entry level Program
- Green Events Checklist and Event planning
- ENERGY STAR, LEED certification and others
- Questions? Please contact us!





Back of House Site tour Hyatt Regency Waikiki



MAHALO!!!



