Hawaii Green Business Program

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Energy Analyst

WSPPN – GBENN Webinar
September 10, 2014
The Hawai‘i Clean Energy Initiative is leading the way in relieving our dependence on oil by setting goals and a roadmap -

**To achieve 70% clean energy by 2030**
30% from efficiency measures, and 40% from locally generated renewable sources.

http://www.capitol.hawaii.gov/hrscurrent/Vol03_Ch0121-0200D/HRS0196/HRS_0196-0010_0005.htm
More independent and less reliant on fossil fuel and other economies.

Achieve greater energy security.

Help Hawai‘i become more economically stable by keeping an estimated $6 billion in state, that would otherwise go toward foreign oil investments.

Establish a new, green economic sector will help to balance our reliance on tourism and the military.

Position Hawai‘i as a worldwide leader in the clean energy arena and attract more business and expertise to the region.

RPS and EEP Levels

Renewable Generation Increase
Energy Efficient Improvement

2007: 8.9% (6.9%) 9.4% (8.3%)
2008: 15.8% (10.9%) 17.8% (8.3%)
2009: 18.8% (10.9%) 9.5% (8.3%)
2010: 20.4% (10.9%) 9.5% (8.3%)
2011: 24.0% (12.1%) 11.9% (8.3%)
2012: 28.2% (14.5%) 13.7% (8.3%)
2013: 34.4% (16.2%) 18.2% (8.3%)
QUESTIONS:

- How did the Hawaii Green Business program start up?
- What is does the program require?
- Who are the champions, mentors and interns?
- When to partner with public and private sector?
- How to expand via training & outreach?
Hawaii Green Business Program

State of Hawaii – DOH and DBEDT

2000-2001 - DOH P2 Coordinator – Attended WRPPN Conf.

Introduced to the Bay Area Green Business Program and Checklist – Reviewed and Revised to apply to Hawaii

Early 2000 - Researched San Francisco and other local government Programs and Checklists

2002 – First Hawaii Green Business Award Ceremony

2005-08 – Expanded from Hotel/Resort to Office/Retail to Restaurant/Food Service and Government Sectors
Hawaii Green Business Program

**What** – Program that recognizes businesses that go beyond compliance to green their facilities, O&M, and events

**Why** – Receive TA, realize savings, and promotion for efforts + For hotels and resorts, we send travel advisory groups our lists


**How** – Complete checklist / site visit / and agree to mentor

**When** – Recognition Ceremony – July 11, 2014

**Who** – Partners – DBEDT, DOH, BWS, & Chamber of Commerce.
Annual Press/Media Event Recognition Ceremony at the Governor’s Office

Expanded Program from Hotels and Resorts, to Office/Retail and Restaurant/Food Service

Recognized over a dozen businesses and over 10 events this Summer

Lead by Example – Green Government Checklist

Launching a new checklist for Grocery Stores/ Supermarkets

Green Events Checklist

New awards from reclaimed kamani wood from UHM by www.foundwood.com

List with Case studies and Map online and Video
# Hawaii Green Businesses
## Hotels and Resorts

### Oahu Hotels
- Aqua Aloha Surf Waikiki Hotel
- Aqua Bamboo Hotel
- Hale Koa Hotel
- Hawaii Prince Hotel Waikiki
- Hilton Hawaiian Village
- Holiday Inn Waikiki Beachcomber
- Hyatt Regency Waikiki
- JW Marriott Ihilani, Ko Olina
- Kahala Hotel & Resort
- Ko Olina Marriott Beach Club
- Moana Surfrider
- Sheraton Princess Kauai Resort
- Sheraton Waikiki
- Turtle Bay Resort
- Waikiki Beach Marriott
- Wyndham at Waikiki Beach Walk

### Maui Hotels
- Fairmont Kea Lani
- Grand Wailea Resort
- Hyatt Regency Maui Resort & Spa
- Marriott Maui Ocean Club
- Maui Prince Hotel
- Ritz-Carlton Kapalua
- Wailea Beach Marriott Resort & Spa
- Westin Kaanapali Ocean Resort Villas

### Kauai Hotels
- Grand Hyatt Kauai Resort & Spa
- Kilauea Lakeside Estate
- Marriott Waiohai Beach Club
- Sheraton Kauai Resort

### Big Island
- Hilton Waikoloa Village
- Mauna Lani Bay Hotel & Bungalows
2013-2014 Hawaii Green Business Awardees

Aqua Bamboo Waikiki
Aqua Kauai Beach Resort
Grand Hyatt Kauai
Hawaii Island Retreat
Marriott’s Maui Ocean Club
Outrigger Reef on the Beach
The Equus Hotel
The Ritz-Carlton, Kapalua
Wyndham at Waikiki Beach Walk

Blue Hawaii Lifestyle at Ala Moana
Honeywell Smart Grid Solutions
Monkeypod Kitchen at Ko'olina
The Limtiaco Consulting Group
Energy Management and in-room keycard system and gas hot water heater monitoring and control system to save energy;

Reducing electricity use by 24,428 kWh and lowering gas use by 660 therms from 2012 to 2013 saving the hotel roughly $22,000;

Green team serves as a sustainability information hub for guests and associates; and

All of the environmentally related measures implemented at the hotel have helped to simultaneously lower the property’s operational costs and its ecological impacts.
• Retrofit of 919 fixtures from CFL to LED in all hotel floor corridors and installation of an INNCOM system which adds comfort and control to each guest room’s temperature and humidity;

• An option to shift to an energy-conserving mode while guests are not in the room. The hotel also installed an OTIS compass system in all elevators;

• Established partnership with a local nonprofit family service agency Parents and Children Together (P.A.C.T.), through Reynolds Recycling to recycle bottles and cans, then donate a portion of the proceed to P.A.C.T.
Hawaii Green Business Program – Green Hotel and Resort

Remodel
- Glass flower planters with drought tolerant plants
- Move towards farm to table
- Increased natural lighting

Lighting
- 6,000 LED bulbs

Reuse and Recycling
- Old furniture sold to employees at reduced rates
- Recycling a source of income for housekeepers
- In room recycling bins

Cultural Awareness
- Full time cultural ambassador
- Aloha Friday presentations

Green Banquets
- No bottles of water
- No notepad for each person
- Reusable ware
LEED Certified New Hotels/Resorts and Others EB O+M in Hawaii

New Construction Projects – LEED Certified
Disney’s Aulani at Ko Olina – Oahu
Andaz Wailea – Maui

Existing Buildings – Operations and Maintenance – In progress
Moana Surfrider – Oahu
Others – Maui Marriott Ocean Club and Hyatt Maui
USGBC and LEED in Hawaii

- LEED certified residential units: 246
- LEED certified commercial buildings: 80
- Member organizations: 87
- LEED certified square feet: 3 million
- LEED certified K-12 and higher ed projects: 20
- Leed professionals: 1,192
- State rank: Total LEED commercial buildings: 32nd
- USGBC chapter volunteers: 431
Green Business Program: Step-by-Step

1. Contact Us.
The first step is to contact us.

2. Complete Entire Checklist.
Applicants must implement measures within this application which apply to their business.

3. Site Visit and Verification.
Green Business Program: Process

4. **Recognition.**
After the first three steps are complete, applicants will be eligible for recognition. Annual Ceremony in the Governor’s Office.

5. **Maintaining Recognition.**
Improving the efficiency of your facility, helping improve the environment, employee morale, and conserving our resources.
Green Interns - 2011-2012

This project contributes to the State’s Hawai‘i Clean Energy Initiative (HCEI) goal of achieving 70% clean energy by 2030.

The Hawaii Green Business Program (HGBP) has met its goal of reducing water use by 3,400,000 gallons and is working on accomplishing its energy goals and certifying 81 businesses as Hawai‘i Green Businesses.

As a result of the combined efforts of HGBP staff and interns the following reductions in water, energy, and GHG emissions have been achieved:

3,858,141 kWh saved
10,772,337 gallons of water saved
2,904.69 tons of GHG emissions averted
Pollution Prevention
Green Interns
Hawaii Green Events

Hawaiʻi Green Events Checklist

Checklist

Data Verification

Green Event Recognition!

II. Energy & Water Efficiency

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Use naturally lit/dual-flux ventilation lighting, lights or lights that use CFL or LED lighting.</td>
<td></td>
</tr>
<tr>
<td>2. There is signage to encourage staff and guests to use water conservation in restrooms.</td>
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<tr>
<td>3. Event is hosted in an Energy Star, LEED, or LEED certified building.</td>
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<tr>
<td>4. Reduce water usage and waste generation to establish baseline.</td>
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</tr>
<tr>
<td>5. Plan your event (including numbers, dates, times, number of venues and rooms required)</td>
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<tr>
<td>6. Work with the venue to ensure lighting and air conditioning are switched off when not in use.</td>
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<tr>
<td>7. Venue site has occupancy sensors installed.</td>
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<tr>
<td>8. A renewable energy source is used to power part of the event. (e.g., solar panels on building)</td>
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<tr>
<td>9. Venue site has green roof/green wall/drought tolerant plants.</td>
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<tr>
<td>10. Facility has low flow fixtures (faucets, tiles, etc.)</td>
<td></td>
</tr>
<tr>
<td>11. Equipment used is Energy Star, EPA, WaterSense, etc. certified.</td>
<td></td>
</tr>
</tbody>
</table>

III. Catering

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Water is provided upon request in pitchers and/or large dispensers.</td>
<td></td>
</tr>
<tr>
<td>2. Donates excess food (sends food to a charitable organization)</td>
<td></td>
</tr>
<tr>
<td>3. Donates excess food to a charitable organization.</td>
<td></td>
</tr>
<tr>
<td>4. Vegetarian and vegan options are provided.</td>
<td></td>
</tr>
<tr>
<td>5. Attendance is tracked and type of food (e.g., vegetarian) and amount of food is tailored according to final numbers.</td>
<td></td>
</tr>
<tr>
<td>6. Information is provided on the sustainability of the food.</td>
<td></td>
</tr>
<tr>
<td>7. Serve buffet style meals instead of seated lunches.</td>
<td></td>
</tr>
<tr>
<td>8. Serve finger foods that are not individually wrapped and do not require utensils.</td>
<td></td>
</tr>
<tr>
<td>9. The venue has a Green Policie (see resource page for example).</td>
<td></td>
</tr>
<tr>
<td>10. Select fish from certified sustainable fishing methods (see resource page for more info).</td>
<td></td>
</tr>
<tr>
<td>11. Food is partially from local and/or organic vendors.</td>
<td></td>
</tr>
<tr>
<td>12. Have your food &amp; beverage service provider use bulk dispensers for sugar, salt, popcorn, cream, and other condiments.</td>
<td></td>
</tr>
<tr>
<td>13. Ensure food and beverage packaging is recyclable and that it will be recycled.</td>
<td></td>
</tr>
<tr>
<td>14. House of the food from own supply or from organizations like Aloha Harvest or food bank.</td>
<td></td>
</tr>
<tr>
<td>15. Use organic food from own garden or farm.</td>
<td></td>
</tr>
</tbody>
</table>

Please provide product names here or give examples of other noteworthy accomplishments:

E.g., What charitable organization did you donate excess food to?
Green Events Checklist

• Increase Alternate Transportation
  • EV/Fuel Efficient Vehicle
  • Carpool
  • Bicycle
  • Bus

• Decrease Waste
  • Recycle
  • Donations
  • Reuse

A 2006 study of 25 different venues and events in California reported that 2.44 pounds of waste on average is generated per visitor, per day.


There were 320,105 meeting and convention goers that flew into Hawaii in 2012 according to the Hawaii Tourism Authority

http://www.hawaiitourismauthority.org/research/reports/annual-visitor-research/
Recent Events

Travel2Change

TEDx Salon #4

Hawaii Build & Buy Green 2013
# BBG Conf. and Expo Results
## 2013 vs. 2012

### Type of Waste

<table>
<thead>
<tr>
<th>Type of Waste</th>
<th>Weight in lbs.</th>
<th>Type of Waste</th>
<th>Weight (lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardboard</td>
<td>16.8</td>
<td>Cardboard</td>
<td>28.6</td>
</tr>
<tr>
<td>White Paper</td>
<td>48.3</td>
<td>White Paper</td>
<td>34.7</td>
</tr>
<tr>
<td>Bottles &amp; Cans</td>
<td>7.5</td>
<td>Bottles &amp; Cans</td>
<td>3.1</td>
</tr>
<tr>
<td>Standard Trash</td>
<td>119.5</td>
<td>Standard Trash</td>
<td>357</td>
</tr>
<tr>
<td><strong>Total Weight</strong></td>
<td><strong>192.1</strong></td>
<td><strong>Total Weight</strong></td>
<td><strong>423.4</strong></td>
</tr>
<tr>
<td>Weight per person</td>
<td>1.0</td>
<td>Weight per person</td>
<td>1.3</td>
</tr>
<tr>
<td>Diverted Weight</td>
<td>72.6</td>
<td>Diverted Weight</td>
<td>66.4</td>
</tr>
<tr>
<td><strong>Diversion %</strong></td>
<td><strong>38%</strong></td>
<td><strong>Diversion %</strong></td>
<td><strong>16%</strong></td>
</tr>
</tbody>
</table>

### Type of Vehicle

<table>
<thead>
<tr>
<th>Type of Vehicle</th>
<th>Respondents</th>
<th>Type of Vehicle</th>
<th>Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Occupant Vehicle</td>
<td>34</td>
<td>Single Occupant Vehicle</td>
<td>36</td>
</tr>
<tr>
<td>Bicycle</td>
<td>4</td>
<td>Bicycle</td>
<td>2</td>
</tr>
<tr>
<td>Bus</td>
<td>5</td>
<td>Bus</td>
<td>10</td>
</tr>
<tr>
<td>Low Emissions Vehicle</td>
<td>7</td>
<td>Low Emissions Vehicle</td>
<td>11</td>
</tr>
<tr>
<td>Moped/Motorcycle</td>
<td>3</td>
<td>Moped/Motorcycle</td>
<td>4</td>
</tr>
<tr>
<td>Carpool</td>
<td>19</td>
<td>Carpool</td>
<td>22</td>
</tr>
<tr>
<td>Walk/Run/Jog</td>
<td>7</td>
<td>Walk/Run/Jog</td>
<td>5</td>
</tr>
<tr>
<td><strong>Total Alternate</strong></td>
<td><strong>45</strong></td>
<td><strong>Total Alternate</strong></td>
<td><strong>54</strong></td>
</tr>
<tr>
<td><strong>Total Responses</strong></td>
<td><strong>79</strong></td>
<td><strong>Total Responses</strong></td>
<td><strong>90</strong></td>
</tr>
<tr>
<td><strong>Response Rate</strong></td>
<td><strong>41%</strong></td>
<td><strong>Response Rate</strong></td>
<td><strong>28%</strong></td>
</tr>
<tr>
<td><strong>Total Alternate Rate</strong></td>
<td><strong>57%</strong></td>
<td><strong>Total Alternate Rate</strong></td>
<td><strong>60%</strong></td>
</tr>
</tbody>
</table>

### Response Rate

- **2013**
  - Total Alternate Rate: 57%
  - Total Responses: 79
  - Response Rate: 41%

- **2012**
  - Total Alternate Rate: 60%
  - Total Responses: 90
  - Response Rate: 28%
Industry-wide accepted certifications:

**ENERGY STAR** - a joint program between the US EPA & DOE to certify products and buildings that are EE have relatively low energy consumption.

**WaterSense** - sponsored by the EPA to help consumers identify water efficient products and programs.

**Green Seal** - takes a life cycle assessment approach to certify products that are of little or no impact to human health and the environment
Top 10 Ways to Save

• **Energy Conservation**
  - Replace interior incandescent lamps w/CFLs or LEDs
  - Purchase ENERGY STAR equipment and products
  - Benchmark using ENERGY STAR Portfolio Manager

• **Water Conservation**
  - Install ‘High Efficiency’ aerators and fixtures
  - Offer linen & towel reuse option for guests
  - Use energy & water efficient washers

• **Solid Waste Reduction & Recycling**
  - Purchase 50% to 100% RC tissues & toilet paper
  - Recycle paper, cardboard, metal, glass, plastic
  - Provide recycling containers

• **Pollution Prevention**
  - Use green cleaning products and hard surface finish material / furniture
What are Certified Products?

Certified products are products that have been verified by an independent third party to meet established environmental standards. The following are the ones most commonly used in association with green cleaning:

Training and Outreach

• Webinars – WSPPN 2014 and 2014 Green Leaders Programs and promote ENERGY STAR and Water Sense

• Forums – Green Hotel Forum & HLTA Engineers Council and Hotels and Presentations at IEHA and TMC

• Conferences and Expos – Build and Buy Green and Pacific Building Trade Expo – Co-sponsor with USGBC Hawaii, AIA, CSI, BIA, GCA, ULI, and others

Partners:
Others - Building, Design and Engineering, Development +
UH Cancer Center
<table>
<thead>
<tr>
<th>Time</th>
<th>Agenda</th>
<th>Speaker</th>
<th>Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:45 - 8:15 AM</td>
<td>Registration and Continental Breakfast</td>
<td>Jason Selley</td>
<td>USGBC Hawaii</td>
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<tr>
<td></td>
<td>UH Cancer Center - Sullivan Conf. Center</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Welcome</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8:15 AM</td>
<td><strong>Keynote: Getting to Net Zero</strong></td>
<td>Ralph Di Nola</td>
<td><strong>New Buildings Institute</strong></td>
</tr>
<tr>
<td>9:15 AM</td>
<td><strong>Case Study Projects - Opportunities and Challenges</strong></td>
<td>Katrina Morgan</td>
<td><strong>Fermata Consulting</strong></td>
</tr>
<tr>
<td></td>
<td>LEED ND in Kakaako</td>
<td>Kevin Luoma</td>
<td><strong>WSP Hawaii</strong></td>
</tr>
<tr>
<td></td>
<td>UH Cancer Center</td>
<td>Brian Kealoha</td>
<td><strong>Chevron Energy Solution</strong></td>
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<td></td>
<td>Ka Hei</td>
<td></td>
<td></td>
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<tr>
<td>10:15 AM</td>
<td><strong>Break - 15 mins</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:30 AM</td>
<td><strong>Living Futures - The Net Positive Impact Program &amp; Projects</strong></td>
<td>Malia Kaaihue</td>
<td><strong>OHA</strong></td>
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<tr>
<td></td>
<td>Cultural Planning for Ward Village</td>
<td>Robert Perkinson</td>
<td><strong>UHM American Studies</strong></td>
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<td></td>
<td>Obama Presidential Center</td>
<td>Martin Deshpande</td>
<td><strong>UHM Architecture</strong></td>
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<td>UH Living Bldg. Challenge Projects</td>
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<tr>
<td></td>
<td>ILFI - Net Positive - Bullitt Center</td>
<td>Katrina Morgan</td>
<td><strong>Fermata Consulting</strong></td>
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<tr>
<td>11:30 AM</td>
<td>&quot;There's An App For That&quot;</td>
<td>Gene Wang</td>
<td><strong>People Power</strong></td>
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<td></td>
<td>People Power</td>
<td>Alex Berge</td>
<td><strong>Livesift.com</strong></td>
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<tr>
<td></td>
<td>Civic Tech</td>
<td>Royce Jones</td>
<td><strong>Esri</strong></td>
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<tr>
<td></td>
<td>Mapping</td>
<td></td>
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<tr>
<td>12:30 - 1:30 PM</td>
<td><strong>Lunch</strong></td>
<td></td>
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<tr>
<td>1:30 - 2:30 PM</td>
<td><strong>Shared Spaces and Programs</strong></td>
<td>Rechung Fujihira</td>
<td><strong>BoxJelly</strong></td>
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<td></td>
<td>BoxJelly</td>
<td>Wei Fang</td>
<td><strong>Interisland Terminal</strong></td>
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<td></td>
<td>Kaka’ako Agora</td>
<td>Shanah Trevenna</td>
<td><strong>Impact HUB</strong></td>
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<td>Impact HUB</td>
<td>Asia Yeary</td>
<td><strong>US EPA Region IX</strong></td>
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<td></td>
<td>Multi-Modal Transportation Options</td>
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<tr>
<td>2:30 - 3:30 PM</td>
<td><strong>Sharing Case Studies in Green Building</strong></td>
<td>Mike Hill &amp; Russel Wozniak</td>
<td><strong>UHM School of Architecture</strong></td>
</tr>
<tr>
<td></td>
<td>Architecture for Humanity</td>
<td>Karen Shishido</td>
<td><strong>Trinity Management Group</strong></td>
</tr>
<tr>
<td></td>
<td>LEED Community Projects</td>
<td>Greg Wong &amp; Ryan Rutenschroe</td>
<td><strong>USGBC Hawaii Chapter</strong></td>
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<tr>
<td></td>
<td>Existing Building LEED O+M Project</td>
<td>Yoshi Honda</td>
<td><strong>US CAD</strong></td>
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<td></td>
<td>Tally App</td>
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<tr>
<td>3:30 - 4:30 PM</td>
<td><strong>USGBC HI Community Visioning + Crowd Sourcing Installations</strong></td>
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</table>
Hawaii Green Business
Green Hotel Forum

Thursday, September 18, 2014
from 8:30 - 11:30 am

Co-sponsored by Hawai‘i Lodging
& Tourism Assn’s Engineers
Council & Hawaii Green Business
Program

Hosted @ the Outrigger Reef on the Beach in Waikiki, Oahu

w/ Hawaii Energy and the Food Recovery Challenge

Presenters-Recent awardees:
- Aqua Bamboo Waikiki
- Outrigger Reef on the Beach
- The Equus Hotel
- Wyndham Waikiki Beach Walk
- Monkeypod Kitchen Ko Olina
- Aqua Kauai Beach Resort
- Grand Hyatt Kauai
- Ritz-Carlton, Kapalua
Mahalo

Gail Suzuki-Jones

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