

UH-Maui College, Office of Continuing Education and Training

The Sustainable Living Institute of Maui

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Supporting Maui's Businesses and Organizations in their Sustainability Efforts: A Survey Report of their Practices and Needs

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EXECUTIVE SUMMARY

Has Hawaii's sustainability movement reached its tipping point? According to a recent MIT Sloan Management Review study of 3000 company executives worldwide this is the point at which "a substantial portion of companies are not only seeing the need for sustainable business practices, but are also deriving financial benefit from these activities"¹. This MIT study seemed to think the tipping point has been reached with 70% of their respondents having put sustainability on their management agendas within the past 6 years, and a third having shown a profit by doing so.

With many supports already in place locally, at the state level and nationally, this survey of 124 Maui businesses and organizations was designed to see to what extent Maui businesses and organizations are players in this promising scenario. Additionally, what role can and does the Sustainability Training Program of the University of Hawaii, Maui College's (UH-MC) Office of Continuing Education and Training (OCET), and the Sustainable Living Institute of Maui (SLIM) play in supporting businesses and non-profits in their sustainability efforts, while also promoting green job creation?

METHODOLOGY AND PARTICIPANTS

Funded by the State Energy Sector Partnership (SESP), which also funds UH-MC's sustainability training program, and using an in-depth survey by phone and in person, a team of two consultants interviewed 36 business owners and 72 business managers as well as 16 non-profit organization directors. The depth of survey questions was meant to create a qualitative rendering of the survey participant's sustainability efforts.

Participants were chosen randomly from a list of Maui businesses and organizations with 10+ employees. The size of the facility was also a choice factor since 40% of

¹ <http://sloanreview.mit.edu/feature/sustainability-strategy/>

RECOMMENDATIONS

***Build collaborations with multiple partners to provide coordinated assistance to Maui businesses in their future sustainable practice improvements**

***Continue to strive for easy access, targeted help and reliable responsiveness to stated business and workforce needs**

FURTHER PROGRAMMING

***Develop and find funding for additional programs that offer the support components of greatest interest to the respondents. Continue the SLIM pau hana series, focusing on subjects identified as being of greatest benefit**

***Include training for businesses in developing continual improvement plans. This practice could be a beneficial addition to good resource management and could be part of the recommendations offered by externs**



national energy use is from larger commercial facilities (and residences).

The types of businesses surveyed were across the spectrum including retail (27), hotel and lodging (17) restaurants (11), construction (8), and manufacturing (7). Others included medical facilities, golf courses and condo associations. Twelve were non-profit organizations or schools.

FINDINGS

What Changes Have Been Made?

94% of respondents (116) have already made money-saving changes in their business or organization through adoption of sustainable practices:

- **80%** (100) of those had made changes in their **lighting**:
 - many have switched to LEDs
 - others CFLs
 - some have changed ballasts.
- **83%** (103) have made changes in their **recycling** practices including:
 - Glass, plastic and cans (103),
 - cardboard and pallets (82) and
 - composting (43).
 - 25 restaurants and hotels are using bio-degradable packaging and containers.
- **52%** had made changes in **air conditioning and/or ventilation**
- **81%** in **water conservation**, including major changes in:
 - irrigation practices (50) and
 - water saving measures (53) low flow faucets and toilets,
 - a move from bottled water to filtered drinking water (51).
 - All 7 manufacturers had made changes in the water they use in their manufacturing process.

RECOMMENDATIONS

EXTERNSHIPS

*Develop a well-coordinated, well-supervised paid internship (“externship”) program to identify cost-saving improvements for interested businesses while giving green technology trainees real world experience

*Provide extern assessments that are broad-based, including energy efficiency, water conservation, managing of waste streams, green products

*Train externs well in both technical and soft skills leading to greater employability and professionalism. Emphasize strategies to present a viable business case

*Ask businesses to: a) give careful consideration to externship assessment recommendations, b) give a testimony for the program, and c) offer an honest referral for the externs

*Capitalize on Building Operator Certification (BOC) trainees preparedness to provide complex energy efficiency techniques and savings by promoting and linking these trainees/externs to the appropriate businesses.



- ❖ Currently, 26 (21%) of our respondents have installed **solar PV**,
- ❖ 23 (19%) have switched to **solar hot water**.
- ❖ 2 respondents had installed **wind systems**.

There have been 127 changes made in the area of **green building standards** including in day lighting (20), landscaping (24), sustainable building products (17), emissions reduction (8), insulation for heat reduction (30), fans (25) and 3 were using a cement product that allows the water to seep through into the ground.

What Level of Savings Have Been Achieved?

There were many more who've achieved savings, but did not have actual amounts readily available. Of those who did:

- ❖ Total actual monetary savings by 25 respondents across all categories of savings = **\$1,399,628**.
- ❖ 8 respondents had calculated their savings by reduction in kilowatt-hours, showing an average **20% reduction in kWh** through the changes they'd made.

The larger the facility, both in square footage and in number of employees, the more likely aggressive sustainability and cost-saving improvements have been made and tracked to document the savings.

Who Has Helped With These Changes?

- ❖ **33 respondents (27%)** said 'Yes' to **having paid staff** (including themselves) **focused on sustainability**.

Some mentioned that corporate had moved in this direction and were sending specialists in to help.

- ❖ **71 (57%)** of all respondents said they **had hired independent specialists**.

The types of specialists varied, including solar experts,

RECOMMENDATIONS

PUBLICIZE FINDINGS

*Publicize the results of the survey to inform the Maui business community and County officials of the level of interest that already exists

*Publicize the results of intern assessments, implementation results, cost-savings, to build businesses awareness of and interest in both internships and improvements

RESEARCH AND EDUCATION

*Clarify and promote all options for funding and installing solar and wind so that these options may be affordable for smaller businesses

*Track and educate about the future of subsidies for renewable energy to foresee, to the extent possible, the potential change in or end of these subsidies

*Clarify and educate about circuit levels and caps, battery options, and all details regarding the grid and its ability to receive additional un-firm renewable energy from businesses

*Promote all possible solid waste management options for business currently available



water feature consultants, energy consultants, and landscaping consultants.

What Are Their Future Sustainable Practice Plans?

There were 768 cited instances where managers and owners expressed a desire for a future change or information about a possible change. The most frequent mentioned area of desired change was in energy efficiency through improvements in:

- ❖ **Lighting (47%)** - 58 out of 124 respondents – many wanted cheaper, more efficient, and more spectrum choices in LEDs
- ❖ **Air Conditioning and Ventilation (46%)** - 57 out of 124 respondents
- ❖ **Motors and Pumps (20%)** – 25 out of 124 respondents and many mentioned wanting to investigate variable speed motors
- ❖ **Unintended Electricity Draw (phantom load) (48%)** – 60 out of 124 respondents and some expressed interest in remote switches

There was also a keen interest in renewable energy, particularly **Photovoltaics (PV)**

- ❖ 69 respondents (**56%**) named **PV** as an area where they would like to make a change.

Interest in exploring **Water Conservation:**

- ❖ **87 (70%)** respondents said they would like to improve on their water conservation efforts, and

Some wanted to explore changes in managing **Waste Streams:**

- ❖ **74 (60%)** were interested in recycling, composting, and furniture recycling

RECOMMENDATIONS

OUTREACH

*Identify model businesses and offer tours, and presentations to promote what they've done and how much they've saved

*Identify model arrangements presently in place on Maui for landlords, tenants, condo associations and non-profits that successfully make the most of State and Federal tax credits and incentivize those entities to consider solar

*Consider a strategy for reaching out to corporate headquarters to help engage them in the local Maui sustainability effort. Recognize that corporate leaders are not always on the same page as local management

*Maintain contact with the business community by continually offering value. For example, brief monthly information emails pertinent to sustainability for business sent out to the SLIM email list. Continue to be a presence that represents support and information

RESPECT

*Respect the privacy of the businesses. Ask permission to contact them about opportunities

*Recognize and acknowledge businesses for what they have already done in sustainability improvements



Who Might Help With These Future Changes?

Thirty-four % (42) of owners and managers said they would **'periodically hire an independent consultant** to help with green upgrades that might save money' (with owner or corporate permission, if it were needed). Thirty-three said they might.

When asked, if they would consider **hiring a new employee trained in green assessment and improvement technologies that could provide ongoing improvements to their facility**, **25 (20%)** said **'yes'** and **27** said **'maybe'**.

79 out of 124 respondents (64%) said they were **interested in having a sustainability assessment done on their facility**, while an additional 18 said they might be interested.

Interest in a UH-MC Sustainable Assessment Intern

72 said they would consider having an **assessment done by a supervised intern** from UH-MC sustainability classes, and an additional **22** said **'Maybe'**. **Twelve were willing to pay for the intern's time**, and **28** said **they might be willing to pay**.

Interest in a Continuous Improvement Plan

When asked: "if it were money saving or would conserve island resources, how willing are you to develop sustainability goals and a continuous improvement plan over time to measure savings and return on investment", **75 (60%)** said they were **'somewhat' to 'very willing'**.

What Types of Supports Are Desired?

When offered a series of support components, many businesses saw them as beneficial. **Seventy to 80%** said **'Yes'** when asked if they were interested in:

- ✓ networking with other businesses that are making improvements,
- ✓ building a stronger relationship with UH-MC and using interns,
- ✓ hearing from sustainability experts in their areas of interest,
- ✓ access to discounts on green products, and
- ✓ updates on key environmental legislation.

The highest percentage, **81%**, wanted **knowledge of 'proven' green technology**.

50- 65% were interested in:

- ✓ visits to model business sites already incorporating green practices,
- ✓ learning about media advertising venues that support green businesses,
- ✓ community recognition for being a leader in moving toward more sustainability practices,



- ✓ potential discussions with County and State officials, and
- ✓ involvement in creating legislation that strengthens the use of sustainability principles.

Interest In SLIM's Green Business Series:

79% (93) of respondents were **interested in attending sustainability presentations** offered by OCET and SLIM. The subjects of most interest were energy efficiency (89), water conservation (76), renewable energy (72), and waste reduction (65).

Benefit for Being Green

Ninety-seven (78%) said 'Yes' and 12 said 'Maybe' when asked if they would **“benefit from being seen as green by their customers”**. The majority were from retail (38) followed by hotel and lodging (14), restaurants (8) and construction companies (7).

CONCLUSIONS

On the whole, the business community recognizes the cost benefits of 'going green'.

Some larger businesses and franchises of national corporations are already focused on sustainability and investing in improvements and don't see a need for local support. Others do and would like to work with the college.

Smaller local businesses see the value of sustainability improvements and are eager to find cost-effective ways to implement them.

94 out of 124 respondents expressed some interest in UH-MC interns providing a sustainability assessment and making recommendations for improvements.

Other than the larger resorts, **opportunities for sharing successes, failures and information about sustainability practices are not taking place between businesses.**

Many businesses are not tracking their specific energy uses and improvement savings in order to quantify the cost benefit of sustainability upgrades. This practice could be a beneficial addition to good resource management and could be part of the recommendations offered by interns (externs).

MECO pricing goads people and may get in the way of motivations to make improvements. Despite energy efficiency improvements, rates keep climbing, appearing to negate the improvement.



PV is recognized as a major benefit and long-term savings. Those owning their own buildings installed the majority of PV systems. Many of the renters lamented this, and wanted more incentives for landlords to switch to renewable energy options.

The first of its kind in Hawaii, the Building Operator Certification training has been offered twice at UH-MC's SLIM-OCET sustainability training program. This training prepares trainees to do the sophisticated assessments needed by some of the more complex facilities reflected in the business survey.



A MODEL FOR IMPLEMENTING RECOMMENDATIONS





SUPPORTING MAUI'S BUSINESSES AND ORGANIZATIONS IN THEIR SUSTAINABILITY EFFORTS:

A SURVEY REPORT OF THEIR PRACTICES AND NEEDS

I. BACKGROUND

The Hawaiian Islands seem poised for a green economic explosion. The potential for success is no more evident than on the island of Maui where clean energy projects are being initiated daily and industry seems to be increasingly on board with protecting fragile island resources. Studies² show that a robust business participation will be critical in making the successful transition to clean and local energy, in assuring environmental sustainability, and is predicted to create an economic boom in those communities that step up to the challenge.³ What local, state and national supports are in place currently to assure this boom and what kinds of assistance will make such participation possible?

Government Commitments

Maui County's Mayor's Office, the Hawaii Governor's Office and the Hawaii State Legislature have made major commitments to alleviate our County and State's nearly total reliance on fossil fuels. Aggressive goals were set within the Hawaii Clean Energy Initiative (HCEI) to transition our State to renewable, efficient, and clean energy⁴.

Energy Efficiency Education, Incentives and Rebates (Hawaii Energy)

In 2009, Science Applications International Corporation (SAIC) was awarded a contract with the Hawaii Public Utilities Commission (PUC) as the Program Administrator for the Hawaii Energy Efficiency Program. Now called "Hawaii Energy", SAIC uses education in conservation, energy efficiency, and demand side management along with rebates and incentives to help Hawaii residents and businesses become more energy efficient⁵. A new 2-year contract was awarded to SAIC in 2011 through December 31, 2013. Maui now has a local program specialist, Walter Enomoto, enomoto@saic.com to help Maui companies with their energy efficiency needs.

² <http://sloanreview.mit.edu/innovation-hubs/sustainability/>

³ <http://energy.gov/articles/energy-department-and-department-commerce-announce-13-million-clean-energy-workforce>

⁴ <http://www.bizjournals.com/pacific/blog/2012/01/abercrombie-clean-energy-crucial-to.html>

⁵ www.hawaiienergy.com



Hawaii Green Business Program: Need for a Local Version on Maui?

The State Department of Business, Economic Development & Tourism (DBEDT) in conjunction with the Hawaii Chamber of Commerce created the *Hawaii Green Business Program* to encourage businesses to meet and implement energy efficiency and other sustainable business practices and goals. At the neighbor island level, both Kauai⁶ and the Big Island⁷ have locally based green business programs. However, currently no similar program exists on the island of Maui. The Maui Chamber of Commerce does have a “green committee”. Is there a need for a Maui Green Business Program?

The Role of Buildings

The market research and consulting firm Pike Research issued a report in January 2010 projecting green revenue growth from \$5.6 billion in 2009 to \$19.9 billion by 2020, primarily **due to untapped demand for energy efficiency in private commercial buildings**. The U.S. Department of Energy’s *Better Buildings Initiative* has a goal of improving energy efficiency nationwide in commercial and industrial buildings by 20% by 2020, reducing energy costs by nearly \$40 billion, and creating jobs using this model of approach⁸. Their current funding RFP seeks to encourage partnerships between green technology training programs (especially in community colleges) and commercial building professionals, providing the critical skills needed to optimize building efficiency, reduce waste, and save money. UH-Maui College is poised to be a good candidate for this funding.

Green Jobs and the Role of the College

A 2010 random sample of 4008 Hawaii business worksites⁹ showed that “community colleges and trade schools are said to fulfill 62% of the education and training requirements for reported green jobs¹⁰.”

In 2008, Hawaii’s State Department of Labor and Industrial Relations (DLIR) /Workforce Development Council received a U.S. Department of Labor, American Recovery and Reinvestment Act (ARRA) grant designed to help states build their renewable energy

⁶ <http://malamakauai.org/>

⁷ <http://www.kona-kohala.com/Kuleana/kuleana-green-business-program.html>

⁸ <http://www1.eere.energy.gov/buildings/betterbuildings/>

⁹ *Hawaii’s Green Workforce: A Baseline Assessment*, State of Hawaii, Department of Labor and Industrial Relations, Research and Statistics Office (December, 2010).

¹⁰ **Green jobs include** construction, professional services, administrative and support, waste management and remediation and can include janitors and cleaners, forest and conservation technicians, security guards, electricians, heating and air conditioning mechanics and installers, facility managers and general managers. (IBID: December, 2010 p.5).

Green jobs are defined as engaging in at least one of five core green areas: 1) Generate clean, renewable, sustainable energy; 2) Reduce pollution and waste, conserve natural resources, recycle; 3) Energy Efficiency; 4) Education, training and support of green workforce; and 5) Natural, environmentally-friendly production. (IBID: December, 2010,p. 5).



and energy-efficiency industries— to create green jobs and fuel a green economy. Out of the grant, the State Energy Sector Partnership (SESP) was formed.

In 2010, Maui Economic Opportunity (MEO) subcontracted SLIM and OCET at UH Maui College to participate in a grant from DLIR to offer a series of non-credit sustainability trainings to area residents. Following the success of these programs in 2010, SLIM and OCET were provided additional funding from the State Energy Sector Partnership (SESP) to continue and build on the sustainability-related training programs. To date, SLIM and OCET have conducted over 20 green technology training programs that have helped to build a stronger, greener workforce in Maui County. The trainings include photovoltaic (PV) installation and design, advanced PV, PV technical sales, small wind energy, solar hot water, commercial energy management, small business and residential energy management, green building and LEED exam preparation, water efficiency, and conservation and sustainable business practices.

The Building Operator Certification training was introduced on Maui in 2010. BOC is an energy efficiency training and certification program in commercial energy auditing that is licensed by SLIM from the NorthWest Energy Efficiency Council (NEEC). Topics include facility electrical, HVAC and lighting systems, indoor air quality, environmental health and safety, and energy conservation. BOC is for building engineers, HVAC technicians, electricians, maintenance workers, building managers, and others involved in running a facility. BOC graduates have been found to save money for commercial and institutional buildings by improving the energy efficiency of lighting, heating and cooling systems, and by enabling operators to be proactive in complying with environmental regulations affecting facility operations and maintenance. On average, students who complete the BOC program save \$20,000 annually on energy bills for their companies through energy efficiency techniques (www.theboc.info/w-energy-savings.html).

Results of Recent Survey of Employment Prospects for Trainees of Sustainable Technology Training Programs at Maui College

In November of 2011, The Sustainable Living Institute of Maui (SLIM) and the Office of Continuing Education and Training (OCET) contracted two consultants to conduct a survey of the 147 trainees who'd completed one or more of ten SESP sustainability training programs offered at UH-Maui College between January, 2010 and November, 2011 including: Photo voltaics (PV), Energy Management (EM) or Green Building Standards (LEED)¹¹. Ninety-seven out of 147 responded to the survey.

¹¹ A Survey of UH-Maui College Sustainability Program Participants, UH-Maui College Office of Continuing Education and Training (OCET) and the Sustainable Living Institute of Maui (SLIM), January (2012).



Two purposes of the student survey were to determine **job status** since completing the training and **interest by potential and existing employers** in the trainees' newly acquired green technology credentials. Results showed of the 97 interviewees:

- **Twenty-three (24%)** of the trainees **said they'd gotten jobs** as a result of their training.
- **16 respondents** said that their **potential or current employers were interested in their training.**
- **5 out of 40 incumbent worker/trainees said they'd gotten raises or promotions** as a result of the training and
- **3 of the self-employed said that their business had expanded** as a result of the training.
- **24 internships, mostly through UH-Maui College were arranged with area businesses. Four of those were hired by the business** with whom they interned and are included in the 23 above.

Those survey participants who were currently unemployed (19) or not employed in the field they'd trained in, expressed a desire to have more hands-on experience within the class to demonstrate green technology job readiness to potential employers.

Full Circle: The Need to Survey Maui Businesses

Having completed the trainee survey, UH-Maui College's OCET and SLIM program administrators believed there was a need to forge a stronger relationship between the green technologies training program and Maui's business community. It was important to determine Maui business owners' and managers' interest in improving their green practices and how the college could help them with these improvements using present and future resources.

Another survey was designed to discover if it is possible that an integral connection could be forged between our State's clean energy goals, our environmental imperative to preserve island resources, a Maui College ready to provide information and technical assistance, and a healthy, vibrant and sustainability-focused Maui business community.

II. INTRODUCTION

A. WHAT DID WE HOPE TO LEARN?

This second survey and the basis for this report was also funded by the State Energy Sector Partnership (SESP) under the supervision of the Office of Continuing Education and Training (OCET) and the Sustainable Living Institute of Maui (SLIM) to discover:



- what types of sustainable practices Maui businesses and non-profits have been engaged in, with what level of savings.
- What kinds of future sustainable practice plans they have and in what areas and
- who works on these changes within a facility,
- what types of help have businesses and non-profits sought in assessing and applying sustainability practices, and
- what types of help would they seek in the future?
- Would there be interest in receiving a sustainability assessment by a supervised UH-MC green technology trainee intern to address future plans?

The survey was also trying:

- to define the other types of supports that businesses and non-profits would like to have including training for incumbent staff in green technologies and in what areas, and
- to acquaint businesses with the Sustainable Living Institute of Maui's (SLIM's) green business pau hana series and determine their interest levels.

B. WHAT WAS THE SURVEY METHODOLOGY?

The questions for the survey were formulated by the contracted consultants with input from OCET staff, SLIM staff, the Maui Workforce Investment Board Director, and the local Manufacturing Extension Partnership (MEP) representative.

Whenever possible the survey was delivered in person or on the phone. The survey was conducted with owners and managers who could answer key questions about the facility's energy use, sustainability improvements, planned changes and savings garnered. Despite the survey taking up to 45 minutes, all but a few business leaders were willing to take the time, and we found the majority happy to provide more details than could have been hoped for

C. WHO DID WE REACH?: RESPONDENT PROFILES

1. NUMBERS AND TITLES

One hundred and seven (107) of our survey participants were businesses, 16 were non-profit organizations, and one was a State facility.

Most business respondents to the survey were either general managers (69) or owners (36).

The rest were "District or Regional Managers", "Heads of School/Executive Directors/Unit Directors", "Chief Engineer/Maintenance Manager/Environmental



Coordinators”, Property Managers, “Directors of Golf”, and a “Director of Marketing or Sales”.

2. CATEGORY OF BUSINESS

The following chart shows how many responded and from what types of Maui businesses and organizations (see appendix for full list of participants):

Categories of Survey Participants

Hotel & Lodging	21
Retail	17
Restaurants	11
Manufacturing	7
Grocery Stores	10
Construction	8
Golf Courses	5
Medical	6
Schools & Non-profits	14
Property Management	4
Other- Employment services, nursing homes, media, galleries, banks, realtor, solar companies, car rental agencies,	21



Issue: One of the drawbacks of focusing on larger businesses is that any specific needs of small businesses might be left out.

Possible Solution: If funding becomes available to provide free sustainability assessments, an effort will be made to seek out small businesses as well. In fact, some of the green technology trainings are more apt to produce graduates capable of doing sustainability assessments in small business and residential settings.

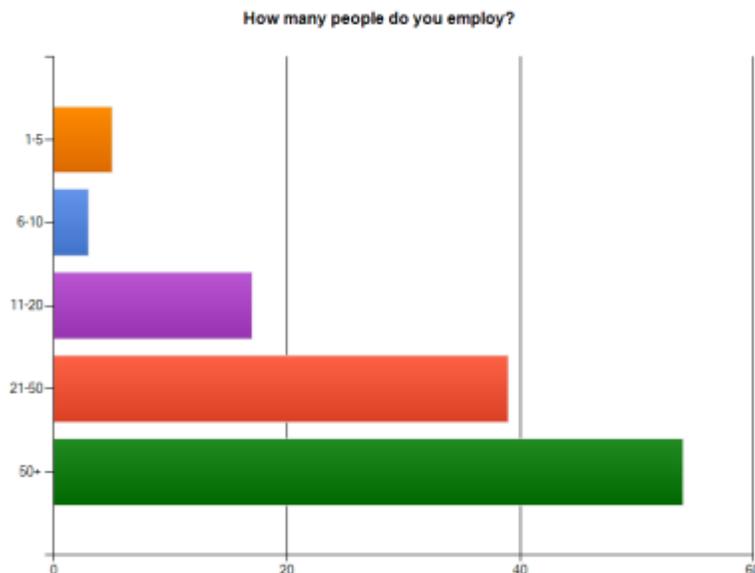
3. NUMBER OF EMPLOYEES

Our initial target was businesses with 20+ employees and in the second round, 10+. The chart below shows the majority of our respondents employing 50 or more (we had one company with 1400 employees), followed by the 21-50 range. We also spoke with 8 businesses or organizations with fewer than 10 employees. It was decided to survey businesses with 10+ employees based on the following reasons:

- 40% of energy used in the U.S. are in commercial facilities and households¹²
- Larger facilities have more to gain through adopting sustainability practices and may be better able to afford changes
- Larger employers are more likely to

consider paying someone to help with sustainability assessments and follow through by implementing recommendations

- Larger facilities may be better able and more motivated to afford release time for training for their employees.



¹² http://apps1.eere.energy.gov/buildings/publications/pdfs/corporate/bt_stateindustry.pdf

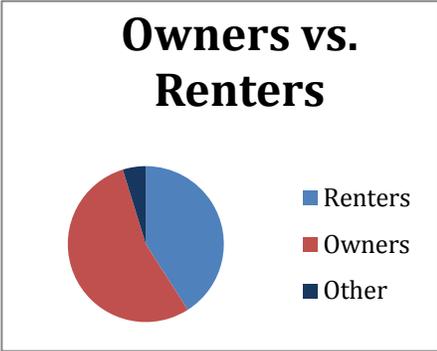


4. SIZE OF FACILITY

The size of participant’s facilities ranged from a 900 square ft. condo association office all the way up to a 690,000 square foot resort and a 275-acre golf course.

5. RENTERS VS. OWNERS

Of the 124 survey participants, 64 (57%) were owners, 53 (43%) were renting or leasing their facility, and 7 had other arrangements, for instance as property managers.



6. WHO PAYS THE UTILITY BILLS?

There was very little difference between renters and owners as to who pays utility bills. Of those who rent, 100% pay their own electricity bill and 92% their own water bill. All renters who said they have a gas bill pay it themselves, and 97% of renters said they pay for their own trash and recycling. Building owners generally pay for the common space electric, water, sewage and trash. Their tenants, if they rent out space, are expected to pay their own electric and trash. Sometimes water, sewage, trash and recycling are included in the CAM (a rent maintenance supplement) for tenants, and the utility bills go to the owners.

III. WHAT DID WE LEARN FROM THE DATA?

A. WHAT ARE THEIR HIGHEST AREAS OF ENERGY USE?

Areas of highest energy use will vary based on the organization’s type of operation. For instance, golf courses said their highest area of use was both the cost of pumping water for their irrigation, followed by the electricity to charge their golf carts. Hotels and resorts said laundry was their highest area of electricity use, followed by air conditioning and lighting and then refrigeration, cooking and baking if they have a restaurant on premises.

Most grocery stores said their highest energy use was for refrigeration, which was often also their means of air conditioning, due to their open coolers. Retail stores said lighting was their largest energy drain, while restaurants said it was air conditioning (unless they are open air), then refrigeration, followed by cooking and baking (most had gas stoves).



Issue: Since one's electric bill only tells total kilowatt-hours, asking participants to name their highest areas of energy use proved difficult for some. Others simply trusted in their common sense or had ways to monitor use.

Possible Solution: Greater attention to the changes in kilowatt usage, as opposed to the over-all electrical bill, as improvements are made may help businesses assess and evaluate the cost benefits of their upgrades.

Issue: There has been a struggle with finding the right energy efficient lighting for a gallery. One gallery owner in Lahania had tried LEDs and his artists hated them. They returned to incandescent with a huge cost. One of the big resorts was trying to achieve a gaslight ambience and tried LEDs and they too returned to an incandescent bulb. Desire for efficiency in some types of businesses has to be balanced with achieving "a feel or look". This also holds true for retailers lighting their displays.

Possible Solutions There is clearly a need for upgrades in LEDs for these specialized situations. Clearly, a better and more cost effective LED is needed. UH-MC's green technology training programs spend class time with lighting experts. This up to date knowledge could be a real help to these business owners.

Since property management companies focus on common spaces in malls and condo complexes, lighting was a big area of energy use, and condo managers said that pool motors were high users, along with lighting. Galleries said clearly lighting is their biggest expense.

Overall, air conditioning was the area of highest use for 60% of respondents. The next highest area of overall energy use across all types of operations was lighting at 30%, followed by operations such as computers and TVs (30%). Many did not have cooking and baking or refrigeration and freezing as part of their operations. For those that did, refrigeration was often their highest energy use.

B. WHAT CHANGES HAVE BEEN MADE, IN WHAT AREAS OF SUSTAINABILITY? WHAT CHANGES ARE PLANNED?

94% of respondents (116) reported that they have already made some kind of money-saving changes in their business' or organizations' sustainability practices. The survey asked in what areas changes have been made and whether there are plans for future changes. Also included are examples of the types of changes that respondents have made. Some respondents had made changes in an area but were open to making further changes to improve. Some respondents wanted information about potential improvements and savings in certain areas in order to decide if they would like to make those improvements. Therefore the selection of 'would like to make changes' can be seen as openness to learning about further changes, as well as actually planning for those changes.

The following charts shows how many made changes or would like to make changes by type:



Energy Efficiency

Type of Change (Out of 124 responding)	# Have made changes	# Would like to make changes
Lighting	100	58
Air Conditioning and Ventilation	64	57
Refrigeration	34	28
Unintended Electricity Draw (phantom load)	36	60
Motors and Pumps	29	25
Cooking (restaurants and bakeries)	16	18
Water Pumps For Swimming Pools Or Water Features	14	21
Examples of changes: <ul style="list-style-type: none"> • We were surprised to discover how many who had upgraded to CFLs were now choosing or looking into LEDs. • Motion sensors were popular for lighting stairways. • Many respondents with motors or pumps have discovered the energy savings in using variable frequency. • There were many who, when buying new appliances, were choosing “energy star”. • The lowest % change was in the area of phantom load. Computers and TVs left on were seen as small areas of energy use by most. • AC users were either turning it off when not needed, or had installed setbacks on thermostats. • Several had changed out their windows to double-paned or had used tinting. 		

Renewable Energy Investment

Type of Change (Out of 124 Responding)	# Have made changes	# Would like to make changes
Solar Hot Water	23	25
Solar Photo Voltaic	26	69
Wind	2	22
Heat Exchange for Cooling	10	18
Examples of changes:		



<ul style="list-style-type: none"> • One of Maui’s largest hotels is using air handlers for capturing waste heat and pumping it back through to heat hot water. • Another medium size resort has installed 110 4X8 panels for heating 204,585 gals. of solar hot water per month. • A commercial property real estate company put solar on their owned rental unit and included electric in the rent and now has 100% occupancy. 		
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Water Conservation

Type of Change(Out of 124 Responding)	# Have made changes	# Would like to make changes
Irrigation upgrade	50	31
Water saving products (low flow toilets, etc.)	51	37
Filtered Drinking Water (to replace bottled water)	53	17
Water used in Manufacturing Processes	7	2
Examples of changes: <ul style="list-style-type: none"> • One golf course does an audit on their sprinkler heads 2X/year. • A restaurant owner in Lahania fixed major leaks in an aging plumbing system. • A car rental co. recycles 80% of their carwash water. • Two golf courses use brackish water for irrigation from their own wells. • Many of the hotels and resorts in the dry parts of the island are switching to drought tolerant plants and drip irrigation and, • Some resorts ask guests to choose whether they want their sheets changed every day. • One resort now uses continuous batch processing tunnel washers, saving 1.5 gal. for each lb. of laundry 		



Waste Reduction

Type of Change (Out of 124 Responding)	# Have made changes	#Would like to make changes
Recycling	103	32
Packaging Alternatives	25	11
Composting	43	17
Re-use of boxes, pallets and other materials	82	14
Examples of changes: <ul style="list-style-type: none"> • Restaurants mention recycling their cooking grease and • giving food scraps to local pig farmers. • Most retail stores recycle glass, plastic and cardboard (restaurants do too, by law) • Many restaurants have discovered bio-degradable to-go packaging, but complain about price. • Pallets are typically either given away or returned for re-use 		

Green Building Standards

Type of Change (Out of 124 Responding)	# Have made changes	# Would like to make changes
Daylighting	20	22
Landscaping	24	25
Sustainable Building Products	17	24
Emissions Reduction	8	13
Insulation for Heat Reduction	30	33
Fans	25	24
Pervious Cement	3	24
Examples of Changes: <ul style="list-style-type: none"> • One hotel mentioned that their effort to use mostly local foods in their restaurants is an emissions reduction. • Fans are used in most hotels and restaurants, limiting need for AC. • One large property management company with 7 properties replaced all sidewalks with pavers - water runs through it for recharge. 		



- | | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
| <ul style="list-style-type: none"> • One large building owner is working on a grant to become LEED certified and another large Wailea hotel is looking into it. • Businesses recognized the value of insulating to reduce air conditioning costs. | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|

Work Environment Improvements That Increase Worker Productivity

Type of Change (Out of 124 Responding)	# Have made changes	# Would like to make changes
Ergonomic issues	46	13
Light Levels	40	14
Proper Temperature	46	14
Examples of changes made: Most offices have made changes in their chairs and made adjustments of lighting and temperature for their employees. Many gave their employees the ability to change their environment, as they found beneficial.		

Summary: Areas of Change

There were 1027 cited instances of sustainability changes having been made by our 124 respondents. The most changes were in lighting (100 had made changes in lighting [80%] and in recycling (103 were recycling [83%]). Another large area of change (52%) was in air conditioning. In water conservation, we discovered that 81% had made changes in irrigation and other water saving measures including a move from bottled water to filtered drinking water (43%). Currently, 21% of our respondents had installed solar PV with almost the same (19%) having switched to solar hot water.

C. IN WHAT AREAS WERE THE BIGGEST SAVINGS ACHIEVED AND HOW MUCH?

Many of our respondents did not have ready data on cost savings from their sustainability changes and some claimed that with constant electricity rate increases by our electric utility it was hard to measure a true return on investment. Yet, when reported yearly savings were added up, the total came to **\$1,399,628!** Keep in mind, the bulk of this figure came from just a few large facilities. For example, one computing center had reduced their energy consumption by 25% with the help of the National Research Energy Lab (NREL). With a monthly electric bill of \$250,000, they saved \$62,500 per month or \$750,000 per year.



Others who actually calculated their savings by reduction in kilowatt-hours showed an average 20% reduction in kWh through the changes they'd made.

1. ENERGY EFFICIENCY SAVINGS

Lighting was certainly the low hanging fruit for many survey participants. One hundred respondents (83%) said they had made a change to their lighting. However, when asked if they had any reported savings from lighting changes, the majority said that either it was too soon to tell, or any savings were offset by the persistent rise in electricity rates by the utility. In that case, respondents said that they measured their savings by a drop in kilowatt-hours.

We're always looking at greater efficiency. It saves money. Even if they will save money in the end, sometimes it's a matter of having the capital to make the improvements.

- One restaurant owner told us that savings for his facility were just common sense. "Get people to turn off lights, not keep walk-in doors open, turn off the water."
- Many had gone from CFLs to LEDs recently, as the cost and quality of LEDs had improved and the number of rebates being offered on specific types of LEDs by Hawaii Energy had increased.

Even modest savings were important to people. For example,

- a small business said they were saving over \$300/month when they got the most efficient air conditioner and
- a condo association in Lahania just installed a new chiller that they hope will save them \$7000 per month.
- One Wailea 200,000 sq.ft. condo complex property manager said that they had dropped the energy costs by \$150,000 a year through an integrated series of steps that included variable speed pumps, changing to LED lights, switching to energy star appliances, and more efficient pool pumps and AC units.
- A local brewery has captured heat from their appliances and air conditioner and directed it into the hot water boiler, keeping it at a higher temperature and using it to supply the hot water for brewing beer.

2. RENEWABLE ENERGY SAVINGS

The greatest areas of cost savings from planned changes were for those respondents who had installed **solar panels**. Of the 26 respondents who have or are in the process of installing panels, only a few have had them long enough to report results. Many said



they would begin to reap their savings within 3-5 years due to the current state and federal tax incentives.

- One construction company went from \$2000 a month down to \$300/month on one of their office buildings after PV was installed.
- A property management company said that one of the Wailea complexes he manages had installed solar for the mall's common spaces and was already saving \$1000 per month on electric.
- A non-profit put solar on one of their buildings and went from a \$500/month electric bill down to almost nothing.

a) Solar Financial Arrangements

Businesses and non-profits have explored a variety of arrangements for solar both with solar companies and with the electric company. Some were able to obtain a net metering (NEM) contract¹³, others, a feed-in-tariff (FIT)¹⁴ and one Wailuku company negotiated to have both (½ and ½) on their two-story office building. One non-profit is building a new facility and has a power purchase agreement (PPA) with a solar company for reduced electric rates.

There were complaints about the fact that MECO was preventing solar in some areas, due to circuit overload issues. We learned that the Public Utility Commission had changed some of the rules, so that, under the right conditions, it is easier for businesses to install solar in areas with circuit constraints, bypassing the cost of a large circuit study¹⁵.

¹³ <http://sunetric.com/solar-for-business/net-metering/>

Hawaii's net metering law allows for a solar PV system to send its excess generated energy back to the power grid and later withdraw the same amount for no cost. At the end of the month, if you deposited more electricity than you used, you'll receive a credit from the electric company. If you used more than you deposited, you'll receive a bill. Not all solar systems are eligible for net metering. The current size limit on net metered systems for MECO is 100 kW per meter.

¹⁴ **With a feed-in-tariff (FIT)** the utility company pays cash for the amount of energy your solar system produces above the amount you consume. Currently MECO is paying \$0.218/kWh for solar panel systems that are less than or equal to 20 kilowatts (kW); and \$0.189/kWh for solar panel systems that are greater than 20 kW and less than or equal to 500 kW. There is not yet a FIT for systems above 500kW in Hawaii.

¹⁵ The regulation was that once distributed energy reaches 15 percent of peak demand on a local circuit, anyone wanting to add more solar must carry out a lengthy and costly review of the project's ability to connect with the grid. Hawaii's Public Utilities Commission took the first steps toward easing its distributed generation rules. Projects can now skip the full-blown study on circuits where solar systems account for less than 50 percent of the minimum daytime demand. Instead, utilities will review those projects within 20 days at no cost to the customer. <http://www.heco.com/vcmcontent/FileScan/PDF/EnergyServices/Tariffs/HECO/HECORules14.pdf>



Solar Use: Renters vs. Owners

When considering the implementation of solar PV systems, the difference between renters and owners was to be expected. Many renters said they would like to have their electricity provided by solar, but that the owners of their facilities weren't interested.

It was discovered that some property owners who rent out their spaces were being approached by solar companies wanting to lease commercial roof tops. In this scenario the solar company would own the system and charge the owners as if it were a rental property, with their renters paying 10% less than MECO's rate.

"Commercial property owners," said one respondent, "might be attracted to this because the solar company would actually become another tenant renting the roof (a language that landlords understand) and the owner also gets an upgraded roof". This property owner also suggested that commercial building tenants might ask for solar to be considered as part of their negotiated lease with a landlord.

Some owners of commercial rental properties attracted to the plethora of incentives currently available were even considering putting solar on their roofs and billing their renters for electricity themselves. One owner of several commercial Maui properties said that, for some owners this would be seen as an "is an administrative nightmare". It really depends on whether they have bookkeeper on the payroll willing to take this on.

Solar for Non-profits

Having a solar company lease a rooftop was a particularly attractive option for non-profits who could not benefit from the state and federal solar tax credits. Two non-profits we interviewed have or are having solar installed.

- In one case, the solar company will own the solar array, gain the tax incentives themselves, and charge the non-profit less than MECO while providing ongoing maintenance on the system.
- In the other case, the non-profit had their 262 panels installed and the organization has its own generator connected to the utility grid. This non-profit is now producing 61.6 kilowatts or 0.06 megawatts of energy.

Non-profits don't receive tax credits. We need other incentives or benefits. Plus working with a board has its own challenges. New proposals for improvements need to be simple, clear. It's worth focusing on non-profits but we have special challenges.

Called a net metering agreement or NEM, it allows the non-profit to connect their renewable generator to the utility grid, export surplus electricity into the grid and



Issue: Many respondents did have a ready answer to the question of cost benefit from changes. Although some do track results, over 50% of respondents had only general information regarding their savings from sustainability improvements.

The larger resorts with the most resource and corporate pressure had understandably the most sophisticated energy and water saving and waste management tracking systems.

Possible Solutions: To determine if there was interest in having support in sustainability goal setting, tracking, research and assessment, a series of questions were asked of respondents and their responses are covered in section on pages 33-37 below.

This series of questions also have implications for the future changes respondents said they would like to make.

Accurate accounting of cost-savings (or not) from sustainability improvements makes good business sense. This may be as important an area of potential assistance as actually implementing the improvements.

receive credits at full retail value that can be used to offset electricity purchases during a 12-month period.

b) Solar Hot Water

Of the 23 respondents who use **solar hot water**:

- One restaurant in Maalea said they'd saved \$1000 a month on their gas bill by switching to solar hot water.
- Another large facility owner said they had saved \$236,000/yr. by switching to solar hot water.
- A large resort in Kihei had installed 52 solar hot water panels on their roof in 1982 and should have had significant savings over its long history, the general manager told us, with rising costs, it has been tough to show savings.

3. SAVINGS THROUGH WATER CONSERVATION

- A car rental company told us that they had saved 80% on their water bill by switching to recycled water.
- A large Ka'anapali resort has displaced 2 million gallons of potable water per month with the use of R1 water from the Lahania water treatment plant.
- This same resort claims that through conservation they have shown a 27% reduction in their hotel's water use.
- A manufacturing company said they had substantial savings from switching to reclaimed water.
- A condo association had changed their entire irrigation system to drip with significant savings.
- Two of the golf courses had dug their own non-potable brackish wells and a landscaping company with a nursery has cut down their water use in their nursery using mulching. Not only have they saved money on water, they have also cut down on their labor costs for weeding.
- The bigger resorts said they saw huge benefits when they moved to drip irrigation and drought resistant plants.
- One restaurant owner in Lahania mentioned large cost savings when doing leak detection in their aging



building and switching to low flow toilets, waterless urinals and flow controls on faucets.

4. SAVINGS THROUGH GREEN BUILDING

Although the number of responses regarding savings through exercising green building practices were low, there was a surprising interest in future improvements in this area, and a desire to get training in the LEED field (see page 28 below). Very few respondents were engaged in new construction or renovation except for:

- One company that said that during new construction, they were using a floor made of recycled plastic and wood chips and
- a Kihei restaurant had replaced their dining floor with bamboo.
- Skylights, insulation from heat, use of fans and landscaping were areas with the highest response rate, but no indication of savings were reported.
- One of the larger resorts did tell us they had switched their landscaping to xeriscaping and composting and needed 2-3 days less watering.

5. SAVINGS THROUGH WASTE MANAGEMENT

Very few were able to pinpoint measurable savings through **waste management**, but 83% were recycling, 35% were composting, 66% were reusing pallets, boxes and other materials.

- Some of the most aggressive waste management programs were being made by the larger resorts. In most cases, the HI5s are taken by workers and redeemed,
- One resort had created a “giving tree” outside in the back of the hotel loading dock where workers put HI5s in bins that were redeemed and over a \$100,000 had been given to charity.
- A large Ka’anapali resort has a free web-based monitor on the pressure of their trash compactor that tells the hauler when to pick it up.
- Many restaurants had switched to compostable and biodegradable dinnerware and to-go containers, but complained about the higher costs.
- Several restaurants told us they were giving their food scraps to pig farmers.
- A brewery told us they are recycling their grain in the brewing process and giving the mash to local farmers for livestock feed and compost.
- A larger contractor told us that in their construction jobs they use recycled glass and crush old porcelain toilets for back fill .

When we asked how many had found ways to **recycle furniture or other materials** that were still useable, 70 (56%) said they:



- Give away useable items or sell them to employees.
- Donate them to shelters and Habitat for Humanity

We informed them of the existing County-funded program, Aloha Shares. When asked if they would make use of such a program designed to reuse furniture and other materials, 73% said either “Yes” or “sometimes”.

SUMMARY: AREAS WHERE RESPONDENTS WOULD LIKE TO MAKE CHANGES

There were 768 instances where managers and owners expressed a desire for future changes. The most desired areas for change were in energy efficiency through improvements in lighting (47% or 58 out of 124 respondents), AC (57- 46%). Phantom load seemed to be an area where respondents had the least understanding and the greatest interest in further information and possible improvement (60 - 48%). There was also a keen interest in renewable energy, especially in Photovoltaics (PV). Sixty-nine respondents (56%) named PV as an area they would like to explore, 87 (70%) said they would like to improve on their water conservation efforts, and 74 (60%) were interested in being more efficient in their waste streams.

The following chart breaks down interest in future improvements into business types:

AREAS OF SPECIFIC OF AREAS OF FUTURE IMPROVEMENTS BY LARGEST GROUPS OF BUSINESS TYPES

Type of business	Out of...	Lighting	Air Conditioning	Unintended draw	Solar Hot water	Solar PV	Irrigation	Water fixtures	Recycling
Hotel & lodging	14 responses from this business type	10 said	9	10	8	12	7	11	6
Condo Associations	8	7	6	4	4	6	6	6	1
Manufacturing	7	7	6	5	2	4	0	2	1
Retail	28	11	12	15	2	13	4	4	5
Restaurant	10	3	5	2	3	5	0	1	2
Construction	9	4	3	5	1	5	1	1	3



IV. WHO HAS HELPED WITH THESE CHANGES?

A. IS THERE A PAID PERSON ON STAFF?

If the businesses have been making improvements, it was important to find out who was helping them identify and design their upgrades. For instance, was a paid person on staff working on these changes (we suggested that the respondent include themselves in their answer). Twenty-eight percent of respondents (33) said ‘Yes’ to having paid staff focused on sustainability. Most of the general managers and facility managers saw this as their job without any special title. Branches with corporate headquarters such as one of our larger banks, for example, said they have “facility specialists” who travel to each branch to assess and suggest changes, which are decided on by headquarters. A resort property manager mentioned that their parent company had made it clear they were to focus on sustainability. He took this to heart and had already saved one of the resorts he manages over \$150,000 through energy efficiency changes.

Any decisions have to be made by the corporate headquarters. I would consider requesting something if it seemed beneficial to my store.

A larger resort facility manager said they have a “renewable energy services department”. Another resort has an “environmental coordinator” and a Laniakea resort manager said she was a member of a green committee made up of 5 of the larger resorts on the west side. The south side resorts also have a consortium of facility managers/engineers who meet once a month to share ideas on sustainability.

B. HAVE YOU HIRED AN INDEPENDENT SPECIALIST AND WHAT TYPE?

Respondents were also asked if any had hired an independent specialist, and if so, what types and in what areas? Seventy-one (57%) of all respondents said they had hired independent specialists. The types of specialists varied, including lighting, air conditioning, solar experts, water feature consultants, energy efficiency consultants, and landscaping consultants.

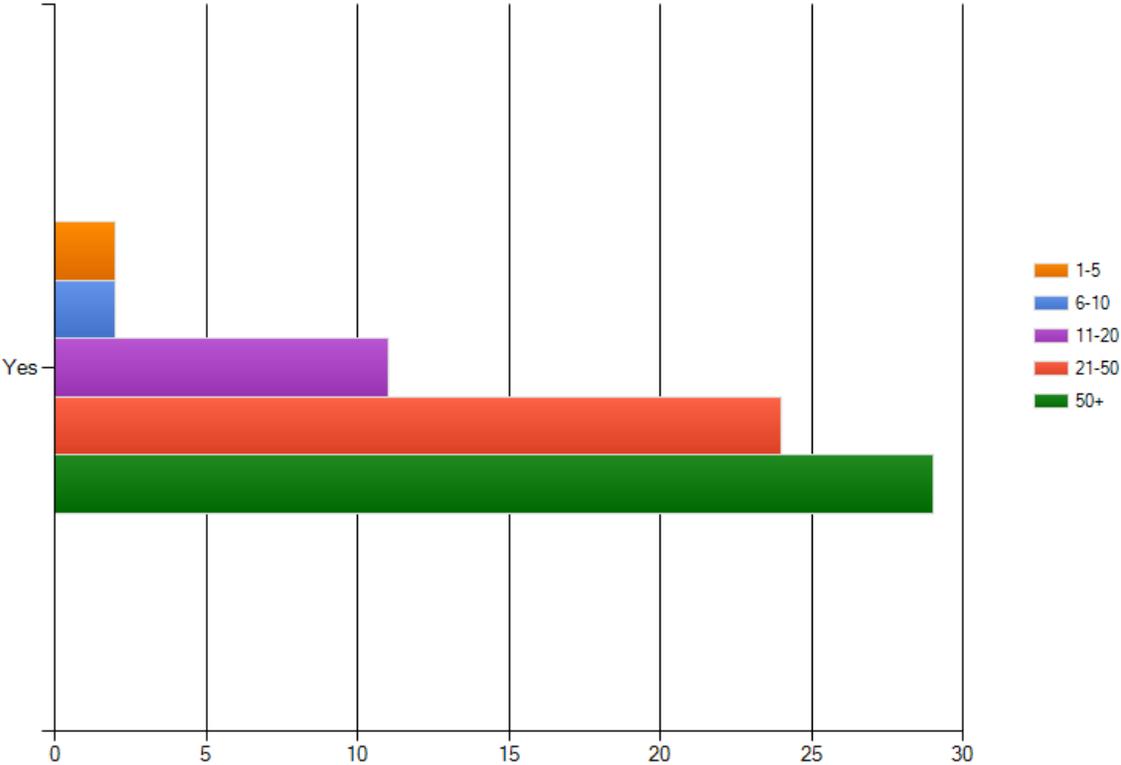
As the following chart demonstrates, the larger the company, the more likely they were to have hired a specialist (#s on right are # of employees)...

Issue: We found that smaller companies were not only less likely to hire consultants, but also less likely to be approached by energy companies or vendors.

Possible Solution: Small companies may be the most interested in receiving an assessment by a UH-MC trained intern in order to save money.



Have you contracted with an independent specialist to provide any green assessments of your facility and operation?



Two separate large resorts had hired mainland companies to train their employees to get on board with sustainability. They claimed this was the best way to assure cost savings.

Although many had hired a specialist, many more said they had been approached by energy management companies offering their services in exchange for cost savings. Others had been approached by solar contractors, or vendors. Some had gotten help in the past from MECO when they did energy audits. Currently this support now comes from Hawaii Energy’s new Maui Program Specialist.



V. WHO MIGHT HELP WITH FUTURE CHANGES?

A. INTEREST IN A SUSTAINABILITY ASSESSMENT

The next question was designed to discover if there might be interest in having a sustainability assessment that might help them save money. Seventy-nine out of 124 respondents (64%) said ‘Yes’. An additional 18 said ‘Maybe’.

B. INTEREST IN HAVING AN INTERN PERFORM THE ASSESSMENT

If the respondent answered ‘Yes’ or ‘Maybe’, they were then asked if they would be interested in having the assessment done by a supervised intern from the college’s sustainability classes. Before asking this question, it was important to explain to the manager or owner that many of the interns have gone through lengthy classes at the college in energy management, PV, or

The two internships I had with UH-MC SLIM went very well. I especially got value from the one who had extensive facility operations experience from Maui Land and Pine. He is an incredible talent who, if I have a position available on my management staff, I would offer him a job.

I think if you are going to place these interns into our places to do assessments, they have to be able to see the delicate balance we walk in retail between wanting to do good for the environment while also not being able to invest huge amounts of \$. The intern needs to be sensitive in knowing that we may have already tried many things and would like to be given credit for that.

WaterSense. Some had even received industry level certifications and simply needed some hands on experience for their resume.

Seventy-two (91% of those who said ‘Yes’ to wanting an assessment) said they would consider an intern, and an additional 22 said ‘Maybe’.

Although we implied that our grant might provide the funding for such an assessment, we still asked whether the respondent might be willing to pay for the intern’s time. Twelve said ‘Yes’, and 28 said ‘Maybe’.

C. INTEREST IN HIRING A NEW EMPLOYEE TRAINED IN GREEN ASSESSMENT TO HELP WITH ONGOING IMPROVEMENTS

Respondents were also asked if they might be interested in hiring a new employee trained in green assessment and improvement technologies who could provide ongoing improvements over time. Twenty-five said ‘Yes’ and (27) said ‘Maybe’, with the majority coming from the larger employers (50+). Most of those who said ‘Maybe’ explained that this person they hired would:

1. have to earn their salary through savings in energy, or



2. be doing a job needed by the business with this skill being a plus on their resume.

When then asked if they might be more interested if this new employee were provided partial wages for 3-6 months of on-the-job training (OTJ) by the local workforce investment board, 16 said 'Yes', and 10 said 'Maybe'.

D. INTEREST IN PERIODICALLY HIRING A CONSULTANT

Finally, we inquired as to whether the owner or manager (with owner or corporate permission, if it were needed) might be interested in periodically hiring an independent consultant to help with green upgrades that might save money. Thirty-four percent (42) said "Yes" they would on occasion hire a consultant and, 33 said "Maybe". The majority of those who said "Yes" were the larger employers (21+).

VI. IS THERE BENEFIT IN BEING SEEN AS GREEN BY CUSTOMERS?

When asked whether there would be a benefit from being seen as a "green business by their present and future customers," 97 (78%) said 'Yes' and 12 said 'Maybe'. The majority who said 'Yes' were from retail (38) followed by hotel and lodging (14), restaurants (8) and manufacturing (7) and construction companies (7).

Our company is a shining star when it comes to eco-friendly endeavors. These other things, its a time investment issue. Since it is what we do already, we would like to be recognized, but there is a limit to what we can do beyond what we are doing until we have a space of our own.

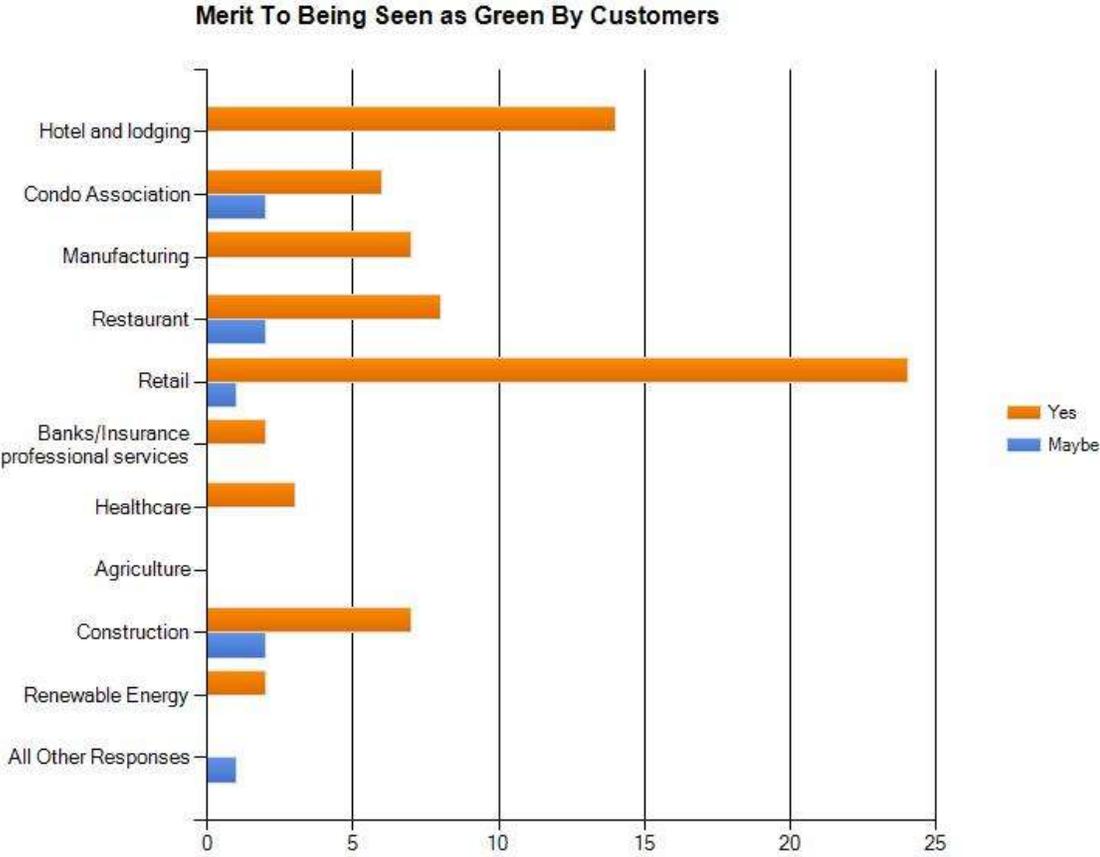
Issues: Very few of our smaller business respondents actually had enough liquidity in their business to even consider hiring someone to provide a service like this. It was clear that those who would consider it had had some experience of the value of such a person's expertise in impacting the bottom line.

Solutions: Realizing the limitations for businesses wrought by the economic downturn brought us to a section of the survey that teased out what value managers and owners put on sustainability, its place in their business culture and priorities, and how it relates to their views of overall profitability.

Developing understandings from this larger perspective fits into a form of inquiry that helped identify companies that may be considering transitioning to a more sustainability-focused business model, those who simply aren't interested, and those that have already done so and are benefiting from it and would consider being models for others. The next series of data reporting helps illuminate all of these things.



The following chart breaks this down by types of businesses:



VII. COMPARING SAVING MONEY TO CONSERVING ISLAND RESOURCES

The survey tried to get a sense of what motivates businesses to make sustainability changes and what types of actions they'd be most willing to take. It is helpful to see how we asked the question:



On a scale of 1-6, if green improvements are money saving , how willing are you to:	On a scale of 1-6, if green improvements conserve island resources , how willing are you to:
Invest time and money into making the improvement?	Invest time and money into making the improvement?
Hire a consultant to identify improvements?	Hire a consultant to identify improvements?
Create a continual improvement plan to capture all savings through improvements over time?	Create a continual improvement plan to capture all savings through improvements over time?

In comparing respondents' willingness to make changes because they are moneysaving or because they conserve island resources, we expected that moneysaving would be a higher priority, especially in the present difficult economy. This was true in all three instances- investing time and money to make improvements, hiring a consultant to identify improvements, and creating a continual improvement plan to capture all savings over time. However, the data in the following charts shows that conserving island resources is also important to a large number of respondents.

When you talk about return on investment (ROI), you need to remember that we are talking about our environment. If you look at the bigger picture, it will end up costing us so much more.

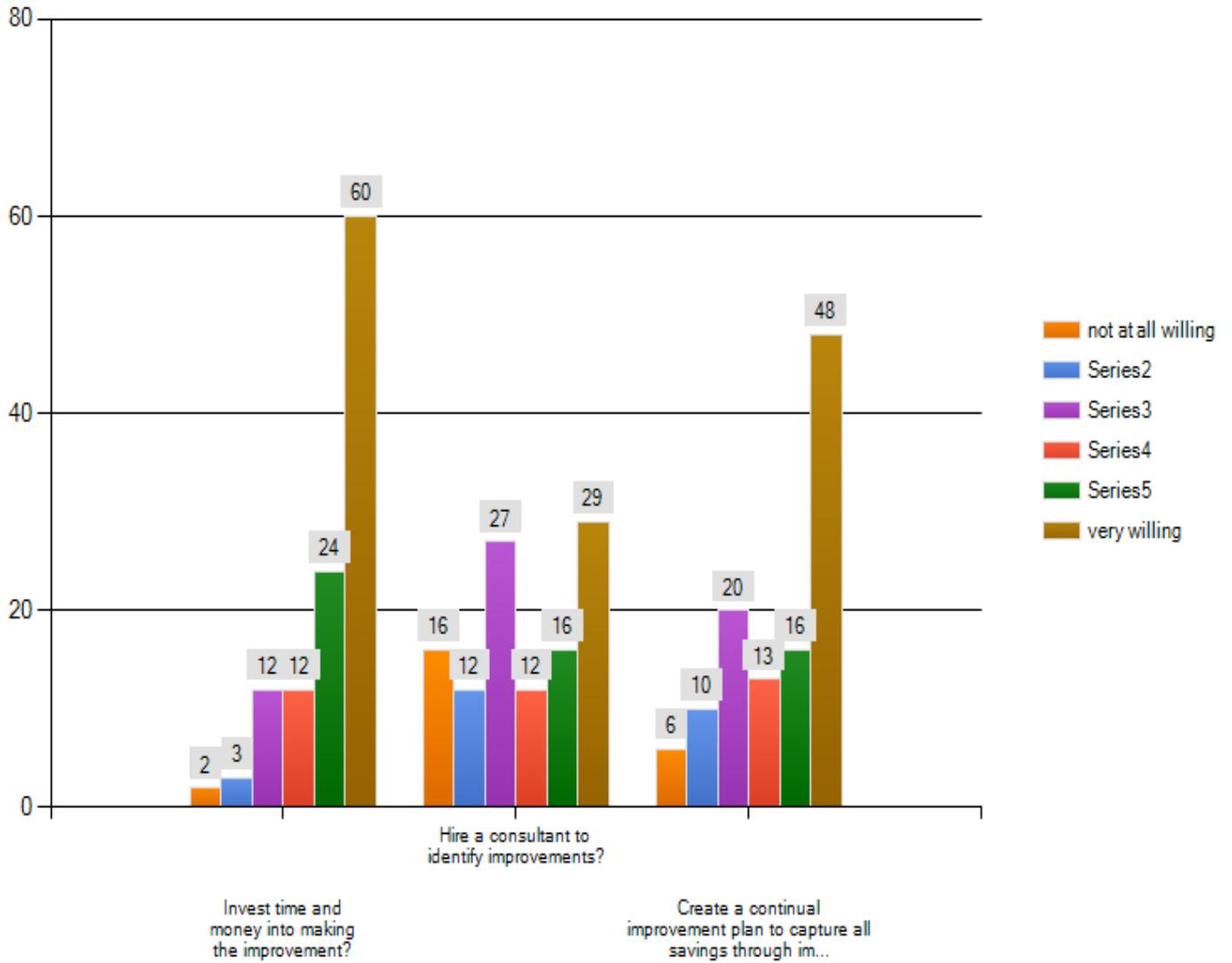
In both categories, respondents were most willing to invest time and money into making improvements and least willing to hire a consultant to identify improvements. The chart below combines those who were somewhat willing, up to very willing to take the steps:

Step taken	To save money	To conserve island resources
Invest time & money	96	73
Hire a consultant	57	51
Create a plan	77	72



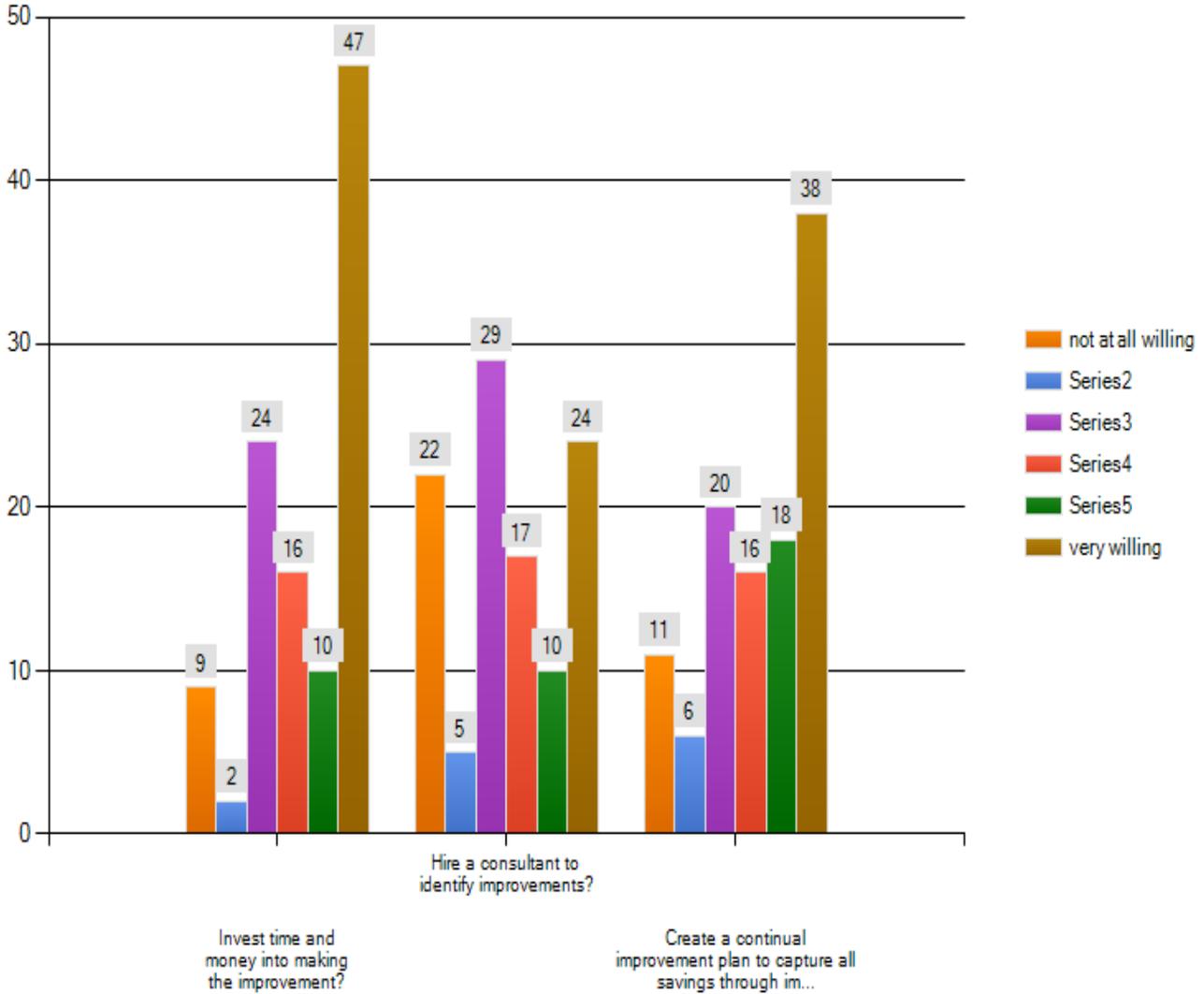
The next two charts show a more detailed account of responses:

On a scale from 1 to 6, if green improvements are moneysaving, how willing are you to:





On a scale from 1 to 6, If green improvements conserve Island resources, how willing are you to:



Most managers said that they were answering this question from the perspective of their employer (not necessarily their own view). For example, those who work in a business branch said they knew enough about corporate culture to answer for them. Rarely, if at all did a manager state their own opinion. The majority put themselves in the shoes of their employers, and answered from that standpoint.

OBSERVATION

Some companies that are part of larger corporations are mandated to participate in 'Continual Improvement Plans', identifying and making efficiency improvements



constantly. This was a new concept to most respondents, but may be worth promoting. For smaller businesses with cash flow limitations, having a plan of improvement that goes from least expensive to more expensive might position them to be prepared to invest when they do have sufficient cash. Many respondents wished to make improvements because they knew they could be moneysaving, didn't have the cash to invest, and so were not investigating potential improvements. With a plan, the least expensive and most cost-saving options would be ready to go when the cash is available.

VIII. RESOURCES: WHAT SUPPORTS ARE NEEDED TO GO GREEN?

This section of the survey demonstrated how interested respondents were in having a relationship with the college and the wide variety of resources UH-Maui College could provide in the areas of sustainability.

A. HOW MANY WANTED GREEN TRAINING FOR THEIR CURRENT EMPLOYEES AND IN WHAT AREAS?

Seventy-three (61%) of respondents stated that their employees could benefit from further training in green technologies, thereby benefiting their business. The following chart depicts areas of training most desired:

Area of training	% who said 'Yes'.	# who said 'Yes'
Energy Efficiency	66%	82
Renewable Energy	42%	52
Water Conservation	56%	70
Waste Management	49%	59
Green Building	32%	40
Transportation Costs	24%	30
Green Products	40%	50
Lean and Green	15%	19

If scholarships were offered to pay for the training (as have been offered in past trainings), 91 (77%) of respondents said they would be interested in having their employees gain training. The following are suggestions from our participants:



B. Other Training Requested (15%)

- ✧ ***Advanced Engineering***
- ✧ ***Bring awareness to going green/an introductory type of session that doesn't presume that a person knows why they should do this...working at the motivation level.***
- ✧ ***Irrigation, composting, protocols for recycling***
- ✧ ***Use of better products that are biodegradable. We currently use Dawn.***
- ✧ ***Basic conservation practices***
- ✧ ***Composting techniques***
- ✧ ***Environmental maintenance, noise reduction, pesticide management - use of all organic products***
- ✧ ***Recycling more of our waste, composting***
- ✧ ***Maui needs a waste processing machine for on-site construction waste-could be used as ground mulch***
- ✧ ***We would do this if it were a night class or here on the property***
- ✧ ***Training has to be on-site***
- ✧ ***Working on personal habits (energy efficiency)***

C. HOW MANY HAD INTEREST IN OCET AND SLIM MONTHLY PAU HANAS?

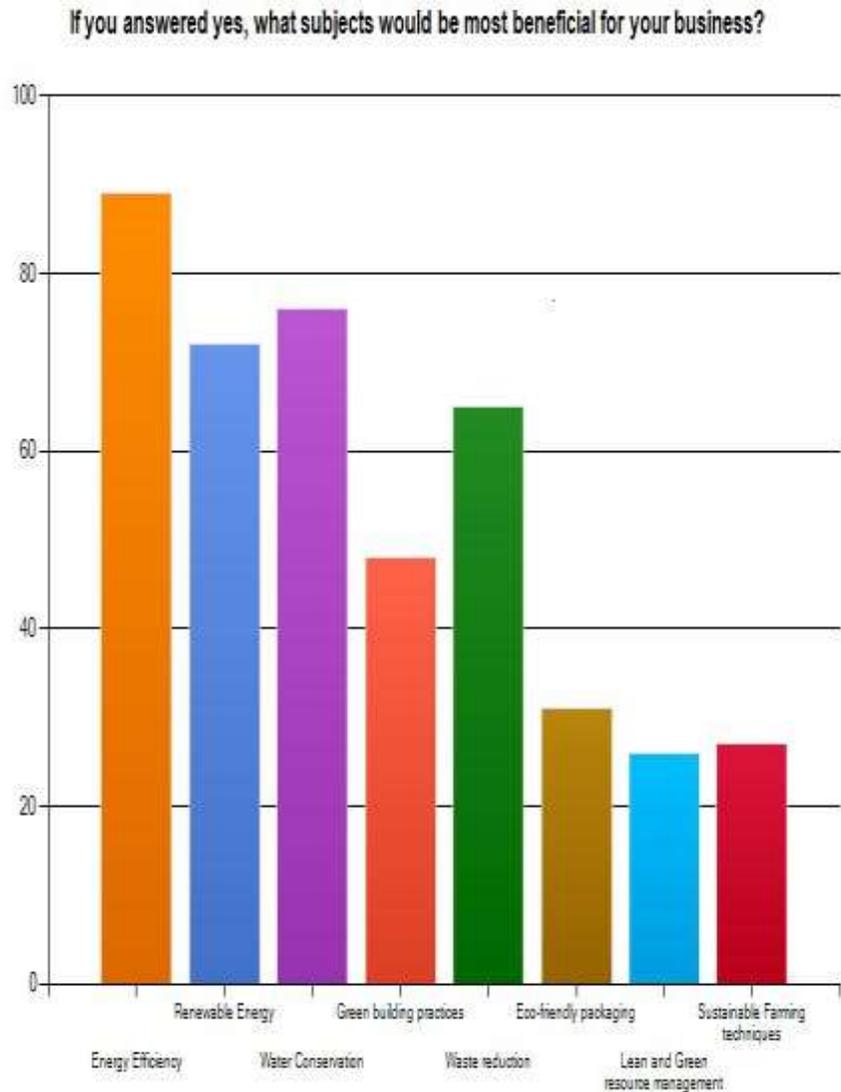
When told that SLIM AND OCET offer monthly presentations on green practices specifically designed for business applications, 93 (75%) said 'Yes' to wanting to attend these.



Other suggested presentations ...

- ☆ *Wave technology,*
- ☆ *green products,*
- ☆ *basic conservation practices for the public,*
- ☆ *organic fertilizer use - bio fungicides, pathogen/insect control and products available,*
- ☆ *integrated pest management,*
- ☆ *Local Sourcing, Green retail,*
- ☆ *water management- grey water,*
- ☆ *roofing materials....making solar attractive,*
- ☆ *up and coming new technology, not seen before, especially for grocery stores,*
- ☆ *personal awareness of habits that concern C&E,*
- ☆ *sustainable golf course grounds management,*
- ☆ *wind turbines in residential- what do we do about the restrictive regulations,*
- ☆ *talk on pre-cast concrete panels,*
- ☆ *bio-fuel's future*
- ☆ *best uses, best ways to educate customers about better, greener options.*
- ☆ *do them at the West Side at the Westin.*

The following chart depicts the % of interest in each subject that would be most beneficial to those wanting to attend these monthly events.



D. HANDOUTS

Respondents were offered information about existing resources they might not have known about. A handout that listed local and state resources, such as rebates on energy saving devices being offered by the Hawaii Energy Company, was given in person or e-mailed to respondents



who had participated over the phone. We also provided a copy of the EdVenture Catalog that listed all of upcoming the training programs in green technologies.

E. OTHER SUPPORTS

Participants were asked what other types of support they would like to have in adopting more sustainable practices in their business or organization. We asked them to say ‘Yes’ to any of the following types of support they would desire:

NUMBER OF BUSINESSES INTERESTED IN OTHER SUPPORT OPTIONS

Support to set and achieve goals of efficiency, conservation and sustainability	87 (70%)
Build a relationship with UH-MC in order to have supervised student interns working on my sustainability goals and research that would benefit my business	89 (72%)
Ability to network with people in businesses/organizations that are improving their sustainability practices	94 (74%)
Exposure to sustainability experts to learn strategies to build sustainability into my business or organization	92 (74%)
Exposure to ‘proven’ green technology	101 (81%)
Potential discounts on green products	93 (75%)
Site visits to businesses or organizations with model sustainability practices	77 (62%)
Information about green investing	51 (41%)
Updates on key energy and environmental legislation	91 (73%)
Crafting and promoting legislation that strengthens the use of sustainability practices	64 (52%)
Potential forum for discussion with State and County officials	75 (60%)
Learning about media advertising venues that support green businesses and non-profits	62 (50%)



Community recognition for being a leader in the transition to a more sustainable business or organizational model	68 (55%)
A discount booklet to attract customers willing to pay a small fee to support Maui's eco-friendly businesses	43 (35%)

There was a lot of interest in specific types of support that could be offered to the business and non-profit community in the future. Even for those businesses that already had adequate support for sustainability/efficiency improvements, these options were desirable. Relevant information about green practices would be appreciated and the greatest interest was in information about 'proven' green technology: an obvious desire for reliable insights into the many choices available for green products.

F. SHINING STARS

Without our survey participants knowing it, we singled out 24 businesses or organizations that we thought stood out as models of sustainability. The criteria we used were based on the numbers and caliber of improvements and the possibility that others would be able to learn from their choices. With 77 respondents telling us they were interested in site visits to businesses and organizations who have model sustainability practices, 94 having said they would be interested in networking with people that are improving their sustainability practices, and 93 saying they would come to an OCET/SLIM Pau Hana, these shining stars could come in handy as presenters and hosts.

The challenge for the hospitality industry is in striving for these awards. We get lost and lose our focus. We need for them to help us zero in on the specific elements that help us market ourselves. There are so many green certifications - how can we unite them into something cohesive that works?

IX. CONCLUSIONS & RECOMMENDATIONS

In the cited MIT study that prefaced this report it should be noted that these same companies who have now put sustainability on their management agendas, when asked to rank it among other agenda items, it came out in 8th place^[1] (2012, p.3). Clearly, other concerns compete and can overshadow intentions in an unstable marketplace. Our study has shown a majority of Maui businesses and organizations have taken concrete action, others are intrigued and a few simply are not convinced that sustainability and profit are related to one another. Obviously, there are still things to address and clear signals have been given for a need and wish for ongoing support.



The following conclusions and recommendations aim to address what the survey results revealed:

The business community recognizes the cost benefits of ‘going green’. Some wouldn’t even call it ‘green’, just common sense that has been ignored until now. Due to high energy costs and a challenged economy, most businesses see that it makes sense to investigate improvements as long as they prove cost effective.

Some larger businesses and chain franchises of national corporations are already focused on sustainability issues and investing in improvements and don’t see a need for local support. In contrast, the larger resorts and some franchises who have made improvements, continue to seek more opportunities and want to work with UH-MC and local consultants.

Smaller local businesses see the value of sustainability improvements and are eager to find cost-effective ways to implement them. Many are interested in getting more information and assistance, especially if it doesn’t cost them anything.

Other than the larger resorts, **opportunities for sharing successes, failures and information about sustainability practices are not taking place.**

94 out of 124 respondents expressed some interest in UH-MC interns providing a sustainability assessment and making recommendations for improvements. They were most interested in energy efficiency, water conservation and waste reduction improvements.

Many businesses are not tracking their specific energy uses and improvement savings in order to quantify the cost benefit of sustainability upgrades. This practice could be a beneficial addition to good resource management and could be part of the recommendations offered by interns.

MECO pricing goads people and may get in the way of motivations to make improvements. Despite energy efficiency improvements, rates keep climbing, appearing to negate the improvement.

PV is recognized as a major benefit and long-term savings. Those owning their own buildings installed the majority of PV systems. Many of the renters lamented this, and wanted more incentives for landlords to switch to renewable energy options.

Interns from the College have been a mixed bag. Some have been good. Others really need soft skills - showing up, timeliness, listening, taking notes, dress appropriateness. ‘Maybe’ screening for those who are really looking for jobs would help. More supervision might be good.



The Building Operator Certification training has been offered twice at UH-MC's SLIM-OCET sustainability training program. This training prepares trainees to do the sophisticated, complex assessments needed by many of the business survey participants.

We'd like to have an intern help us size our PV system and help us know what will be best for us. Then we can better negotiate with solar installers. We're interested in basic instruction in conservation and efficiency so we can teach our clients.

RECOMMENDATIONS

We need to build collaborations with multiple partners to provide coordinated assistance to Maui businesses in their sustainability needs for future improvements. We should continue to strive for easy access, targeted help and reliable responsiveness to stated business and workforce needs.

FURTHER PROGRAMMING

- Develop and find funding for additional programs that offer the support components of greatest interest to the respondents
- Continue the pau hana series, focusing on subjects identified as being of greatest benefit
- Include training for businesses in developing continual improvement plans. This practice could be a beneficial addition to good resource management and could be part of the recommendations offered by externs

EXTERNSHIPS

- Develop a well-coordinated, well-supervised paid internship ("externship") program to identify cost-saving improvements for interested businesses while giving green technology trainees real world experience
- Provide extern assessments that are broad-based, including energy efficiency, water conservation, managing of waste streams, green products
- Train externs well in both technical and soft skills leading to greater employability and professionalism. Emphasize strategies to present a viable business case and support business' continuous improvement over time
- Ask businesses to:
 - a) give careful consideration to externship assessment recommendations,
 - b) give a testimony for the program, and
 - c) offer an honest referral for the externs



OUTREACH

- Identify model businesses and offer tours, and presentations to promote what they've done and how much they've saved
- Identify model arrangements presently in place on Maui for landlords, tenants, condo associations and non-profits that successfully make the most of State and Federal tax credits and incentivize those entities to consider solar
- Consider a strategy for reaching out to corporate headquarters to help engage them in the local Maui sustainability effort. Recognize that corporate leaders are not always on the same page as local management
- Maintain contact with the business community by continually offering value. For example, brief monthly information emails pertinent to sustainability for business sent out to the SLIM email list. Continue to be a presence that represents support and information

RESPECT

- Respect the privacy of the businesses. Ask permission to contact them about opportunities
- Recognize and acknowledge businesses for what they have already done in sustainability improvements

PUBLICIZE FINDINGS

- Publicize the results of the survey to inform the Maui business community and County officials of the level of interest that already exists
- Publicize the results of intern assessments, implementation results, cost-savings, to build businesses awareness of and interest in both internships and improvements.

RESEARCH AND EDUCATION

- Clarify and promote all options for funding for use of solar and wind so that these options may be affordable for smaller businesses
- Track and educate about the future of subsidies for renewable energy
- Clarify and educate all details (batteries, circuits, etc.) regarding the grid and its ability to receive additional un-firm renewable energy from businesses
- Continue to seek and investigate LED lighting that can meet the needs of specialty uses such as galleries, retail display and resort ambience
- Promote all possible solid waste management options for business that currently exist.



X. APPENDICES (SURVEY LINK, LIST OF TYPE OF PARTICIPANT, COMMENTS)

A. Survey Link: If you would like to see a copy of the survey, go to <https://www.surveymonkey.com/s/MauiGreenBusiness>

B. List of Types of Participants

List of Survey Participants (124)	
Hotels and Lodging (21)	Retail (17)
Restaurants (11)	Manufacturers (7)
Grocery Stores (10)	Construction (8)
Golf Courses (5)	Medical (6)
Schools or Non-Profits (14)	Property Management (4)
Other (21)	

C. Comments

Other Types of Support People Wanted

- ⌘ *Web site, including the booklet on line. Links to green businesses and from same. Facebook page, social media.*
- ⌘ *#13 that we aren't out for community recognition but we wouldn't turn down a award.*
- ⌘ *Think local, buy local- keep our money on Maui.*
- ⌘ *I think if we share our best practices on the commercial side it would be a great help*
- ⌘ *Consultation on PV installation.*
- ⌘ *Make sure businesses that are supporting renewables get a lot of support*
- ⌘ *Help for non-profits to invest in RE and make it affordable.*
- ⌘ *Grants for down payments? What can help?*
- ⌘ *We already have these supports being met through our MLHA Engineers Group that includes Four Seasons, us, Marriott, and Fairmont Kealani engineers.*
- ⌘ *Education and training: certifications*
- ⌘ *How to reuse 'distressed' merchandise*
- ⌘ *Technical training for appliance repair*
- ⌘ *Clarity about Hawaii Energy rebates, what they DON'T cover. Fact sheet for businesses.*



- ✧ *Booklet of eco-friendly businesses, with different categories. Publicized. College can be impartial about these.*
- ✧ *BOC Apprenticeship (see below)*
- ✧ *The Cement and Concrete Products Institute is a state-wide group in our industry that has 25 members. It provides education in compliance, legislation, training, sustainable products and practices. We have speakers and presentations regularly.*
- ✧ *Time to be able to take certifications. Wish they were not on Oahu (BOC). Make the classes more accessible in terms of time or online*
- ✧ *We try and keep a low profile because of our defense contracts. more available recycle program, better hours*
- ✧ *Legal help to deal with inconsistencies in new laws- example, We must have 20% of our parking area equipped for EV, but it's difficult to make changes close to the ocean. Kind of a Catch 22.*
- ✧ *Updates on rebates and incentive. Best Management Practice laws are actually creating waste (ex. dust fences). I wish the regulators could consider individual situation and tailor the protection to the need. They should consider negative consequences of the regulations.*
- ✧ *Educational support in the HVACR field. No training in the State. Educated employees are essential to growing and sustaining our business.*
- ✧ *Research and data on cost-benefit of sustainability, what is the benefit to the County, island. What is the benefit of local dollars over time? Benefits of keeping ag land instead of development, for example. Even if renewables aren't cheaper what makes them worthwhile? Credible researcher needed. Science-based. Energy trust- non-profit, based on facts and data. Legislative support- develop relationships with legislators and add their voice to specific legislation. Get legislators together to hear about realistic plans. Help finding appropriate advertisers to get ones word out.*
- ✧ *Walter at Hawaii Energy Co.*
- ✧ *We would be open to having other businesses come to us for a site visit. Many of the things checked above we already have. Perhaps you can come to our committee meeting once a month as rep and share what you are learning.*
- ✧ *college should offer classes for people on island. There should be better advertising of what is available. Put me on your mailing list. The service industry needs to be served. LEED certification is especially important.*
- ✧ *Help in reducing the electrical peak load. Technology that helps me read my energy use and thereby adjust my electrical consumption. Access to the latest technology/ innovation.*
- ✧ *Reduction of government fees and taxes that strangle the business. Support from government to stay in business.*



D. Further Comments

At the end of the survey, we asked people if they had any additional comments:

DESIRE TO INTERFACE WITH THE COLLEGE PROGRAMS: NEEDING HELP

- *Interns from the College have been a mixed bag. Some have been good. Others really need soft skills- showing up, timeliness, listening, taking notes, dress appropriateness. 'Maybe' screening for those who are really looking for jobs would help. More supervision might be good.*
- *If I am going to consider an intern, I will need it in wrtiing of what it will entail and will have to fly it by our GM and the Homeowners Board of Directors*
- *I have been meeting with Rob Hoonan from the Grand Wailea, Gary Bucher from the Hyatt, Garet Ormond from the Marriott and we are saying we would like to take on apprentices with a formal BOC background and an understanding of central plants, especially the energy side and maintenance operations, conservation. We would like to have someone who has the old knowledge combined with the use of the latest new technology. We have worked with Job Corps up-country. We are interested in the OTJ program if it can be tied to the apprenticeship and with someone with the BOC. We see this partnership between education and business as a formal one that lasts over 3-4 years combining formal education with the practice side. We would be willing to pay for this if it is the right person.*
- *The farm to table sustainability emphasis is an important aspect we are looking for in an internship*
- *The challenge for the hospitality industry is in striving for these awards. We get lost and lose our focus. We need for them to help us zero in on the specific elements that help us market ourselves. There are so many green certifications - how can we unite them into something cohesive that works? How are they linked? Statewide and now a proposed local version...they need to be linked for us to want to participate and then defining it in a big picture way. Our goal is to all learn together. I love that you are planning a locally based green business program and I hope you work to create the glue that puts it all together.*
- *We'd like our employees to have access to UH-MC welding and soldering classes. I would welcome students who'd like to know more about air conditioning choices and what we did on our new office. Come and talk and see. I'm open to interns who want to learn more about AC and might be able to share their knowledge from their training. Would need to talk further about this before accepting an intern.*



- *The two internships I had with UH-MC SLIM went very well. I especially got value from the one who had extensive facility operations experience from Maui Land and Pine. He is an incredible talent who, if I have a position available on my management staff, I would offer him a job. The other's construction background was also very helpful and I would also consider hiring him as an employee on the property. During the internship, they both got to see the day to day operations, saw me in my office juggling a lot including my responsibilities to the County, the state and see what someone in my position has to do every day. What skills are required to juggle so many facets of the property and its systems. They saw me balancing my workload. When they first came on board, I asked them what they wanted to gain from this experience. Due to their different skills and backgrounds, they had different expectations. I made sure as we came up against different areas of efficiency and conservation to ask the "what do you think?". I then asked the "what do we need to do to find out if this is feasible? I had them go and meet with the vendors. Much of the time they were left on their own. They would meet with the vendors, ask questions and bring this back to table to discuss. They got to see what was needed to learn in order to figure out these feasibility issues. The many facets of a sustainability project. They also got to see that this job requires being accountable to corporate. I had them go through the employee orientation so they could see what the corporate culture is here. This would help them ask the right questions to the vendors based on what are the owners expectations of ROI balanced with respect for the environment.*
- *It can be difficult to have interns on site due to liability issues. It has been done and I'm willing to consider it, it just may be difficult.*
- *The way I see it working is if you provide a free energy audit, I would be much more inclined to implement an energy saving program.*
- *Building a new LEED building. Would love to cooperate on training opportunities of a variety of sorts. We train temp employees for businesses. We'd also like to know about the SLIM trainings you offer and potentially get employment for your graduates.*
- *I am presently looking into energy use and ways to become more efficient in the St. Anthony church and school system. I could use some help. Not experienced in EM strategies. Decisions would have to be run by the various boards that oversee St. Anthony's Church and school system.*
- *We've used and will continue to use interns from UH-MC. Our relationship with the college will have more to do with the services we provide than with our present facilities, which are both rented. We have found ways to work with community associations and retail complexes to provide solar PV.*



- *When you talk about ROI, you need to remember that we are talking about our environment. If you look at the bigger picture, it will end up costing us so much more. If we take these baby steps, it will spread. I think if you are going to place these interns into our places to do assessments they have to be able to see the delicate balance we walk in retail between wanting to do good for the environment while also not being able to invest huge amounts of \$. The person needs to be sensitive to that and sensitive in knowing that we may have already tried many things and would like to be given credit for that.*
- *We'd like to have an intern help us size our PV system and help us know what will be best for us. Then we can better negotiate with solar installers. We're interested in basic instruction in conservation and efficiency so we can teach our patients.*
- *Most of our needs are met by company technicians and training programs.*
- *Has there ever been a discussion about solar for restaurants?*

EMPLOYMENT CONCERNS: REINFORCEMENT MODULE

- *If I were to take on another intern, I would require them to have basic Excel, to be able to gather and interpret data and be quick learners about this facility and its complexity. How a hotel runs. This could be a challenge for others - having the capacity to digest so much information. I think the idea of the Reinforcement Module is very important*
- *Merging our business. We won't be doing the hiring of employees for the actual business anymore.*
- *We have hired a consultant who provides a large range of services on a continual basis, so we're doing what we can, as finances allow. Much of what you're proposing is already being provided.*
- *We train our people to be journeymen. Open to interns from sustainable building, etc. Need the soft skills big time on Maui. Need to know how to work, integrity, honesty, responsibility. Teach them how to think about working. We use a temp agency for temporary workers. If they are good, we'll hire them. This has proved to be a very efficient way of hiring. I suggest you look into this because it makes it extremely easy for businesses to get new people but not commit to them until they've proven themselves*

KUDOS FOR THE SURVEY: HOPES FOR THE FUTURE

- *I appreciate your doing with this*



- *I am one of those people who likes to watch where our tax money goes and I think that this is a good thing and a good service. If it's a grant that is well spent money.*
- *I am glad you are doing this. It is so worthy. It will make a difference. We need these synergies.*
- *Thank you. It is important to be doing this. I have wanted to upgrade my education in these areas for a long time.*
- *This survey is a really valuable effort, great service for the community.*
- *We would be happy to participate in any way we can.*
- *You have given us things we didn't know were available, we are grateful.*
- *Kudos to you. Thank you for asking.*
- *We like what you are doing.*
- *I'm glad the College is reaching out to business. Keep it up.*
- *So appreciate this endeavor*
- *I hope this comes to fruition*

WHAT WE DO ALREADY

- *Maui Brewing Co. is a shining star when it comes to eco-friendly endeavors. These other things, its a time investment issue. Since it is what we do already, we would like to be recognized, but there is a limit to what we can do beyond what we are doing until we have a space of our own and then we would take Mark Ausbeck up on his offer and work with the college. Be clear that MBC is already driven by integrity to make these kinds of decisions. Maui Brewing won a prize from the County for greening our business. We support Maui College, we go to Surfing Goat Dairy for our cheese and use up-country farms for our produce. We are actively engaged in community charities. One item on our menu goes to the Humane Society, another to the Maui Rain Forest Recovery program for their fundraiser. Also, Hawaii Canines for independent living, the Brewer's Festival at the MACC/OctoberFest raised \$10,000 for the Cancer Foundation*

FUTURE PLANS: WISH LISTS



- *There is PV on the regional office building which was on long before any of these incentives came out. We aren't doing anything on the Executive Bldg. right now but may be open to considering it sometime in the future.*
- *Very interested in anything we can do to go green*
- *We want to put up solar and wind. MECO won't take us because the circuit is at 15%. Would like to sell small wind turbines for homes, haven't found any yet that perform well enough to promote and sell.*
- *They are doing a renovation and have a team working on it that would benefit from guidance from LEED specialist.*
- *I'm very interested in anything new that is more efficient and cost-effective. I'd like to know about the cutting edge stuff.*
- *We plan to build our own building in the next year, on our own land. I'd be open to having an intern give advice about the building plan so we can incorporate efficiency etc into the building from the start.*
- *We use a lot of power equipment. If we can be more efficient there, we're interested.*
- *Sopogee is putting in a prototype demonstration with a HREDV grant. Solar air conditioning and hot water.*

THE ROLE OF CORPORATE

- *In terms of using interns, corporate would have to okay this. There may be issues with insurance and liability. Most of the decision-making on these issues would have to come from the corporation. I'm not empowered to make these decisions. The guy who re-did our lights and is looking into providing PV pays for it upfront and then we pay him back over time. This makes it really easy and affordable.*
- *We're part of a larger corporation. Any big changes need a proposal, projections of savings and a lot of lead time.*
- *ABM is a global corporation that provides training and expertise to its branches. We're well taken care of and very interested in the efficiency issues as they save our clients money. We would consider taking interns that have been through your trainings. I'd need to know more about this.*



- *Lowe's is a corporation. Most of our facility decisions are made at the corporate level. We are provided a lot of in-house services in terms of training, safety, assessments, etc. That's where we look for help.*
- *I have had to answer these questions from the standpoint of my owner and he is not at all interested in any of this.*
- *Any decisions have to be made by the corporate headquarters. I would consider requesting something if it seemed beneficial to my store.*
- *Most of these questions are not up to me. We are owned by a corporation and representatives from it look at what's going to be most cost-saving.*
- *Much of the efforts cut costs feel out of our power to control. Corporate is more able to make these decisions and the building owners. Call us next month and find out when our corporate VP is coming. Also check with our Kihei store.*
- *The national Ace Hardware Company provides most of our training materials for our employees. We consider ourselves pretty knowledgeable about green practices. We make recommendations to our customers.*
- *Glad we could help....contact corporate for completed answers.*
- *Our corporate structure makes it difficult to make store-based, community-based decisions. I wish I could figure out how to get corporate to move forward on reusing 'distressed' merchandise. 'Maybe' you could provide a local solution and offer a proposal to the corporation.*
- *Our parent corporation provides so many services and information. Sustainability is a huge concern because it is so often cost saving, and we must look at cost savings to stay competitive. We have diverse ways of getting the support we need. We are a union company so we are bound to hiring those union members out of work before looking at other potential employees.*

A RENTER, NOT AN OWNER

- *Glad you're doing this. Working to help move this forward. It's frustrating because we'd like to make improvements in PV and air conditioning, but the owners aren't willing.*

FINANCIAL CONCERNS

- *I'm interested in those programs that can help me save money and be more cost effective.*



- *If economics weren't as serious as they are, we would make sustainability improvements a greater priority. We want to do what we can.*
- *We have looked at many options. We're familiar with the low-hanging fruit. Capital to invest is the issue. We've looked into PV and would like to install it to pay for the cooling, but the capital isn't available right now. Individual stores might be interested in some energy saving possibilities, but they're hurting for capital too.*
- *We're always looking at greater efficiency. It saves money. Sometimes it's a matter of having the capital to make the improvements, even if they will save money in the end.*
- *We are closing at the end of the month. No future plans. Our lease is up. Our business has declined.*
- *I would like this information kept confidential.*
- *This is exciting. We try to balance cost and environmental improvements.*
- *I have concern about the amount of time we'd have to put into providing data for an assessment.*

EMPLOYMENT OPTIONS

- *Rewriting a job description to include energy assessment and green upgrade abilities.*

UNIQUE TO PROPERTY MANAGEMENT

- *Each of our 30 clients are going to have a different view of these questions. This survey was done from a general point of view. The competitive advantage that comes from cost savings is going to be primary with most of our clients.*
- *We manage 7 properties - 3 controlled by Home Owners Association, There is a lot of turnover of our owners. When they are planning to sell, they aren't interested in long term savings. The organization that represents the board is sensitive to green, but we can't mandate it. Four of our properties we have more control of- as rental management contractors. Through our management contract, we bear the burden of the costs- we manage 230 units on behalf of owners we can do certain things - using products that are green sensitive like non-nitrated soaps, for example. We don't control the electric bills on the internal spaces. We have made considerable savings by changing the external lighting to LED because we got a rebate. We did a \$2 million study for PV that showed a ROI in*



2 years. There is an issue with retrofitting the solar. We want to get investors (non-profits can't get tax credits). We can't drill wells - the county won't let us because we are too close to ocean. We've tried to change to flow restrictors on faucets and showers and the owners don't like them. . Most of our refrigeration is energy star. We have reset the thermostats on all of our hot water tanks. We are looking at the next generation of LED lighting. The parent company is pushing green and so I am trying to be as aggressive as I can. State law requires that condos must be individually metered. We pay the utility bills as contractor for 23 rental owners. Our electricity bill is \$1 million, our gas bill is \$30,000....our water and sewage bills are combined. We did a heat exchange for cooling at Kai Malu with hot water heaters and got a 5 yr. pay back. We replaced all our sidewalks with pavers - water runs through it.

NON-PROFIT CONCERNS

- *Non-profits don't receive tax credits. Need other incentives or benefits. Working with a board has it's own challenges. New proposals need to be simple, clear. Worth focusing on non-profits but we have special challenges.*
- *We are not a typical business and so our answers are going to differ. We believe that the supports for businesses are already out there. It is more about publicizing. I don't want it implied that I think by answering 'Yes' to these questions of support that I think a separate entity needs to be created. We already have these supports named and provide some of them ourselves to businesses.*
- *Decision-making regarding changes is done by headquarter staff. I believe there needs to be a focus on making it beneficial for non-profits and property owners who rent out their properties to adopt renewable energy. Develop programs that help these people eventually own their systems, but not have to pay the full cost upfront.*
- *Our students come first. There are things we're doing without related to the classroom that take precedence over sustainability improvements.*
- *State facility- some programs might not be available to us. Our facility is old and needs constant repair. Hard to focus on anything else.*

LEGISLATION AND POLICY CHANGES

- *Regular people who care are the ones who will make the difference. Not elected officials.*
- *County is short-sighted about water catchment restrictions for a water meter. A valve will do the job. How can this not be a simple thing? Why can't we have*



cisterns under the house, kept cool and protected. Like in the BVIs. The Realtors Association would be a good place to promote these opportunities. Not just realtors, also folks in the building trades. Talk to RAM head honcho, Dave Deleon. There will be volunteer energy to help make all of this happen. Help spreading the word. Web site will be really important! There is potential to make money for this effort through allowing advertising on the web site.

- *Maui should be the poster child for renewable energy. So much opportunity to be the green state of the country. Let's capitalize on that. 'Maybe' all future homes have PV on their home- helps everyone. Give incentives to include on new homes.*
- *We should do something that affects homeowners. We need the community working on something like this.*
- *Planning Department is a hindrance to business. Permitting takes forever- doesn't make sense. Even re-models to make business more efficient takes way to long and is adversarial. A/C is essential to Hawaii, yet doesn't teach how to do it. Not enough trade taught.*
- *A lot of mainland companies are showing up on island edging out local companies especially with the newest 3rd tier Feed-in-tariff ruling by the PUC.*
- *I'd like to see the State reach it's goals. I still think MECO has to have the ability to be fully able to provide the whole island with power, protecting against no wind, no sun, weather catastrophes. I believe prices and rates will continue to rise, even with conservation and RE, because the companies need to meet their budgets. Everything comes down to economics*
- *We do not look to the government, it just slows things down. We find that allowing the market to work provides good opportunities for new information, technology and improvements. Need a solid economic model to support energy efficiency.*
- *Maui should be an example of how things should be done. We have so many renewable resources, we should make good use of them. Sun, wind, ocean. Private business has a role to play. How can they connect with government to make good things happen?*
- *Maui County should think about an eco-friendly craft fair. Farm to Fork - presentation of a dish that was sustainable, beverage vendors, big contest was hosted at the Ka'anapali Resort but it was part of a hui of Food and Beverage Departments. Doing something along these lines for sustainability. Our committees meet usually once a month, but during holidays we postponed. and every quarter is for our associates we pass on tips to them. Each department has*



one representative. Housekeeping, Food and Beverage, Engineering, Landscaping. Not set for next quarter. Committee members change every year.

- *Maui County needs to look at ways to re-use materials, compost the compostables. Proposals are being considered that aren't completely thought out. Create solutions that don't make it harder for business. Could we look at incineration to energy?*