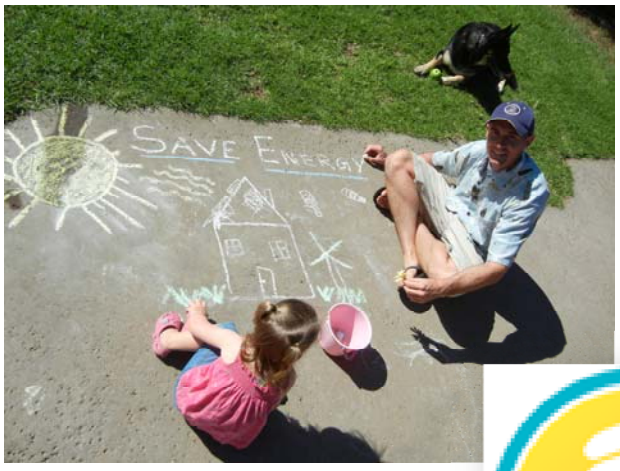
Hawaii Energy

Your Conservation and Efficiency Program



Program Year 2013
Annual Plan

Hawaii Energy is a ratepayer-funded conservation and efficiency program administered by SAIC under contract with the Hawaii Public Utilities Commission serving the islands of Hawaii, Lanai, Maui, Molokai, and Oahu.

SAIC

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1.0 INTRODUCTION

On behalf of **SAIC, Energy Environment, & Infrastructure , LLC ("SAIC")** as the Hawaii Public Benefits Fee Administrator (PBFA), the PBFA's proposed Annual Plan for Program Year 2013 (PY13), July 1, 2013 – June 30, 2014, is presented below.

1.1 Annual Plan

This Annual Plan ("Plan") provides new strategies and a roadmap for administration and delivery of the Hawaii Energy *Conservation and Efficiency Program.* This Plan is for the fifth year of the Hawaii Energy Program and, therefore, will build upon the successes and lessons learned during the last four years.

With this new Plan, the PBFA will continue evolution of our overall strategies to increase program participation, maximize cost-effective energy savings, reduce dependence on imported fossil fuel and encourage expansion of energy efficiency, conservation and renewable energy measures throughout the islands.

As with last year, the PBFA will also continue to promote the Program's focus on individual behavior change, personal energy awareness and group cultural change regarding energy use and sustainability in Hawaii.

As the Program leveraged the increased budget last year there were significant advancements in targeted hands-on assistance to major sources of future energy savings for the State. These efforts provided energy metering and system reviews for targeted large usage customers.

As the Program Year evolves and these and other factors reveal their true impacts on the Program, the PBFA will revise efforts for the benefit of the overall Program goals, with the concurrence of the Contract Manager.

1.2 Key Factors Impacting and Actions Basis for Annual Plan

The following are some of the key factors and actions that have impacted the Annual Plan developed for PY13.

1.2.1 *Required Increase in Targeted Cost Effectiveness* – The increase in the targeted demand (+8%) and energy values (+20%) between PY12 and PY13 Targets drives the program decisions to a great extent putting pressure on lowering incentive levels and limiting the higher cost to serve "investment" such as benchmark metering efforts that do not immediately result in first year savings for the program.

- ***PY13 Significant Reduction in Program Reliance on CFLs***
  - 53% in PY11 to 39% of Program kWh in PY13
  - 1,923,077 lamps to 1,516,100 lamps

- ***Small Business Direct Installation Program (SBDIL)***
  - First Year for SBDIL $2.45M in PY12.
  - The PY12 cost per kWh is running at $0.59 per kWh

PY12 YTD	kWh Program	Incentive	Count	Cost per kWh
Business	3,294,910	$ 2,127,117	2,290	$ 0.65
Restaurant	827,912	$ 325,746	394	$ 0.39
SBDIL	4,122,821	$ 2,452,862	2,684	$ 0.59

  - To meet the portfolio budget this program will be:
    1. made smaller $1.3M in PY13
    2. remove T8 to LWT8s as a full cost incentive measure
    3. Targeting Cost Effectiveness of $0.52/kWh for PY13

- ***CO Garage Projects used to drive cost effective savings***
  - PY12 reduced the incentive levels from $0.18 to $0.14 this being the customer level portfolio average cost per kWh and capped the payment to 85% of project cost. This stalled participation.
  - For PY13 the program will adjust the level again to $0.12 per kWh and remove the project cost limit.

- ***Continue to support central plant metering and direct program site review and analysis assistance to targeted project development of large savings opportunities***
    - The program will limit the addition of new sites and concentrate on the analysis and use of the existing 13 metering sites of SWAC Office Buildings and Kona Coast Hotels to utilize the kW/ton metering and commissioning for capital project justification based on the data.
    - Water and Wastewater program to provide metering for pump optimization, time-of-use, and demand response opportunities.

1.2.2 *Reduced Reliance on CFLs* – It is recognized that CFLs are "mainstream" and that the program has steadily moved away from a reliance on this "one-trick" pony. The market still responds to low-cost subsidized CFLs, and there was concern last year that the rare-earth phosphor pricing was going to drive CFL prices up last year. This did not happen to the extent predicted and the CFL sales remained steady though at a lower level than PY11 which was a high year with a large push for the technology as well as grants that provide lamps for free for hard-to-reach customers.

PY13 proposed measure mix reduces the CFL energy contribution to the portfolio from 53% of first year energy to 39%. This is a 21% reduction from 1,923,077 lamps in PY11 to a total of 1,516,100 lamps in PY13 with a 9% increase in per kWh cost effectiveness.

CFL PY11	Residential	Business	Total	% of Portfolio
Incentive	$ 2,078,768	$ 124,733	$ 2,203,501	8.6%
Count	1,841,842	81,235	1,923,077	
$/kWh	$ 0.039	$ 0.010	$ 0.033	
kWh First Year	53,790,929	12,892,740	66,683,669	52%
kW	7,419	1,661	9,080	53%

CFL PY13	Residential	Business	Total	% of Portfolio	CFL Contribution Reduction		
Incentive	$ 1,500,000	$ 32,200	$ 1,532,200	4.6%	$ (671,301)	Incentive	-30%
Count	1,500,000	16,100	1,516,100		(406,977)	Count	-21%
$/kWh	$ 0.032	$ 0.010	$ 0.030		$ (0.003)	$/kWh	-9%
kWh First Year	47,618,159	3,294,972	50,913,130	36%	(15,770,539)	kWh First Year	-24%
kW	6,559	388	6,947	39%	(2,133)	kW	-23%

The Program will maintain current level of reliance on CFLs in order to come close to the achieving aggressive savings targets.

Hawaii Energy will continue to closely work with the retailers and manufacturers to drive the incentive levels to the minimum required to maintain the conversion rates as the prices of the technology and education measures drive demand for the lamps. The preliminary results of the end-use survey work have identified many "sockets" still occupied by incandescent lights demonstrating the need to continue the education and support to achieve deeper penetration of the technology as LEDs come to the market and become the cost-effective technology.

1.2.3 *Continued Emphasis on Total Resource Benefit (TRB) Target* - The trend of Hawaii Energy's plan is the continued emphasis towards investments with longer term savings. The target goals provided reflect this emphasis by weighting and targeting an aggressive Total Resource Benefit (TRB) target.

The targeted average measure life of 7.7 years is required to meet the assigned energy, demand and TRB goals. In reality the program is populated with measure lives that are bifurcated by the "Average" life with CFLs at 5 year lives and contributing tremendous savings, while longer life 14-20 year T8, Solar and AC projects provide long-lasting though smaller overall savings to the program at far higher acquisition costs.

1.2.4 *New Program Net-to-Gross Values* – The Third-Party Evaluator recommendations for Net-to-Gross values were adopted in the development of the PY13 Annual Plan. These values recognize the differences in program driven savings between the various categories of measures. This method was used prior to the PBFA and is being reinstated with updated information to justify the values. The values used are:

New Net-to-Gross Factors		
Program		**Net-to-Gross**
BEEM	Business Energy Efficiency Measures	0.75
CBEEM	Custom Business Energy Efficiency Measures	0.75
BESM	Business Services and Maintenance	0.95
BHTR	Business Hard to Reach	0.99
REEM	Residential Energy Efficiency Measures	0.79
CESH	Custom Energy Solutions for the Home	0.65
RESM	Residential Services and Maintenance	0.92
RHTR	Residential Hard to Reach	1.00
Effective Program Total Based on PY11 Portfolio Performance		0.78

1.2.5 *Large Committed Projects* – There are several committed large business projects that were driven with the higher incentives and committed in PY12 that need to be accommodated in the PY13 budget. These projects drive the target cost-effectiveness required for the remainder of the business and residential measures to attempt to achieve the targeted energy savings goals.

The projects of significant note adding up to 40% of the PY13 budget plan are:

Major Committed Projects	Incentive	1st Year Energy	Life	Lifetime Energy	Net-to-Gross
Waste Water UV Treatment Lighting	$ 3,200,000	18,929,700	15	283,945,500	99%
Shopping Center Parking Exterior Lighting	$ 320,000	1,660,500	12	19,926,000	75%
Military Existing Home Solar Water Heating	$ 800,000	1,372,237	20	27,444,740	75%
Major Committed Projects Total	$ 4,320,000	21,962,437	15	331,316,240	
% of Business Totals	40%	30%		35%	
Cost per kWh		$ 0.197		$ 0.013	

1.2.6 *Small Business Direct Installation – Lighting (SBDIL)* – This program will be modified to eliminate full project cost incentives for Standard T8 to Low-wattage T8 and return them back to the standard prescriptive incentive levels. This move will markedly increase the cost effectiveness and drive the focus on businesses that for whatever the circumstances have not been able to get the T12s out of their facilities. The T12 to T8 retrofits will continue at full value incentives as well as ENERGY STAR® LED/CFL and LED Case lighting.

This action will help drive the cost effectiveness from $0.75/kWh (PY12 realized value) for all business types to $0.57 for Restaurants (better due to normally longer operating hours) and $0.46 for all Small Businesses.

The budget will be dropped from $2.7M to $1.25M to meet the targeted program goals. There are currently six more contractors coming on-line, so this will pose a challenge to keep all interested with meaningful or desirable work driven by the program. There is also a refining of the Memorandum of Understanding (MOU), to strengthen oversight and monitoring metrics to address lessons learned in the first full year of implementing the SBDIL program.

Small Business Lighting - Direct Install	Incentive	1st Year Energy	Life	Lifetime Energy	Net-to-Gross
SBDIL Small Business	$ 750,000	1,314,563	14	18,403,882	105%
SBDIL Restaurant	$ 500,000	1,095,930	14	15,343,020	105%
SBDIL Totals	$ 1,250,000	2,410,493		33,746,902	
% of Business Totals	12%	3%		4%	
Cost per kWh		$ 0.519		$ 0.037	
Major Committed Projects Total	$ 4,320,000	21,962,437		331,316,240	
SBDIL Totals	$ 1,250,000	2,410,493		33,746,902	
Major Committed and SBDIL Total	$ 5,570,000	24,372,930	15	365,063,142	
	51%	34%		38%	

1.2.7 *Increased Transformational Program* – During PY11 and PY12, the Program demonstrated the value of Transformational Program activities. The Program will continue to improve on these efforts as proposed in this Plan. These activities include education, training and other similar transformational activities that may not result in immediate quantifiable energy savings, but are likely to contribute to energy savings over time.

1.2.8 *Equity Among Rate Classes and Among Islands* – In PY13, the Program will continue to expand its efforts to bring Program benefits to small businesses, landlord-tenant situations and other hard-to-reach (HTR) customers. Additionally, the Program will review available mechanisms that promote Island Equity and implement pilot programs where feasible to test for the best equity enhancers for each island's particular circumstances.

1.2.9 *Reemphasis on Energy Usage Evaluation & Customer Targeted Offerings* – The Program has found that the use of evaluated and peer compared monthly energy data is a good tool to target and engage interest and participation in energy conservation and efficiency efforts. This provides customers with valuable information about their energy usage, and feedback on prior actions taken that can be used to justify projects to owners and get approval of energy efficiency actions. The Program will expand the effort to automate and make the program more widely available as well as use the peer comparisons and benchmarking to promote the best-of-the-best operational awards. The Program will also utilize time-of-use data, energy use benchmarking, and opportunity screening for in depth review of energy usage patterns to identify savings opportunities

1.2.10 *Turn-Key and Direct Install Programs*– The Program demonstrated success in procuring turn-key programs and services from specialty vendors, including OPOWER peer comparison in PY10/11/12 and NEED.org teaching modules PY11/12. These turn-key programs have proven to be cost effective methods to secure highly skilled, top-notch services that the Program will continue into PY13. The following are examples of programs to be continued for PY13:

- Educational and Training – Programs to drive capabilities for the Building Operators and decision makers such as Building Operator Certification (BOC) training, International Facility Management Association (IFMA) local technical training seminars, Association of Energy Engineers (AEE) certification classes and testing for Certified Energy Managers (CEM) and Certified Energy Auditor (CEA), Energy Efficiency Funding Group (EEFG) Selling Energy Efficiency seminars.
- Small Business and Residential Direct Install Measures – Direct install and audit services from small local energy firms and community-based service organizations to provide energy audit and retrofits will expand beyond lighting.
- Restaurant Exhaust Fan Demand Ventilation Control – Direct install of exhaust fan demand ventilation control for small restaurants
- Central Plant Benchmark Metering – Installation of plant kW per ton metering to assist in developing peer group comparison of plant efficiencies as well as to aid customer commissioning efforts and the evaluation of the sea water air conditioning development.

1.2.11 *Attention on Island Equity* – The program has addressed the County of Hawaii's concerns that its ratepayers paying into the Public Benefits Fund have not historically received their share of the Program's incentives. In PY12, the Program developed and implemented a direct-install Solar Water Heating installation offering for hard-to-reach households in Hawaii County, which exceeded the Program's island equity contribution to the county.

The Program will continue to expand its outreach, education and training for both Maui and Hawaii counties and continue with direct-install efforts for small businesses and residents with enhanced solar and other targeted special incentive initiatives.

1.2.12 *Increasing Program Name Recognition* – It is recognized that there is a need for sustained emphasis on advertising, marketing and public relations to increase the brand name recognition. Advertising has been modest, but has been able to show increased Program exposure and recognition. Increased brand recognition will help the Program attract all potential customers and avoid any potential losses due to consumer confusion as to what entity to contact for incentives. In conjunction with this, the Program will continue to expand and upgrade the Program website to increase ease of use and encourage greater participation. The Program will explore methods to measure the effectiveness of advertising and other marketing efforts where possible to ensure funds are used efficiently.

1.2.13 *Proposed New Avoided Cost Table for TRB* – Hawaii Energy will work with the Contract Manager and the Energy Efficiency Portfolio Standards (EEPS) Avoided Cost Subcommittee to determine proposed updated Utility Avoided Cost figures.

These new values will be used to determine new TRB values that are more reflective of the current benefits to the Utilities and passed on to their customers.

The new HECO IRP information just released this year and the historical monthly avoided cost numbers provided by the HECO companies will be used to determine the new values.

It is understood that the TRB goals will need to be adjusted when the new avoided costs are agreed upon.

2.0 Outreach & Marketing Communications

2.1 Overview

Front and center, the overarching objective of the Program's Outreach & Marketing Communications (Marcom) is to increase active ratepayer participation in Hawaii Energy offerings (i.e., residential rebates, business incentives and transformational educational/training opportunities). During preparation for and continuously throughout the program year, specific objectives and tactics for each of the various channels of traditional and non-traditional Outreach & Marcom are strategized, developed, refined, executed and analyzed pre and post-execution to maximize reach and effectiveness.

For PY13, the Program will review and leverage successes and lessons learned to refine and enhance strategies and tactics already proven effective, as well as explore additional innovative, cost-effective and wide-reaching opportunities. Key objectives and strategies are highlighted below:

2.2 Key Objectives

Key PY13 objectives for the Program's Outreach & Marcom include continuing to:

- Generate awareness of what Hawaii Energy is and our role in the energy efficiency and conservation arena.
- Promote Hawaii Energy as the "partner" and "ally" for Hawaii, Honolulu and Maui county ratepayers as they consider and adopt conservation behaviors, and integrate energy-efficient equipment.
- Improve awareness, engagement and participation in Hawaii Energy's residential, business and transformational offerings.
- Promote a call-to-action by driving traffic to Hawaii Energy's website and call center for further information on Hawaii Energy offerings.

2.3 Outreach

The Program will expand our community outreach efforts to continue to bring awareness of Program rebates and offers to the general ratepayer population and business communities. A few highlights of our outreach efforts include:

- **Traditional Outreach** – The Program will continue to sponsor and/or participate in as many community and trade expo events as possible. Participation in these events will be determined based on factors including past history, audience, attendance and location. In addition, as appropriate, Program personnel will join and participate in professional organizations that are important for the Program to support as an active member, provided there is no actual or appearance of conflict of interest.

- **Outreach Through Community Allies & Organizations** - The Program will continue to seek and partner with organizations that share a common or similar objective of helping the community through environmental and/or sustainable efforts. In addition, the Program will further develop strong working relationships and partnerships with nonprofit organizations focused on health and human services to increase outreach with "hard-to-reach" populations.

- **Collaborate with Hawaii Businesses and Organizations** - Hawaii Energy will increase collaboration with private businesses to increase reach and distribution of easy-to-understand and apply information about efficiency and conservation.

2.4 Marketing Communications

Effectively leveraging and executing Marcom requires an in-depth knowledge of the pros and cons of all traditional and non-traditional channels at the strategic and practical hands-on execution level. The Program has this strong know-how and experience with key Marcom industry-recognized channels including those highlighted below in: (1) public relations; (2) website; (3) social media; (4) email marketing; (5) marketing collateral; (6) co-op marketing with trade allies; (7) direct mail; and (8) advertising.

A. Public Relations

For the Program, public relations encompasses: (1) media relations and (2) program positioning. Objectives include:

- Increase awareness and understanding of Hawaii Energy and the important role that it plays in helping ratepayers reduce electricity use in Hawaii.
- Position Hawaii Energy as the leader of or trusted resource for energy efficiency and conservation.
- Create understanding and confidence that energy efficiency and conservation actions can be done easily and effectively; and showcase the benefits of leading an energy-efficient lifestyle.
- Improve participation from "hard-to-reach" segments in Hawaii Energy offerings.
- Generate general ratepayer engagement and participation in Hawaii Energy offerings.
- Secure additional "third-party endorsements" of Hawaii Energy from the media, as well as key community leaders and stakeholders. For example, as appropriate, the Program would provide conservation tips and key Program rebate highlights to policymakers for consideration and inclusion in their communications with constituents (e.g., via newsletters, emails and town hall meeting announcements, presentations and/or collateral).
- Target one major media hit per month.
- Pitch case studies, success stories and human interest stories to the media and other mass, trade or community communication gatekeepers (e.g., professional organization newsletters), as well as incorporate into other appropriate medium including but not limited to website, social media and other program communications.

B. Website

In PY13, the Program will refine the new website, which is anticipated to be launched in Q4 of PY12. On a continuing basis, the Program will humanize and keep the website fresh with frequent updates and features including but not limited to highlights of photos and stories about community outreach events, trainings and success stories.

Additionally, we will focus on developing "responsive design" across all platforms. This will require additional HTML coding of the website to make it viewable and useable across smartphones and tablets. The structure of the site will be flexible and reformatted accordingly for better usability across different browser sizes, devices and platforms.

C. Social Media

With the growing prevalence of social media, the Program will continue to expand our brand presence, promote offerings and highlight success stories through various social media channels including but not limited to Facebook, Twitter and Instagram.

We will continue to connect with our social media followers by providing engaging and interactive content. In addition, we will continue to explore additional, innovative ways to keep the interest of our followers.

D. Email Marketing

In PY13, the Program will continue to develop and implement a robust email marketing system to support program communications, including but not limited to regularly occurring e-newsletters and event email blasts to opted-in "subscribers" of one of three general categories: (1) "residents" (i.e., general population ratepayer); (2) "businesses" (i.e., business entities); and (3) "energy professionals" (i.e., individuals and/or entities in the energy efficiency and/or conservation industry, such as solar water heating trade allies and vendors).

In addition, we will improve: (1) the ability to grow and maintain email audiences and (2) email marketing communications integration/sharing with web and social media communications.

E. Marketing Collateral

To support all Marcom and program objectives, as appropriate for the audience, the Program will continue to:

- Extend the Hawaii Energy identity and brand architecture into a distinctive, coordinated and effective collateral communications system.
- Develop a collateral system that supports the offering plans for the residential, business and transformational programs.
- Ensure that important information is written and organized in an easy-to-understand manner for strategic partners, trade allies and ratepayers.

F. Co-Op Marketing with Trade Allies

In PY13, the Program will continue to explore, create and refine co-op marketing opportunities with trade allies to include participating contractors, manufacturers and financial institutions as appropriate. This will enable us to partner with our allies, increase our brand awareness and maximize our marketing budget.

G. Direct Mail

The Program recognizes that segments of the population - due to geographic, socioeconomic and/or other factors - are still very traditional in their media consumption (e.g., preference for direct mail, hard copy collateral, and print and broadcast advertising). As such, the Program will explore and consider implementing targeted direct mail and other integrated marketing efforts to promote various rebates and energy efficiency measures to businesses and residential ratepayers.

H. Advertising

By way of summary, in recent program years, the Program developed and executed an annual short-run (i.e., mainly Q4 of each PY) advertising campaign as part of an integrated marketing campaign to promote a specific residential offering. In PY11, the campaign focused on CFLs, whereas PY12 focused on solar water heating.

In PY13, an advertising campaign – as part of an integrated marketing campaign - can be developed pending availability of budget and upon assessment and development of key, easy-to-grasp top offering(s) and call(s) to action from the residential, business and/or transformational programs for the mainstream population that consumes online, broadcast (i.e., radio, TV, online) and print (i.e., newspaper and magazines) media.

In conjunction with an advertising campaign, the Program will explore other advertising opportunities throughout the year to increase reach and awareness of Hawaii Energy offerings, as well as the Program's overall branding. We will also explore grassroots advertising media such as industry, trade and community publications and newsletters.

3.0 Transformational Actions

3.1 Overview

Market Transformation seeks to identify, assess and help overcome market barriers that stand in the way of people and business adopting energy efficiency technologies and practices. With limited resources, Hawaii Energy's transformational programs will strike a balance between creating new offers while supporting existing efforts in Hawaii, Honolulu and Maui counties.

With some key initiatives underway in the state to remove some significant market barriers such as financing energy efficiency (i.e. On-Bill Financing), Hawaii Energy will focus on changing behaviors among three major demographics: households beginning with underserved populations, workplace personnel and the technical workforce.

3.2 Key Objectives

The key objectives of the Transformational programs will be to:

- Support programs and initiatives that will have a direct impact in reducing energy consumption in the State within a five year period.
- Leverage the great work of others in the community in reaching target audiences by incorporating the Transformational initiatives as part of their missions.
- Strive to achieve sustainable transformational activity in the community, by which it may continue and evolve through support other than exclusively PBFA funding.

3.3 Behavior Modification

Hawaii Energy recognizes that the majority of the State's population struggles to understand energy usage in their daily lives. In working towards the goals of the Hawaii Clean Energy Initiative, the ignorance of energy consumption or "energy illiteracy" presents a significant impediment to progress, especially in the context of personal behavior and its impact on energy efficiency and conservation. Hawaii Energy holds the position that to affect behavior, the State's population must improve its "energy literacy", much the same way the general population has developed a basic literacy about nutrition to achieve better personal health (e.g. calories counting).

Behavior modification will be built upon the foundation of energy literacy. This began with the great work of Helen Wai, empowering people through Financial Literacy and Energy Efficiency Education. She will continue working with the hard-to-reach populations of Hawaii, Honolulu and Maui counties. The program will be developing an offering that will not only serve to develop future green employees through great internships, but will do so through an in-home mentoring program. This offer is envisioned to provide an educational experience to families while conducting a simple home energy assessment.

Hawaii Energy recognizes that developing an energy-literate population is a significant challenge that requires a long-term, sustainable approach. It is also paramount that strategies under consideration leverage the Program's limited financial and personnel resources, while achieving scale. Viable strategies that will be considered need to scale in ways that can reach thousands, if not tens (or hundreds) of thousands of people, based on a cost structure that has traditionally reached hundreds of people (i.e. conventional classroom education, tutoring, etc.). Such anticipated strategies are presumed to be based on Internet, mobile device technologies and social media. Hawaii Energy will also encourage the means for participants to gain energy literacy through practice and action in addition to acquiring the knowledge to do so.

The initial effort to achieve this scale with be through a pilot initiative that will produce and distribute lessons in energy efficiency and conservation through various means (i.e., video, infographics, images, etc.) using socially, culturally and economically-relevant messaging. The program will also develop an innovative distribution method to provide access to simple devices that can facilitate learning through discovery (e.g., understanding electricity consumption of a DVR by measuring it with a simple kWh monitor).

Finally, Hawaii Energy will develop a pilot initiative to bring in-office or at-the-workplace mentoring and education to raise energy literacy on the job. For some sectors (i.e., lodging and hospitality), a large number of employees can be accessed and the Program can provide energy literacy useful in the workplace and in the home. Initiatives under development include both hands-on engagement and facilitation by the Program, subcontractors and partners, but also in the form of packaged curriculum that can be offered through an employer and "brown bag" lunches.

3.4 Professional Development

Professional development is aimed at professionals who are either new to the working world, new to energy efficiency or both. The largest initiative will target education based upon NEED.org activities already underway. In the coming program year, Hawaii Energy will seek to recruit new teachers and make significant inroads with administrators and the

Department of Education in a "push/pull" strategy. Enthusiastic teachers want to bring energy efficiency content into the classroom. Hawaii Energy can help them "push" this agenda at the classroom level, at the discretion of each individual teacher. But for true success, Hawaii Energy will seek to engage school administrators and those at the DOE responsible for curriculum development to help integrate energy efficiency content into state education standards and curriculum. If successful, they will "pull" energy efficiency education into the classroom.

For those that may still be students or recent graduates, Hawaii Energy will support a number of internship opportunities. These internships will be offered for both residential and commercial opportunities that will provide a great educational and professional experience. Interns are anticipated to support in-home mentoring (residential energy assessments), supporting the administration of the Programs' small business lighting participants as well as other needs under consideration.

For those in the workplace with significant business experience, but little if no knowledge of energy or energy efficiency, Hawaii Energy will seek to continue its offering of training opportunities with EEFG. This organization is adept at creating value at the intersection of energy management, real estate, finance, operations, sustainability, and professional selling. In addition to offering new online seminars, Hawaii Energy will look to maximize the value of this offer by ensuring the most qualified applicants are accepted to attend.

3.5 Technical "Know How"

Technical "know how" is focus on engineers, facility managers, architects and the like who have been around infrastructure and energy for a good part of the career, but need to enhance their technical skills. There are a number of opportunities with various companies and individuals Hawaii Energy will engage. The Program will also collaborate with industry including the local utility and professional organizations to ensure mutual needs are met without offing redundant classes. Hawaii Energy will also seek to maximize energy efficiency training that aligns with its planned portfolio of incentive offers. New this program year will be collaboration with the University of Hawaii to integrate curriculum for credit.

Hawaii Energy will address "rate class equity" by developing offers for residential, and large, medium and small businesses (G, J and P). This will be achieved by developing the right offer, marketing and/or stricter criteria to ensure we have attendees who will benefit the most.

- Behavior Modification will target ~70% to the residential ratepayer.
- Professional Development will target ~70% to the commercial ratepayer.
- Technical "Know How" will target 100% to the commercial ratepayer.

4.0 RESIDENTIAL PROGRAM STRATEGY & DETAILS

4.1 Overview

For PY13, Hawaii Energy will maintain programmatic changes adopted in PY12, specifically the incentive categories:

- Residential Energy Efficiency Measures (REEM) – This incentive category is the core of Hawaii Energy's residential portfolio and undergoes incremental developments responding to market conditions (i.e. retail pricing) and consumer need.

- Custom Energy Solutions for the Home (CESH) – This incentive category provides a measure of flexibility within the prescriptive portfolio to accommodate unforeseen market opportunities. The budget and unit cost targets provide financial efficacy guidance to the Program and allies who champion these opportunities.

- Residential Energy Services & Maintenance (RESM) - This incentive category targets ally-driven service offerings to enhance energy savings persistence and bootstrap fledgling energy services businesses trying to secure a toehold in Hawaii.

- Residential Hard-to-Reach (RHTR) – This incentive category will seek to secure various projects among geographies and demographics that have been traditionally underserved. Efforts in PY11 and PY12 to pierce the landlord/tenant barrier of installing SWH systems were unsuccessful despite enhanced incentive offers. However, geographic barriers are seen as an opportunity for PY13.

A summary listing of the new Residential Program offerings can be found in the table below followed by a brief summary of additions and changes. A detailed description of the Residential Program offerings follows in section 4.1 through 4.4. Appendix B contains a projection of potential energy savings for the planned programs.

Residential Programs		
Program	Category	Measures
REEM	***Residential Energy Efficiency Measures***	
	High Efficiency Water Heating	
	High Efficiency Lighting	
	High Efficiency Air Conditioning	
	High Efficiency Appliances	
	Energy Awareness, Measurement and Control Systems	
CESH	***Custom Energy Solutions for the Home***	
	Target Cost Request for Proposals	
RESM	***Residential Energy Services & Maintenance***	
	Residential Direct Installation	
	Residential Design and Audits	
	Residential System Tune-Ups	
RHTR	***Residential Hard to Reach***	
	Energy Efficiency Equipment Grants	
	Landlord, Tenant, AOAO Measures	

4.1.1 *New Program Offerings of Residential Energy Efficiency Measures (REEM)*

High Efficiency Lighting

- LED Lighting – While not new to the residential portfolio, Hawaii Energy anticipates the availability of ENERGY STAR® certified products to surge, particularly for popular A19 bulbs, while retail prices fall, providing an attractive energy savings option to residential consumers. The Program will closely follow availability (rising) and pricing (decreasing) in order to maintain adequate incentive levels.

High Efficiency Appliances

- High Efficiency Pool Filtration Pump Systems – This is an incentive for residential pool pumping techonolgies that offer 40% to 60% savings when using newer pump technology including variable speed/flow controls, improved motors and pump designs.

- Hawaii Energy plans to continue all PY12 offers, while improving retail merchandising.

Energy Awareness, Measurement and Control Systems

- Peer Comparison – Hawaii Energy plans to continue the OPOWER Home Energy Report peer comparison program, which was expanded to the Neighbor Islands in PY11. The market for peer comparison initiatives is evolving in PY13 to include social media and consumer-based rewards programs. Hawaii Energy's strategy will look for ways to affect measurable energy savings through behavior change in both residential and transformational portfolios by evaluating the evolving options arising in the market.

While not new to the residential portfolio, the market approach to promoting the following offers will evolve, specifically:

- Whole House Energy Metering – Hawaii Energy will explore targeting specific high-use households to consider this measure, which will undergo a review of qualifications.

4.1.2 *New Program Offerings of Custom Energy Solutions for the Home (CESH)*

Target Cost per KWh Request for Proposals

- Custom Packaged Proposals – This program will target and encourage contractors, home auditors, and energy vendors to develop cost-effective projects that focus on high energy consumption homes. The program will be a call for projects that meet a total dollar per kWh savings target and allow the market to be creative in the actions and measures that achieve the targeted cost per kWh energy savings. The projects will use utility metered data and be sub-metered if required to ensure savings performance.

Residential Design and Audits

- Efficiency Inside Home Design – This measure provides developers with financial, technical and other assistance to promote the construction of homes that require the least amount of air conditioning to meet customer demands. It is assumed that all new homes will have solar water heating, Energy Star appliances and CFLs. It is expected that the best built homes will provide 20-30% reduction in energy consumption as compared to IECC 2006 code built homes. Net zero homes will provide 100% reductions.

Residential System Tune-Ups

- SWH System Tune-Up – Hawaii Energy will implement a seasonal offer based on the results of the Solar Tune-Up Pilot conducted in PY11 and complement the Solar Water heating marketing and incentive push in PY12.

4.1.3 *New Program Offerings of Residential Hard-to-Reach (RHTR)*

Energy Efficiency Equipment Grants

- Solar Water Heater (SWH) Incentive – Hawaii Energy will provide approximately 56 solar water heating systems (anticipated to be provided as a no cost service) for those hard-to-reach segments in the most need.

4.1.4 *Additional Residential Program Initiatives*

Program Promotion of Professional Recycling and Disposal – Hawaii Energy is continuing to expand program offerings that incentivize recycling and disposal to take less efficient appliances off the grid. Through these initiatives, we are also supporting local small businesses to handle the recycling or appropriate disposal. As LED lighting options continue to increase, Hawaii Energy will explore opportunities to expand CFL recycling options, particularly on the Neighbor Islands.

Point of Purchase (POP) Rebates – Hawaii Energy expanded the highly successful POP rebates of CFLs to other incentivized products. Hawaii Energy will continue to explore viable options to continue this offering that makes it easier for the customer to obtain their rebate and lead to greater penetration of consumers.

4.1.5 Residential Program Details Table of Contents. To follow, in Sections 4.2 through 4.6, is an overview summary of Residential Program Offerings followed by detailed descriptions and energy savings. The Overall Program Details are provided on the following page, preceding the individual Program summaries.

4.2 All Residential Programs Overview

4.3 Residential Energy Efficiency Measures (REEM)
4.3.1 *High Efficiency Water Heating*
4.3.2 *High Efficiency Lighting*
4.3.3 *High Efficiency Air Conditioning*
4.3.4 *High Efficiency Appliances*
4.3.5 *Energy Awareness, Measurement and Control Systems*

4.4 Custom Energy Solutions for the Home (CESH)
4.4.1 *Target Cost Request for Proposals*

4.5 Residential Energy Services & Maintenance (RESM)
4.5.1 *Residential Direct Installation*
4.5.2 *Residential Design and Audits*
4.5.3 *Residential System Tune-Ups*

4.6 Residential Hard-to-Reach (RHTR)
4.6.1 *Energy Efficiency Equipment Grants*
4.6.2 *Landlord, Tenant, AOAO Measure*

Program Category	**4.2 Residential Programs Overview** **Overview of All Categories**
Target Market	• Homeowners, Landlords, Tenants and Property Managers • Manufacturers, Distributors, Dealers and Retailers. • Solar Contractors, Plumbing Contractors and General Contractors • Architect and Engineers
Projected Impacts	Demand 9,616 kW Energy 69,544,319 kWh Incentive Budget $8,871,439 Cost per kWh $0.128 /kWh TRB $71,459,715
Technologies	**Incentivized Measures** — **Incentive Forecast** **Residential Energy Efficiency Measures** $7,504,500 **Custom Energy Solutions for the Home** $25,000 **Residential Energy Services & Maintenance** $540,000 **Residential Hard-to-Reach** $801,939 $8,871,439 • Solar Water Heating Systems $1,000 • Solar Water Heater Interest Buy Down $1,000 • Heat Pumps $200 • CFLs $ 1.00 • LED $7 • VRF Split System AC $200 • Ceiling Fans $35 • Solar Attic Fans $50 • Whole House Fans $75 • Refrigerator (<$600) $50 • Refrigerator with Recycling $125 • Garage Refrigerator/Freezer Bounty* $75 • Clothes Washers (Tier II / III) $50 • Pool VFD Controller Pumps $150 • Room Occupancy Sensors $5 • Peer Group Comparison $11.32/HH • Whole House Energy Metering $100 • Custom Packaged Proposals $0.25/kWh • Direct install $0.50/kWh

Program Category	4.2 Residential Programs Overview Overview of All Categories
	• Efficiency Inside Home Design $1,000 • Solar Water Heater Tune Up $150 • Solar Inspections (WAP) $95 • *Solar Water Heater (SWH) HTR Grant $10,039 • Energy Hero Gift Packs $40 • CFL Exchange(s) $2.50/bulb • *Custom SWH Proposals $0.30/kWh *New or expanded measures

Program Category	**4.3 Residential Energy Efficiency Measures** **4.3.1 High Efficiency Water Heating**
Target Market	• Homeowners, Landlords, Tenant, and Property Managers • Manufacturers, Distributors, Dealer, and Retailers • Solar Contractors, Plumbing Contractors, and General Contractors • Architect and Engineers
Impacts	Demand 1,124 kW Energy 5,194,420 kWh Incentive Budget $2,718,000 (14%) Cost per kWh $0.52 /kWh TRB $12,422,767
Technologies	**Incentivized** — **Incentive** — **Units** • Solar Water Heater (SWH) Incentive — $1000 — 2,400 • Solar Water Heater Interest Buydown — $1,000 — 258 • Heat Pumps — $200 — 300 **Under Review for Potential Incentives** • Peak demand reduction timers for water heaters • New manufacturers including select evacuated tubes (The following Solar Water Heater Systems budgets are included in the plan under the Landlord/Tenant, AOAO Measures. See section 4.6.2) • Custom SWH Proposals — $0.30 / kWh — 500,000 kWh *(equivalent to 484 systems) ***Total Solar Water Heating Systems*** ***$3,370,189*** ***(Total for REEM standard, buydown, custom and grants)***
Market Barriers	**General** • Large up-front cost • Strong demand for PV / Low awareness of cost-effective SWH • Trust and credibility of technology providers • Quality of system design, equipment and installation • Knowledge operation and maintenances of technologies **Owner Occupant** • Access to and/or understanding of financial options • Time between purchase and tax refunds (carrying cost)

Program Category	**4.3 Residential Energy Efficiency Measures** **4.3.1 High Efficiency Water Heating**
Market Barriers (continued)	**Landlords and Property Managers** • May not pay for electricity cost • Reluctance to invest without a financial return • Short term investment **Renters and Lessees** • Do not have the authority or responsibility for the hot water system • Renter lease term shorter than simple payback
Description & Implementation Strategies	**Solar Water Heating** *Solar Water Heater (SWH) Incentive* The program will provide a $1000 rebate for solar hot water systems installed by qualified participating contractors. The process is: • Customers contact a contractor from a list of participating contractors on Hawaii Energy's website • Contractor comes to the home, reviews site conditions, interviews the customer to analyze hot water usage then provides a written proposal for a complete installation; Contractor's proposed sale price reflects the inclusion of the $1000 rebate • Contractor fills out the Program's system sizing form • Contractor provides rebate form and helps customer to fill it out • Contractor provides Hawaii Energy with building permit number • Contractor installs solar water heating system • Contractor reviews system operation and maintenance with customer • Hawaii Energy will conduct sample post-installation inspections to make sure the systems have been installed properly • Upon successful inspection, Hawaii Energy will rebate the contractor $1000 *Solar Water Heater Interest Buydown* The program provides an incentive to buy down the interest charges for a solar water heater loan from a participating lending institution made on solar hot water systems that are installed by qualified participating contractors. This incentive will cover the loan interest up to a total maximum of $1,000. The process includes: • The customer contacts a participating lender from a list of participating lenders on Hawaii Energy's website • The customer enters into a financing agreement with the lender that indicates the sale price, loan amount, interest component and the Hawaii Energy Incentive. • The customer executes the "Standard" installation process

Program Category	**4.3 Residential Energy Efficiency Measures** **4.3.1 High Efficiency Water Heating**
Description & Implementation Strategies (continued)	**Heat Pumps** Residential heat pump rebates are available at $200. Rebate applications for water heaters are provided by the retailers at the time of purchase or a customer can visit our website and download the form. Rebate applications must include an original purchase receipt showing brand and model number. **Trade Allies** The program will conduct outreach with key allies including the Solar Technical Advisory Group, solar contractors, suppliers, government and housing agencies; financial institutions; and housing, apartment, and contractor associations. This team will promote the program, solicit feedback for more efficient program operation, and identify opportunities for implementation and coordination of efforts
Key Changes	• Contractor or customers may request the inspection if one is not selected to be done • Continual solicitation of new participating lenders to offer loan interest buy down incentive • Recognizing the growing product availability and sales efforts regarding residential heat pumps, increase educational efforts
Marketing Strategies	• Direct contact with participating solar contractors • Community event promotion of High Efficiency Water Heating • Comprehensive marketing initiative • Listing of participating contractors on our website • Integration with Home Energy Report (Peer Group Comparison)

Program Category	**4.3 Residential Energy Efficiency Measures** **4.3.2 High Efficiency Lighting**
Target Market	• Homeowners, Landlords, Tenants, and Property Managers • Manufacturers, Distributors, Dealers, and Retailers
Impacts	Demand 6,953 kW Energy 49,795,738 kWh Incentive Budget $2,550,000 (13%) Cost per kWh $0.051 /kWh TRB $44,508,241
Technologies	**Incentive** / **Units** CFLs $1.00 / 1,500,000 LED $7.00 / 150,000
Market Barriers	**General** • Lack of understanding about how energy is used in the home • Disposal concerns • Lack of understanding as to which technology is the most effective to reduce energy consumption • Product availability of specialty and dimmable LEDs within the customer shopping area **Owner Occupant** • Ability to self-install • Ability to find appropriate CFLs for fixture or ceiling fan • Disposal concerns • May not pay for electricity cost (condominiums) **Landlords and Property Managers** • No control over the hours used for lighting • May not pay for electricity cost • Reluctance to invest without a financial return • Short term investment **Renters and Lessees** • Do not have the authority or responsibility for the lighting fixtures • May not pay for electricity

Program Category	**4.3 Residential Energy Efficiency Measures** **4.3.2 High Efficiency Lighting**
Description & Implementation Strategies	The CFL and LED rebates are offered through manufacture direct incentives which are provided as point of sale cost reductions. The process includes: • Distributors, retailers and manufacturers complete a Memorandum of Understanding (MOU) cooperative agreement in which they provide funds for the advertising, promotion for instant rebates for the CFL and LEDs to customers • Retailers signing the MOU agree to display signage showing the rebate has been provided by the Program, provide assistance in ordering and stocking qualifying products, and provide sales staff training • Retailers agree to promote consumer education, undergo staff training and follow proper procedures. • Retailers with the ability to track incentives using sales data are given the option for issuing rebates without the use of coupons, provided they can demonstrate the ability of providing accurate, timely data on point of purchase information by store by SKU **Trade Allies** The program is implemented through strong working relationships between the program, the major CFL/LED manufacturers and the national retailers. The participating CFL manufacturers are: GE, FEIT, Sylvania, TCP and Philips. Participating retailers include: Ace Hardware, City Mill, Costco, Don Quijote, Foodland, Home Depot, Longs Drugs/CVS, Lowes, Safeway, Sam's Club, Times and Wal-Mart who have all utilized their buying power to offer a better blend of quality, affordable CFLs across the State.
Key Changes	• Development and introduction of a custom lighting rebate offer targeting customers who engage with lighting designers and specialty shops. With a growing selection of EnergyStar® qualified specialty LED products, Hawaii Energy has a small but growing number of small businesses serving this clientele, with no option to benefit from lighting incentives. • Reducing incentive levels for LEDs particularly for new lower cost / higher lumen A19s. • Provide for increased recycling options for CFLs.
Marketing Strategies	• Significant focus on merchandising, including more requirements for in-store signage featuring Hawaii Energy brand and incentive amounts • Advertisements to explain how to select a CFL • Educational information online and in the media • Leverage allies to share CFL information and increase participation • Encourage an increase in selection of CFLs available • Social media

Program Category	**4.3 Residential Energy Efficiency Measures** **4.3.3 High Efficiency Air Conditioning**
Target Market	• Homeowners, Landlords, Tenants and Property Managers • Manufacturers, Distributors, Dealers and Retailers. • HVAC and General Contractors • Architect and Engineers
Impacts	Demand 171 kW Energy 916,140 kWh Incentive Budget $207,500 (1%) Cost per kWh $0.23 /kWh TRB $1,470,281
Technologies	**Units** / **Incentive** VRF Split System AC 400 $200 Ceiling Fans 3,000 $35 Solar Attic Fans 150 $50 Whole House 200 $75
Market Barriers	**General** • Lack of understanding of how energy is used in the home • Lack of information about product energy efficiency • Lack of understanding as to which are the most effective ways to reduce energy consumption **Owner Occupant** • Inability to self install • Existing air conditioning opening prevents the proper selection for energy savings • Home owner association rules **Landlords and Property Managers** • No control over the hours tenant/units use of air conditioning. • May not pay for electricity cost • Reluctance to invest without a financial return • Short term investment **Renters and Lessees** • Do not have the authority or responsibility for the HVAC system • May not pay for electricity

Program Category	**4.3 Residential Energy Efficiency Measures** **4.3.3 High Efficiency Air Conditioning**
Description & Implementation Strategies	The program will continue to provide prescriptive incentives to residential customers who purchase and install energy efficiency measures that meet or exceed ENERGY STAR® standards. The process includes: • The customer purchases a qualified high efficiency air conditioner, ceiling fan, solar attic fan or whole house fan. • The customer obtains an application through the program's website, in hard copy from Hawaii Energy, or through point of sale retailer displays. **Trade Allies** We will continue to build relationships with manufactures, distributors and dealers by offering workshop and events to train Allies on Hawaii Energy's offerings and processes while seeking input on how to create additional offerings and refinements to existing programs.
Key Changes	• Continue to encourage variable refrigerant flow (VRF) inverter split system units
Marketing Strategies	• Provide cost of ownership information on rebate application forms • Provide more information on the website explaining how to properly use HVAC systems • Advertise to explain how to select an HVAC system • Find organizations to assist with HVAC outreach • Integration with Home Energy Reports (Peer Group Comparison) • Social media

Program Category	**4.3 Residential Energy Efficiency Measures** **4.3.4 High Efficiency Appliances**
Target Market	• Homeowners, Landlords, Tenants, and Property Managers • Manufacturers, Distributors, Dealers and Retailers • Wholesalers and General Contractors • Architect and Engineers
Impacts	Demand 349 kW Energy 6,069,374 kWh Incentive Budget $1,157,500 (6%) Cost per kWh $0.19 /kWh TRB $7,778,404
Technologies	Refrigerator (<$600) — Units: 400 — Incentive: $50 Refrigerator with Recycling — 5,500 — $125 Garage Refrigerator/Freezer Bounty — 1,000 — $75 Clothes Washer (Tier II / III) — 6,000 — $50 Pool VFD Controller Pumps — 500 — $150
Market Barriers	**General** • Lack of understanding of how energy is used in the home • Lack of information about energy efficient products • Lack of understanding as to which are the most effective ways to reduce energy consumption • Lack of understanding of the importance of size and operation for energy savings • Large up-front cost **Owner Occupant** • Ability to self install • Home owner association rules • Availability of product when needed **Landlords and Property Managers** • No control over the hours of use • May not pay for electricity cost • Reluctance to invest without a financial return • Short term investment

Program Category	**4.3 Residential Energy Efficiency Measures** **4.3.4 High Efficiency Appliances**
Market Barriers (continued)	**Renters and Lessees** • Do not have the authority or responsibility for the appliances • May not pay for electricity
Description & Implementation Strategies	The program will continue to provide prescriptive incentives to residential customers who purchase and install energy efficiency measures that meet or exceed ENERGY STAR® standards. Hawaii Energy will explore point of purchase rebates for appliances this year. The process includes: • The customer purchases a qualified high efficiency appliance. • The customer obtains an application through the program's website, in hard copy from Hawaii Energy, or through point of sale retailer displays. **Implementation** We will continue to build relationships with manufacturers, distributors and dealers through store visits where we train allies on Hawaii Energy's offerings and processes while seeking input on how to create additional offerings and refinements to existing programs. We will leverage the relationships that were created with retailers across the State through the Trade Up for Cool Cash offering. We will work with Sears and Best Buy to explore point of purchase rebates that enable retailers to deduct the rebate at time of purchase.
Key Changes	• Expand Bounty offer to include Lanai (achieved May 2012) and Molokai • Pilot an Energy Star® Chest Freezer Trade-In offer for the neighbor islands, where reliance on fish and game is common • Formally launch Pool VFD Controller Pump offer • Continue to improve quality control and reporting of recyclers • Potential to count Water Utility energy savings from washing machine installations.
Marketing Strategies	• Provide point of purchase (POP) signage and information supported by quality control (merchandising) • Provide cost of ownership information on rebate application forms • More information on the website explaining good practices on how to use ENERGY STAR appliances • Advertising explaining how to select and use appliances for the best energy savings • Find organizations to assist with appliance outreach

Program Category	**4.3 Residential Energy Efficiency Measures** **4.3.5 Energy Awareness, Measurement and Control Systems**
Target Market	**General** • Homeowners, Landlords, Tenants and Property Managers • Manufacturers, Distributors, Dealers and Retailers
Impacts	Demand 460 kW Energy 4,081,781 kWh Incentive Budget $871,500 (4%) Cost per kWh $0.21 /kWh TRB $618,353
Technologies	**Incentives** / **Units** Room Occupancy Sensor $5 500 Units Peer Group Comparisons $11.32 75,000 Homes Whole House Energy Metering $100 200 Units
Market Barriers	**General** • Awareness of technologies • Understanding of best application • Installation • Proper application of room occupancy sensors
Description & Implementation Strategies	**Room Occupancy Sensors** These sensors control the use of lighting in areas around the home with infrequent use such as laundry, storage, garage or spare areas. They are not intended for high use areas or CFLs. **Peer Group Comparison** Hawaii Energy plans to continue the Home Energy Report offered through OPOWER in the Ewa region on Oahu (which was formerly funded with ARRA) and across the neighbor islands (Hawaii, Maui, Lanai and Molokai). Our strategy will look for ways to affect measurable energy savings through behavior change. **Whole House Energy Metering Devices Mail-in Rebate** These devices collect energy data by induction and transmit the information to a display unit which can be carried anywhere throughout the house or viewed via the internet.

Program Category	**4.3 Residential Energy Efficiency Measures** **4.3.5 Energy Awareness, Measurement and Control Systems**
Description & Implementation Strategies (continued)	**Implementation** The placement of Room Occupancy Sensors will be reliant on the Hawaii Energy Hero Audits, where a certified auditor will make specific recommendations. The rebate will enhance the likelihood of adoption for this measure. The Home Energy Report will be renewed with subtle refinements on participant selection, tips provided in the reports and specific promotions coordinated with our marketing and outreach initiatives. Particular attention will be given to customers who take the time to contact Hawaii Energy with concerns of the report's validity and/or desperate for help. It is foreseen that the Hawaii Energy Hero Audit will be of particular value to these customers. The Whole House Energy Metering offer will benefit from marketing to high use households, where visibility of how electricity is being used will lead to subsequent investments in energy efficiency.
Key Changes	• Integration of Hawaii Energy Hero Audit to drive adoption of Room Occupancy Sensors • Specific marketing of Whole House Energy Metering
Marketing Strategies	• Public relations and media opportunities stemming from Home Energy Reports.

Program Category	**4.4 Custom Energy Solutions for the Home** **4.4.1 Target Cost Request for Proposals**
Target Market	• Homeowners, Landlords, Tenants and Property Managers • Manufacturers, Distributors, Dealers and Retailers. • Mechanical and Solar Service Contractors
Impacts	Demand 72 kW Energy 71,955 kWh Incentive Budget $25,000 (<1%) Cost per kWh $0.35 /kWh TRB $155,891
Technologies	**Incentive** / **Units** Custom Packaged Proposals $0.25 100,000 kWh
Market Barriers	There were previously no mechanisms to accept "customized" residential energy efficiency proposals.
Description & Implementation Strategies	**Custom Packaged Proposals** This program that will target the contractor / home auditors / energy vendors and encourage them to develop cost-effective projects that focus on high energy consumption homes. The program will be a call for projects that meet a total dollar per kWh savings target and allow the market to be creative in the actions and measures that achieve the targeted cost per kWh energy savings. The projects will use utility metered data and submetered if required to insure savings performance.
Key Changes	• New
Marketing Strategies	• Direct contact with participating energy professionals • Direct contact with Property Managers and AOAOs

Program Category	**4.5 Residential Energy Services & Maintenance** **4.5.1 Residential Direct Installation**
Target Market	• Homeowners, Landlords, Tenants and Property Managers • Manufacturers, Distributors, Dealers and Retailers. • Mechanical and Solar Service Contractors
Impacts	Demand 0 kW Energy 20,369 kWh Incentive Budget $10,000 (<1%) Cost per kWh $0.49 /kWh TRB $13,412
Technologies	**Incentive** **Units** TBD $0.50 20,000 kWh
Market Barriers	There are energy efficiency measures that are not supported by current industry and/or are new or unfamiliar with the public.
Description & Implementation Strategies	The use of a direct installation process can achieve energy savings at a higher than average program cost initially to evaluate the energy savings and program implementation results in order to develop either cost-effective direct install programs or to promote the successes and then transfer to the private sector for implementation. **TBD** Hawaii Energy will pursue additional residential direct install programs targeted at $0.50 per kWh.
Key Changes	• New
Marketing Strategies	• Direct contact with participating energy professionals • Direct contact with Property Managers and AOAOs

Program Category	**4.5 Residential Energy Services & Maintenance** **4.5.2 Residential Design**
Target Market	• Residential Home Developers
Impacts	Demand 204 kW Energy 1,120,284 kWh Incentive Budget $500,000 (3%) Cost per kWh $0.45 /kWh TRB $2,128,743
Technologies	**Incentive** **Units** Efficiency Inside Home Design $1,000 500 Homes
Market Barriers	**Home Developers** • Need to design and equip homes to respond to home buyer market forces • Homes are not competitive for sale in Hawaii if not designed with A/C • Prior prescriptive components were not typically developer installed.
Description & Implementation Strategies	**Efficiency Inside Home Design** • Based on the use of computer energy modeling programs to compare a code-built home to the developer's home design offerings • Modeling allows the developer maximum flexibility in designing their homes to dovetail with the existing federal tax credits and Energy Star® programs • Encourage interaction with the developer to maximize utilization of incentives through comparing model scenarios • Allow a limited number of developer constructing net-zero homes with PV systems to be considered as an efficiency measure. • Demonstrate to the home building industry the value of building above code leading to a more energy efficient and cost-effective home
Key Changes	• Implementation of an incentivized home audit is new.

Program Category	**4.5 Residential Energy Services & Maintenance** **4.5.2 Residential Design**
Marketing Strategies	**Efficiency Inside Home Design** • Direct contact with home developers and the BIA • Promotion of the participating developers in trade-publications such as the BIA, Parade of Homes, and Hawaii Home Remodeling and Design • Recognition of the awardees and description of the changes made to the homes on the Hawaii Energy website • Energy Hero Awards to be placed in the model homes and available for use in the developer's marketing materials

Program Category	**4.5 Residential Energy Services & Maintenance** **4.5.3 Residential System Tune-Ups**
Target Market	• Homeowners, Landlords, Tenants and Property Managers • Manufacturers, Distributors, Dealers and Retailers • Mechanical and Solar Service Contractors
Impacts	Demand 64 kW Energy 234,241 kWh Incentive Budget $30,000 (<1%) Cost per kWh $0.13 /kWh TRB $222,662
Technologies	Solar Water Heater Tune-Up — Incentive: $150 — Units: 200 Tune-Ups
Market Barriers	**General** • Lack of awareness of need for maintenance • Resistance to engage unknown contractors
Description & Implementation Strategies	**Solar Water Heater Tune-up** • Demonstrate the benefits of tune-ups • Educate customer of potential savings and system longevity • Utilize the participating contractors to contact the customers and have them arrange for the service work • Participating contractors will use the Hawaii Energy Checklist to inspect and record the pre and post conditions • Participating contractor's invoice must show that checklist requirements have been met and signed by the servicing technician • Customers can have two incentives per location annually
Key Changes	• This program is being re-implemented from PY12
Marketing Strategies	• Direct contact with Solar Contractors • Provide collateral to Trade Allies offering this service • Distribute educational materials at community events, neighborhood board meetings and homeowners association meetings • Provide cost of ownership information on rebate application forms and benefits of ownership on our website

Program Category	**4.6 Residential Hard-to-Reach** **4.6.1 Energy Efficiency Equipment Grants**
Target Market	• Low income, physically isolated and traditionally underserved Residential Markets
Impacts	Demand 205 kW Energy 1,486,517 kWh Incentive Budget $651,939 (3%) Cost per kWh $0.44 /kWh TRB $1,439,520
Technologies	**Incentive** / **Units** Solar Inspections (WAP) $95 50 Inspections Solar Water Heater (SWH) $10,039 56 Systems Energy Hero Gift Packs $40 250 Packs CFL Exchange $2.50/Lamp 30,000 Lamps
Market Barriers	• Customer lack of access to capital for energy improvements • Lack of understanding of energy efficiency benefits • Renter and Lessee reluctance to invest in property
Description & Implementation Strategies	• Work through state and local agencies serving the needs of low income families to identify qualified customers who will receive energy efficiency goods and services at no cost ("direct install") • Continue to work with community action organizations to develop and deliver program services for low-income customers to include direct install and delivery of appropriate energy saving technologies • Continue to provide solar hot water inspections for RLI solar grant recipients
Key Changes	• Increased focus and penetration of direct install and educational outreach • Implementation of an incentivized home audit is new.
Marketing Strategies	• Continue to target low-income and hard-to-reach customers through existing state and local agencies who service the needs of low income families • Develop working relationships with more community action and similar local groups to increase market penetration

Program Category	**4.6 Residential Hard-to-Reach** **4.6.2 Landlord/Tenant, AOAO Measures**
Target Market	• Associations of Apartment Owners • Landlord/Tenants
Impacts	Demand 16 kW Energy 553,500 kWh Incentive Budget $150,000 (1%) Cost per kWh $0.27 /kWh TRB $857,332
Technologies	**Incentive** **Units** Custom SWH Proposals $0.30/kWh 500,000 kWh
Market Barriers	• Lack of understanding of energy efficiency benefits • Renter and Lessee reluctance to invest in property
Description & Implementation Strategies	• Custom SWH Proposals – This measure is targeted for a central solar water heating system with the intention to provide solar water heating at a lower per unit cost by considering diversity in sizing and economies of scale in construction and sales.
Key Changes	• New • Will pursue implementation of pilot projects for heat pump water heaters to test cost effectiveness and market acceptance.
Marketing Strategies	• Direct contact with participating solar contractors • Community event promotion of High Efficiency Water Heating • Listing of participating contractors on our website • Print advertising and Social media

5.0 BUSINESS PROGRAM STRATEGY & DETAILS

5.1 Overview

For PY13, Hawaii Energy will maintain programmatic changes adopted in PY12, specifically these incentive categories:

- Business Energy Efficiency Measures (BEEM) – This category offers incentives for standard, known energy efficiency technologies in the form of prescriptive incentives in a streamlined application and grant award process.

- Custom Business Energy Efficiency Measures (CBEEM) – This category offers incentive for non-standard energy efficiency technologies often needed for commercial and industrial customers who need to invest in energy efficiency opportunities specific to unique project specific processes and designs, for example. Incentive award amounts are determined via calculations performed to quantify specific energy savings related to unique applications.

- Business Energy Service and Maintenance (BESM) – This incentive category focuses on developing viable projects through collaboration, competition and direct support in the form of expertise and/or equipment (i.e. metering).

- Business Hard-to-Reach (BHTR) - This incentive category aims to secure various projects among geographies and demographics that have been traditionally underserved such as retail, restaurants and other small businesses.

A summary listing of the new Business Program offerings can be found in the table below followed by a brief summary of additions and changes. A detailed description of the Business Program follows in sections 5.2 through 5.6. Appendix B contains a projection of potential energy savings for the planned programs.

Business Programs

Program	Category	Measures
BEEM	**Business Energy Efficiency Measures**	
		High Efficiency Lighting
		High Efficiency HVAC
		High Efficiency Water Heating
		High Efficiency Water Pumping
		High Efficiency Motors
		Commercial Industrial Processes
		Building Envelope Improvements
		Energy Star Business Equipment
		Energy Awareness, Measurement and Control Systems
CBEEM	**Custom Business Energy Efficiency Measures**	
		Customized Project Measures
BESM	**Business Service and Maintenance**	
		Business Direct Installation
		Business Design, Audits and Commissioning
BHTR	**Business Hard to Reach**	
		Energy Efficiency Equipment Grants
		Landlord, Tenant, AOAO Measures

5.1.1 *New Program Offerings of Business Energy Efficiency Measures (BEEM)*

High Efficiency HVAC

- High Efficiency Chillers – The savings produced by high efficiency chillers is very specific for the location and the dependence of the "balance of system," pumps, controls etc. These incentives will be modified to encourage a methodical selection method and the savings calculated using modeling or spreadsheet analysis with appropriate system conditions (condenser water, flow rates, etc.). This offer will require kW/ton metering.

Commercial Industrial Process

- Waste Water – Wastewater facilities are 24/7 facilities that have specific technical requirements, high capital costs and long procurement process. This targeted program will target the two highest energy consumers in the plants, Air Systems & UV Lighting through process improvements. A list of private waste water facilities will be leveraged in targeting opportunities in PY13.

Sea Water Cooling

- Hawaii Energy will continue to support this evolving project in PY13 through metering and providing ad hoc resources as needed. The Program will pay incentives as directed in earlier proceedings upon installation and start up of the SWAC system.

5.1.2 *New Program Offerings of Customized Business Energy Efficiency Measures (CBEEM)*

Customized Project Measures

- No new program offering

5.1.3 *New Program Offerings of Building Energy Services and Maintenance (BESM)*

Business Design, Audits and Commissioning

- Decision Maker: Real-Time Submeters – There are individuals within business organizations who have influence over a large number of employees whose behavior within the work environment drive unnecessary energy consumption (e.g., leaving on lights, additional electronic equipment, etc.). This offer is the direct installation of a web-based electrical metering device. This metering will be monitored by the decision maker(s) within the organization to identify usage patterns and be the basis of peer group competitions within the organization.

5.1.4 *New Program Offerings of Business Hard-to-Reach (BHTR)*

Energy Efficiency Equipment Grants

- Direct Install – Water Cooler Timers – This program will utilize the Home & Office Delivery (HOD) water services providers to install digital timers on hot/cold water dispensers in order to save the stand-by losses in the cold and hot tanks during times that the systems are not being utilized.

Restaurant Targeted Participation Programs

- Low Flow Spray Rinse Nozzles – This measure was included to assist the program in driving up the cost effectiveness of the portfolio. This measure saves water first and then electricity in the form of lower water heating requirements. Hawaii Energy will engage with the water companies to jointly develop and promote this measure.

ENERGY STAR Commercial Kitchen Equipment

- ENERGY STAR®Kitchen Equipment – This program will focus on raising awareness of energy efficiency options when replacing equipment at end-of-life.

5.1.5 Business Program Details Table of Contents. To follow, in Sections 5.2 through 5. 5, is an overview summary of Residential Program Offerings followed by detailed descriptions and energy savings. The Overall Program Details are provided on the following page, preceding the individual Program summaries.

5.2 All Programs Overview
5.3 Business Energy Efficiency Measures (BEEM)
5.3.1 High Efficiency Lighting
5.3.2 High Efficiency HVAC
5.3.3 High Efficiency Water Heating
5.3.4 High Efficiency Water Pumping
5.3.5 High Efficiency Motors
5.3.6 Commercial Industrial Processes
5.3.7 Building Envelope Improvements
5.3.8 Energy Star Business Equipment
5.3.9 Energy Awareness, Measurement and Control Systems

5.4 Custom Business Energy Efficiency Measures (CBEEM)
5.4.1 Customized Project Measures

5.5 Business Energy Service & Maintenance (BESM)
5.5.1 Business Direct Installation
5.5.2 Business Design, Audits and Commissioning

5.6 Business Hard to Reach (BHTR)
5.6.1 Energy Efficiency Equipment Grants
5.6.2 Restaurant Targeted Participation Programs
5.6.3 Landlord, Tenant, AOAO Measures

Program Category	**5.2 All Business Programs** **Overview of All Business Programs**
Target Markets	**Competitive Commercial** ○ Office Buildings ○ Retail **Governmental** ○ City ○ State ○ Federal **Industrial Sector** ○ Warehousing ○ Cold Storage ○ Water Pumping ○ Manufacturing **Multi-Site** ○ Convenience Stores ○ Restaurants **High Load Factor Customers** ○ Hospitals ○ Hotels ○ Super Markets ○ Data Centers **Multi-Family Commercial Rate** ○ AOAO ○ AOAO - Mixed Use
Projected Impacts	Demand 8,205 kW Energy 72,071,824 kWh Incentive Budget $ 10,842,869 Cost per kWh $0.150 /kWh TRB $105,553,489
Incentives	**Measure Categories** — **Incentives** 5.3 Business Energy Efficiency Measures $ 4,295,800 5.4 Custom Business Energy Efficiency Measures $ 1,060,000 5.5 Business Service and Maintenance $ 4,645,069 5.6 Business Hard-to-Reach $ 842,000 $ 10,842,869

Program Category	**5.2 All Business Programs** **Overview of All Business Programs**
Market Barriers	**General** • Lack of familiarity with availability of energy efficient technology and the vendors offering these services and products • Trust and creditability of technology providers • Unaware of business benefits of reducing exposure to cost of energy changes • High initial up-front cost • Life Cycle Cost vs. Simple Payback decision analysis • Need for a cash positive investment • Access to and/or understanding of financial options • Lack of knowledge of operation and maintenance of technologies **Landlords and Property Managers** • May not pay for electricity cost • Reluctance to invest without a financial return • Property is a short term investment **Renters and Lessees** • Do not have the authority or responsibility for the systems • Renter lease term shorter than simple payback for a measure
Description & Implementation Strategies	**Technology Based Categories** **High Efficiency Lighting, HVAC Water Heating Water Pumping Motors Building Envelope Improvements, Energy Star Business Equipment** The technology based incentives are provided for energy efficiency products that provide reliable energy savings for a wide array of customers. These incentives are developed to be based on fixed amounts per technology with performance adjustments to reflect the savings potential to ensure program cost-effectiveness set based on expected savings. Measures are selected and reviewed to determine that the energy savings can be reliably deemed, or calculated using simple threshold criteria.

Program Category	**5.2 All Business Programs** **Overview of All Business Programs**
Description & Implementation Strategies (continued)	The implementation process includes: • Program performs outreach and promotions to inform customers of incentive opportunities. • Customer selects and approves purchase and installation of energy efficiency measures • Customer sends in completed application forms with scheduling and supporting documentation • Customer provides evidence of installation and/or program will verify the installation Hawaii Energy processes the incentive on approved applications on an as-funds available basis **Energy Awareness, Measurement, and Control Systems** • Provide peer groups with Customized Hawaii specific Energy Use Intensity reports. These comparisons show their usage in comparison to their peers currently on an entire facility basis and as the program progresses we will disaggregate the comparisons down to the technologies "categories." • Provide self-assessment forms that the customer can complete on their own to identify potential savings. • Increase the use of incentives such as the Condominium Submetering that combine cash incentives with the requirement for educational components and the execution of audits to promote further energy savings activity in the facilities.
Key Changes	• Program baseline efficiency thresholds will be adjusted for new IEER AC ratings and review of efficiency levels as necessary to coincide with the adoption of IECC 2006 and IECC 2009 energy codes • Expand prescriptive selections for LED lamps that achieve ENERGY STAR status. • Chiller incentives based on kWh savings, Chiller selection model and kW/ton BTU metering. • Kitchen Exhaust Hood Incentive • Electronically Commutated Motors (ECM) for fan coil and evaporative fans. • Provide budget to match cofounded energy projects. This was developed with Hawaii Energy's work with HTDC (High Technology Development Corporation) to move projects in targeted industries. • ENERGY STAR Commercial Kitchen Equipment.

Program Category	5.2 All Business Programs Overview of All Business Programs
Marketing Strategies	• Web-based application forms will be advertised and made available to customers and their channel allies (lighting, cooling, motors, and controls). • Train and recruit program allies from various channels as program partners to enhance sales of their energy efficiency equipment • Maintain direct contact with key market players to understand the markets and decision points and to leverage their marketing resources to inform members • Email informational campaigns • Award and publish success of customer and ally partners to demonstrate highest level leadership in an effort to pull the market.

Program Category	**5.3 Business Energy Efficiency Measures** **BEEM Programs Overview**
Projected Impacts	Demand 4,967 kW Energy 37,044,804 kWh Incentive Budget $ 4,295,800 (22%) Cost per kWh $0.116 /kWh TRB $ 58,412,435
Incentives	**Incentives** High Efficiency Lighting $1,885,700 High Efficiency HVAC $970,000 High Efficiency Water Heating $826,200 High Efficiency Water Pumping $99,900 High Efficiency Motors $151,000 Commercial Industrial Processes $125,000 Building Envelope Improvements $73,000 Energy Star Business Equipment $25,000 Energy Awareness, Measurement and Control Systems $140,000

Program Category	**5.3 Business Energy Efficiency Measures** **5.3.1 High Efficiency Lighting**
Projected Impacts	Demand 3,148 kW Energy 26,952,779 kWh Incentive Budget $ 1,885,700 (10%) Cost per kWh $0.07 /kWh TRB $39,278,297
Incentives	

	Incentive	Units
CFL	$2.00	16,100 Lamps
T12 to T8 (2&3 foot lamps)	$6.00	5,000 Lamps
T12 to T8 Low Wattage	$10.00	30,000 Lamps
T8 to T8 Low Wattage	$5.50	100,000 Lamps
Delamp	$7.50	5,000 Lamps Removed
Delamp/Reflector	$15.00	2,500 Lamps Removed
LED Refrigerated Case Light	$75.00	500 Lamps
ENERGY STAR LED		
-non-dimmable existing	$7.00	52,000 Lamps
-dimmable w/controls	$10.00	36,000 Lamps
-non-dimmable A19	$7.00	5,000 Lamps
-dimmable A19	$7.00	3,000 Lamps
LED Exit Signs	$20.00	1,000 Signs
HID Pulse Start	$40.00	400 Lamps
Sensors	$20.00	2,000 Sensors
Stairwell bi-level dimming fluorescent	$50.00	100 Fixtures

Program Category	**5.3 Business Energy Efficiency Measures** **5.3.2 High Efficiency HVAC**

Projected Impacts

Demand	883	kW
Energy	4,028,680	kWh
Incentive Budget	$ 970,000	(5%)
Cost per kWh	$0.241	/kWh
TRB	$8,248,653	

Incentives

	Incentive	**Units**
Chillers – kW/ton meter and Chiller Curve Optimization	$0.15	1,500,000 kWh
VFD – HVAC Chilled Water / Condenser Water	$80	500 hp
VFD – HVAC AHU	$50	1,200 hp
Garage Active Ventilation Control	$0.12	1,000,000 kWh
Package Units	$200	500 Tons
VFR Split Systems - Existing	$300	1,000 Tons
VFR Split Systems – New Construction	$250	500 Tons

Program Category	**5.3 Business Energy Efficiency Measures** **5.3.2 High Efficiency HVAC** **5.3.2.1 Chillers – kW/ton meter & Chiller Curve Optimization**
Projected Impacts	Demand 249 kW Energy 1,245,375 kWh Incentive Budget $ 225,000 (1%) Cost per kWh $0.18 /kWh TRB $2,954,561
Incentives	**Incentive** **Units** Chillers $0.15 1,500,000 kWh
Description & Implementation Strategies	ENERGY REDUCTION OPPORTUNITY The use of variable speed drives, oil-free magnetic bearings, large heat exchangers, lower condenser water and other modern design features, new chillers are 20-40% more efficient than older machines. Much of the savings is at part-load conditions where chillers operate the majority of the time. The chiller selection process is an important element prior to chiller purchase and the BTU metering will allow the optimization and maintenance of savings over time. TARGET AUDIENCE Who – Property Managers, Facilities Directors, Chief Engineers and Governmental Facilities Departments What – Large Commercial facilities INCENTIVE & TARGETED ECONOMICS The incentive directly rewards the expected energy reduction produced through careful selection and procurement of the machine. It is the intention that the incentive provide 100% of the cost premium to achieve these high efficiency levels. CUSTOMER QUALIFICATIONS Eligible chillers include centrifugal, screw, scroll and reciprocating compressors at 15% improvement over IECC 2006. APPLICATION PROCESS The following will be completed and submitted for review • Rebate Application , AC Chiller Rebate Worksheet • Chiller Equipment type (centrifugal, screw, reciprocating) • Retrofit or burnout • Integrated Part Load Value (IPLV) • Manufacturer and Model Number COMPLEMENTARY PROGRAMS: • Customized Project Measures • Central Plant Optimization

Program Category	**5.3 Business Energy Efficiency Measures** **5.3.2 High Efficiency HVAC** **5.3.2.2 VFD – Chilled Water / Condenser Water** **5.3.2.3 VFD – AHU**
Projected Impacts	Demand 301 kW Energy 844,588 kWh Incentive Budget $ 100,000 (<1%) Cost per kWh $0.12 /kWh TRB $2,193,860
Incentives	**Incentive** / **Units** VFD – Chilled Water / Condenser Water $80 500 hp VFD – AHU $50 1,200 hp
Description & Implementation Strategies	ENERGY REDUCTION OPPORTUNITY The use of variable frequency drives to vary motor speeds to control flow in response to changes to loads provides significant savings in HVAC applications of supply, return and exhaust fans as well as chilled water and condenser water pumps. TARGET AUDIENCE Who – Property Managers, Facilities Directors, Chief Engineers and Governmental Facilities Departments, Mechanical Engineers and Contractors. What – All Commercial Facilities INCENTIVE & TARGETED ECONOMICS HVAC Fans (VFD): The offering of a prescribed $50 per fan HP controlled incentive for existing facilities. HVAC Pumps (VFD): The offering of a prescribed $80 per pump HP controlled incentive for existing facilities. CUSTOMER QUALIFICATIONS The application must have a load and system design and controls (two way valves, VAV boxes etc.) that respond to varying loads.

Program Category	**5.3 Business Energy Efficiency Measures** **5.3.2 High Efficiency HVAC** **5.3.2.2 VFD – Chilled Water / Condenser Water** **5.3.2.3 VFD – AHU**
Description & Implementation Strategies (continued)	APPLICATION PROCESS A HVAC Fan or Pump VFD rebate worksheet will be completed and submitted for review. • Require pre-notification before projects begin. • Existing equipment must not have a VFD. • The VFDs must actively control and vary the fan or pump speed. • Motor HP • Motor quantity

Program Category	**5.3 Business Energy Efficiency Measures** **5.3.2 High Efficiency HVAC** **5.3.2.4 Garage Active Ventilation Control**
Projected Impacts	Demand 95 kW Energy 830,250 kWh Incentive Budget $ 120,000 (1%) Cost per kWh $0.14 /kWh TRB $847,131
Incentives	**Incentive** **Units** Garage Active Ventilation Control $0.12 1,000,000 kWh
Description & Implementation Strategies	ENERGY REDUCTION OPPORTUNITY Enclosed parking garages that are mechanically ventilated 24/7 in order to remove the carbon monoxide (CO) created by gasoline powered vehicles. The ventilation systems are designed for maximum capacity conditions and there are opportunities to reduce both operating speed and fan runtimes during times of lower traffic periods to achieve fan energy savings of 60% to 90% with active CO monitoring systems control. The addition of Variable Speed Drives (VFDs) can also be incorporated if not already present. TARGET AUDIENCE Who - Property Managers & Private and Public Facilities Directors. Air Conditioning/Mechanical Contractors Facilities Maintenance Companies What – Office/Retail Buildings with mechanically ventilated parking garages. INCENTIVE & TARGETED ECONOMICS The $0.12/kWh incentive is directly provided to the metered savings resulting from the retrofit. APPLICATION PROCESS 1. A garage fan savings worksheet will be competed and submitted for review • Exhaust Fan/Motor Inventory • Map of Locations • Motor Horsepower & Runtimes • Sample set of fans must be spot metered to determine operating power consumption. 2. A pre/post inspection will be performed for systems totaling over 75 hp. This inspection may include metering of current fan horsepower. COMPLEMENTARY PROGRAMS: • High Efficiency Lighting – Induction / T8 / T5 / Occupancy Sensors /Timers

Program Category	**5.3 Business Energy Efficiency Measures** **5.3.2 High Efficiency HVAC** **5.3.2.5 Package Units**
Projected Impacts	Demand 39 kW Energy 229,232 kWh Incentive Budget $ 100,000 (1%) Cost per kWh $0.44 /kWh TRB $423,308
Incentives	**Incentive** **Units** Package Units $200 500 Tons
Description & Implementation Strategies	ENERGY REDUCTION OPPORTUNITY The air-cooled package units are most often found in small commercial facilities as they are least first-cost and maintenance intensive of HVAC options to this market. The units are often roof-top mounted and feed constant volume distribution systems. The most cost effective opportunity to reduce energy consumption in these units are to replace them with the highest efficiency unit available and potentially convert at the same time to a VAV distribution system to increase both comfort and reduce cooling loads. A higher cost option is to convert to VRF split systems. TARGET AUDIENCE Who – Property Managers & Private and Public Facilities Directors. Air Conditioning/Mechanical Contractors, Mechanical Engineers What – Small Commercial facilities. INCENTIVE & TARGETED ECONOMICS The offering of prescriptive incentives based on the EER of the units starting at a 15% higher than IECC 2006 / ASHRAE 2004 standards. The incentives increase with higher efficiency levels. This level of incentive should eliminate the incremental difference between a standard efficiency unit. APPLICATION PROCESS 1. A prescriptive worksheet will be competed and submitted for review • Unit size, model, efficiency rating, operational hours • Map of Locations 2. A sample of sites have pre/post inspections COMPLEMENTARY PROGRAMS • Window Tinting • Package and Split AC Tune-Up • VRF Split Systems

Program Category	**5.3 Business Energy Efficiency Measures** **5.3.2 High Efficiency HVAC** **5.3.2.6 VRF Split Systems - Existing Systems** **5.3.2.7 VRF Split Systems - New Construction**
Projected Impacts	Demand 199 kW Energy 879,235 kWh Incentive Budget $ 425,000 (3%) Cost per kWh $0.50 /kWh TRB $1,829,793
Incentives	**Incentive** **Units** VFR Split Systems – Existing Systems $300 1,000 Tons VFR Split Systems – New Construction $250 500 Tons
Description & Implementation Strategies	ENERGY REDUCTION OPPORTUNITY Inverter driven variable refrigerant flow (VRF) air conditioning systems are direct expansion AC systems that utilize variable speed evaporator/condenser fans, and a combination of fixed and variable speed compressors along with most often multiple individual zone evaporators to provide the ability to more closely match the AC system's output with the building's cooling requirements. A potential of 20 to 35% energy savings come from: • *Part Load Efficiencies*: Increased part-load efficiency operation • *High Efficiency Motors*: Many systems use ECM motors • *Higher Room Temperatures*: The capacity matching allows for better humidity control through longer cooling operation. • *Reduction of Distribution Losses*: Duct losses are reduced with DX systems. This may be offset by dedicated outside air distribution systems when needed. TARGET AUDIENCE Who – Property Managers & Private and Public Facilities Directors. Air Conditioning/Mechanical Contractors, Mechanical Engineers What – Commercial facilities. INCENTIVE & TARGETED ECONOMICS The offering of prescriptive incentives based on the tonnage of the VRF system. This level of incentive should reduce 25% of the incremental difference between a VRF and an alternative single or two-speed standard efficiency unit.

Program Category	**5.3 Business Energy Efficiency Measures** **5.3.2 High Efficiency HVAC** **5.3.2.6 VRF Split Systems - Existing Systems** **5.3.2.7 VRF Split Systems - New Construction**
Description & Implementation Strategies (continued)	APPLICATION PROCESS 1. A prescriptive worksheet will be completed and submitted for review • Unit size, model, efficiency rating, operational hours • Map of Locations 2. A sample of sites have pre/post inspections COMPLEMENTARY PROGRAMS • Window Tinting, Package and Split AC Tune-Up

Program Category	**5.3 Business Energy Efficiency Measures** **5.3.3 High Efficiency Water Heating**
Projected Impacts	Demand 380 kW Energy 1,440,409 kWh Incentive Budget $826,200 (4%) Cost per kWh $0.574 /kWh TRB $3,774,728
Incentives	**Incentive** / **Units** Commercial Solar Water Heaters -Electric Resistance $250 50 Tons -Heat Pump $100 100 Tons Single Family Solar Water Incentive $1,000 800 systems Heat Pumps -Conversion – Electric Resistance $120 20 Tons Heat Pump Upgrade $65 20 Tons

Program Category	**5.3 Business Energy Efficiency Measures** **5.3.3 High Efficiency Water Heating** **5.3.3.1 Commercial Solar Water Heaters Electric Resistance** **5.3.3.2 Commercial Solar Water Heaters Heat Pump**
Projected Impacts	Demand 74 kW Energy 52,098 kWh Incentive Budget $22,500 (<1%) Cost per kWh $0.431 /kWh TRB $353,083
Incentives	**Incentive** **Units** Commercial Solar Water Heaters -Electric Resistance $250 50 Tons -Heat Pump $100 100 Tons
Description & Implementation Strategies	ENERGY REDUCTION OPPORTUNITY Commercial solar water heaters can provide a renewable energy source of water heating. The systems can reduce electrical consumption for water heating by providing supplemental pre-heating all the way to 100% of the water heating needs limited by the hot water demand characteristic and the site's physical constraints on storage tank and panel locations. TARGET AUDIENCE Who – AOAOs, Property Managers, Private and Public Facilities Directors. Mechanical Contractors, Mechanical Engineers. What – Hotel, Condominium and Apartments & Government housing. INCENTIVE & TARGETED ECONOMICS The offering of a $250 / 12,000 BTU prescriptive incentive based on the derated installed capacity of the solar water heating system. The base system must have been electric resistance, heat pump or heat recovery off an electric chiller. Conversion to a gas backup system is permitted to eliminate any potential electrical demand from the system and allow quick peak recovery. The economic impact of this incentive will depend on the ability for the customer to take advantage of tax credits and the site specific system costs. The level will achieve a $0.43/kWh savings for the program. It is the desire to adjust the incentive to a point where it will lower the payback for the system to 5 years.

Program Category	**5.3 Business Energy Efficiency Measures** **5.3.3 High Efficiency Water Heating** **5.3.3.1 Commercial Solar Water Heaters Electric Resistance** **5.3.3.2 Commercial Solar Water Heaters Heat Pump**
Description & Implementation Strategies (continued)	APPLICATION PROCESS 1. A prescriptive worksheet/saving calculator will be competed and submitted for review • Unit sizes, model, derating rating, operational hours • System diagram 2. A sample of sites will have pre/post inspections COMPLEMENTARY PROGRAMS • Water saving showerheads, spray-rinse valves, and fixtures.

Program Category	**5.3 Business Energy Efficiency Measures** **5.3.3 High Efficiency Water Heating** **5.3.3.3 Heat Pump – Conversion – Electric Resistance** **5.3.3.4 Heat Pump Upgrade** **5.3.3.5 Military Housing SWH Incentive**
Projected Impacts	Demand 307 kW Energy 1,388,311 kWh Incentive Budget $ 803,700 (4%) Cost per kWh $0.579 /kWh TRB $3,421,645
Incentives	**Incentive** **Units** Heat Pumps -Electric Resistance $120 20 Tons -Upgrade $65 20 Tons Military Housing SWH $1,000 800 units
Description & Implementation Strategies	ENERGY REDUCTION OPPORTUNITY Heat pump water heaters can provide a highly efficient source of water heating. Water-Source Heat pumps are the most efficient when used to supplement the heat rejection from chilled water return loops and condenser water systems to heat a facilities' domestic water needs or swimming pools. Heat pumps can also be air-source and provide heat mitigation in areas such a commercial kitchen and serve pools as a stand-alone water heater. The systems can reduce electrical consumption for water heating by providing supplemental pre-heating all the way to 100% of the water heating needs limited by the hot water demand characteristic and the site's physical constraints on heat pump storage tanks. The Military Housing Solar Water Heating (SWH) Incentive is reserved for a Military existing home retrofit with BTU metering and maintenance program for 800 homes behind a commercial meter. The total project will cover three years and be up to 1,200 homes. TARGET AUDIENCE Who – AOAOs, Property Managers, Private and Public Facilities Directors. Mechanical Contractors, Mechanical Engineers. What – Commercial Pools, Hotel, Condominium and Apartments & Government housing. INCENTIVE & TARGETED ECONOMICS The offering of a $120 or 65 per ton prescriptive incentive based on the installed

	capacity of the heat pump. The base system must have been electric resistance, failing heat pump (10 year or older) or heat recovery off an electric chiller. Conversion/remaining on a gas backup system are permitted to eliminate any potential electrical demand from the system and allow quick peak recovery.
Program Category	**5.3 Business Energy Efficiency Measures** **5.3.4 High Efficiency Water Pumping - Summary of Programs**
Projected Impacts	Demand 42 kW Energy 467,277 kWh Incentive Budget $ 99,900 (1%) Cost per kWh $0.214 /kWh TRB $716,482
Incentives	**Incentive** / **Units** VFD Dom. Water Booster Packages – VFD $600 75 hp VFD Dom. Water Booster Packages – added HP Reduction $80 30 hp reduced VFD Pool Pump Packages $350 150 hp

Program Category

5.3 Business Energy Efficiency Measures
5.3.4 High Efficiency Water Pumping
5.3.4.1 VFD Dom. Water Booster Packages – VFD
5.3.4.2 VFD Dom. Water Booster Packages – added HP Reduction

Projected Impacts

Demand	24	kW
Energy	258,801	kWh
Incentive Budget	$ 47,400	(<1%)
Cost per kWh	$0.183	/kWh
TRB	$402,130	

Incentives

	Incentive	Units
VFD Dom. Water Booster Packages – VFD	$600	75 hp
VFD Dom. Water Booster Packages – Added HP Reduction	$80	30 hp reduced

Description & Implementation Strategies

ENERGY REDUCTION OPPORTUNITY
The replacement of single speed staged domestic water booster pumps can provide up to 70% energy savings by:

- providing constant pressure regardless of flow
- reducing pump speed during low use periods increases system efficiency

TARGET AUDIENCE
Who – Property Managers, Facilities Directors, Chief Engineers and Governmental Facilities Departments, Mechanical Contractors and VFD Pump Package suppliers.
What – Apartments, Office Buildings, Hotels, Hospitals

INCENTIVE & TARGETED ECONOMICS
The offering of a prescribed $80 per HP reduction and for booster pump system with VFD, add $600 per HP. The incentive is targeted to achieve a 10 to 15% reduction in the system cost. All pump motors must meet CEE Premium Efficiency standards.

CUSTOMER QUALIFICATIONS
Booster Pump applications require pre-notification before equipment is purchased and installed.

- The new booster pump system's total horsepower must be equal to or less than that of the existing system.
- The system horsepower reduction must be between 0 to 129 hp. For projects with greater than 129hp, please contact the program
- Booster Pump applications do not apply to New Constructions.

Program Category	**5.3 Business Energy Efficiency Measures** **5.3.4 High Efficiency Water Pumping** **5.3.4.1 VFD Dom. Water Booster Packages – VFD** **5.3.4.2 VFD Dom. Water Booster Packages – added HP Reduction**
Description & Implementation Strategies (continued)	APPLICATION PROCESS The following will be completed and submitted for review • Rebate Application • Booster Pump Rebate Worksheet • Manufacturer's specification sheets or Name Plate Information including: • Manufacturer • Model Number • Serial Number • Motor Size (nominal hp) – All pump motors must meet CEE Premium Efficiency standards • Pump Type • Identify Pump with VFD or without VFD • Existing System hp minus New System hp COMPLEMENTARY PROGRAMS • Customized Project Measures • Central Plant Optimization Competition • CEE Listed Premium Efficiency Motors

Program Category	**5.3 Business Energy Efficiency Measures** **5.3.4 High Efficiency Water Pumping** **5.3.4.3 VFD Pool Pump Packages**
Projected Impacts	Demand 17 kW Energy 208,476 kWh Incentive Budget $ 52,500 (<1%) Cost per kWh $0.25 /kWh TRB $314,351
Incentives	VFD Pool Pump Packages — Incentive: $350 — Units: 150 hp
Description & Implementation Strategies	ENERGY REDUCTION OPPORTUNITY Pool pumps often run much longer than necessary. A variable speed commercial pool pump motor in place of a standard single speed motor can save energy and maintain a comfortable swimming pool temperature and chemical circulation by using a smaller, higher efficiency pump and by operating it less. TARGET AUDIENCE Who – Property Managers, Facilities Directors, Chief Engineers and Governmental Facilities Departments What – Commercial facilities with swimming pool. INCENTIVE & TARGETED ECONOMICS The offering of a prescribed $350 per HP installed. CUSTOMER QUALIFICATIONS Existing single speed pool pump APPLICATION PROCESS The following will be completed and submitted for review • Rebate Application • VFD Pool Pump Rebate Worksheet • Manufacturer's specification sheets • Name Plate - Manufacturer, Model Number, Serial Number • Motor Size–pump motors must meet NEMA Premium Efficiency • Pump Type • Proof of installation and purchase COMPLEMENTARY PROGRAMS • Customized Project Measures • Central Plant Optimization Competition

Program Category

5.3 Business Energy Efficiency Measures
5.3.5 High Efficiency Motors
5.3.5.1 CEE Premium Efficiency Motors
5.3.5.2 ECM w/ Controller- Evaporator Fan Motors
5.3.5.3 ECM- Fan Coil Fans

Projected Impacts

Demand	288	kW
Energy	2,551,209	kWh
Incentive Budget	$ 151,000	(1%)
Cost per kWh	$0.06	/kWh
TRB	$4,143,532	

Incentives

	Incentive	Unit
CEE Tier 1+ Premium Efficiency Motors	$10/hp	50 hp
ECM w/ Controller- Evaporator Fan Motors	$85/motor	800 Motor
ECM- Fan Coil Fans	$55/motor	1,500 Motor

Description & Implementation Strategies

ENERGY REDUCTION OPPORTUNITY
CEE LISTED MOTORS
There is an opportunity to save energy with motors designed to utilize less power for the same horsepower of work. Motors in many applications (Water pumping and air handing) have long operational hours and are often out of sight and mind until they fail.

The CEE Premium Efficiency Specification will be the qualification level for motors. This is driven by the December 2010 implementation of the Energy Independence and Security Act of 2007 (EISA) requiring the vast majority of new electric motors to meet NEMA Premium Efficiency standards.

ECM
There is an opportunity to save energy with ECM motors that have higher electrical efficiency (Electronically Commutated Motor, 70 percent efficient) than PSC (Permanent split capacitor, 49 percent efficient) or shaded-pole (32 percent efficient). In addition, "cooler" motor operation creates less heat load on the conditioned space.

When motors fail there is often an operational urgency to replace them at the lowest first-cost as the replacement was not budgeted.

TARGET AUDIENCE
Who – Property Managers, Mechanical & Electrical Contractors, Motor Repair/Rewind Shops, Motor Distributor and Supply houses
What – All Refrigeration and PTAC units

Program Category	**5.3 Business Energy Efficiency Measures** **5.3.5 High Efficiency Motors** **5.3.5.1 CEE Premium Efficiency Motors** **5.3.5.2 ECM w/ Controller- Evaporator Fan Motors** **5.3.5.3 ECM- Fan Coil Fans**
Description & Implementation Strategies (continued)	INCENTIVE & TARGETED ECONOMICS The current $6/hp incentive will be transformed with the intention to eliminate the cost premium for the listed CEE Premium efficiency motors up to 200 hp. The $85 and $55/motor incentives are aimed at 20% of installed cost. APPLICATION PROCESS 1. A contractor or customer submitted application and savings worksheet. • Unit size, model, • Unit location description • Operational hours 2. A sample of sites will have post inspections COMPLEMENTARY PROGRAMS • High Efficiency HVAC • Central Plant Optimization • Target Cost per kWh Request for Proposals

Program Category	**5.3 Business Energy Efficiency Measures** **5.3.6 Commercial Industrial Processes – Summary of Programs**
Projected Impacts	Demand 89 kW Energy 474,031 kWh Incentive Budget $ 125,000 (2%) Cost per kWh $0.26 /kWh TRB $836,031
Incentives	**Incentive** / **Unit** Kitchen Exhaust Hood Demand Ventilation: $700 / 150 hp Refrigerated Case Night Cover: $10 Linear ft. / 2,000 Linear ft.

Program Category	**5.3 Business Energy Efficiency Measures** **5.3.6 Commercial Industrial Processes** **5.3.6.1 – Kitchen Exhaust Hood Demand Ventilation**
Projected Impacts	Demand 56 kW Energy 327,907 kWh Incentive Budget $ 105,000 (1%) Cost per kWh $0.32 /kWh TRB $608,788
Incentives	**Incentive** **Unit** Kitchen Exhaust Hood Demand Ventilation $700/hp 150 hp
Description & Implementation Strategies	ENERGY REDUCTION OPPORTUNITY Kitchen ventilation with demand control hood exhaust uses temperature and/or smoke sensors to adjust ventilation rates. This saves significant energy comparing with the traditional 100% on/off controls. Traditional ventilation systems operate at one speed regardless of how hard the appliances are working. Demand Control Kitchen Ventilation systems respond to variations in stove use, allowing the two-speed or variable speed fans to regulate exhaust and makeup airflow as necessary. Therefore, when stoves are off or only a few burners are in use, the exhaust fans work at lower speeds and use less energy. TARGET AUDIENCE Restaurants, hotels, universities and hospitals. INCENTIVE & TARGETED ECONOMICS Incentive amounts will differentiate based on existing or new construction applications.. APPLICATION PROCESS To qualify for a Hawaii Energy Commercial Kitchen Demand Ventilation Controls Rebate, the following conditions must be met: • The control system must be used in conjunction with variable speed fan motor controls. • All motors must meet NEMA Premium Efficiency standards and be UL® Approved • Temperature or optical fume sensors must have the ability to sense and ramp up or down the ventilation rate based on the presence of temperature, smoke or steam from cooking activity

- Temperature and Infrared cooking sensors must have the ability to measure temperature at the cooking surface to ramp ventilation up or down based on when cooking starts
- Hawaii Energy Incentive Worksheet must be submitted with incentive application

COMPLEMENTARY PROGRAMS

- ENERGY STAR Kitchen Equipment
- SBDI – Restaurant Lighting
- Low Flow Spray Rinse Nozzles

Program Category	**5.3 Business Energy Efficiency Measures** **5.3.6 Commercial Industrial Processes** **5.3.6.2 – Refrigerated Case Night Covers**
Projected Impacts	Demand 33 kW Energy 146,124 kWh Incentive Budget $ 20,000 (<1%) Cost per kWh $0.14 /kWh TRB $227,242
Incentives	**Incentive** **Unit** Refrigerated Case Night Covers $10/Linear ft. 2,000 Linear ft.
Description & Implementation Strategies	ENERGY REDUCTION OPPORTUNITY The installation of retractable aluminum woven fabric covers for open-type refrigerated display cases, where the covers are deployed during the facility's unoccupied hours in order to reduce refrigeration energy consumption. TARGET AUDIENCE Supermarkets, grocery stores, convenience stores and big box stores. INCENTIVE & TARGETED ECONOMICS The incentive target is $10/linear feet. APPLICATION PROCESS Eligibility • Must install a cover on an existing open refrigerated display case to decrease its cooling load during off hours. • The equipment manufacturer must not object to the use of night covers for the existing display case model. • This incentive is based on linear footage of the installed night cover. • The cover must be applied for a period of at least six hours. COMPLEMENTARY PROGRAMS • EC Evaporator Fan Motors • Refrigerated case lighting

Program Category	**5.3 Business Energy Efficiency Measures** **5.3.7 Building Envelope Improvements**
Projected Impacts	Demand 90 kW Energy 331,685 kWh Incentive Budget $ 73,000 (<1%) Cost per kWh $0.22 /kWh TRB $560,309
Incentives	**Incentive** / **Unit** Window Tinting $0.85/sq.ft. 80,000 sq.ft. Cool Roof Technologies $0.20/sq.ft 25,000 sq.ft.

Program Category	**5.3 Business Energy Efficiency Measures** **5.3.7 Building Envelope Improvements** **5.3.7.1 Window Tinting**
Projected Impacts	Demand 86 kW Energy 325,458 kWh Incentive Budget $ 68,000 (<1%) Cost per kWh $0.21 /kWh TRB $543,079
Incentives	**Incentive** **Unit** Window Tinting $0.85/sq.ft. 80,000 sq.ft.
Description & Implementation Strategies	ENERGY REDUCTION OPPORTUNITY Window tinting can save energy by reducing the heat gain through windows as well as preventing lowering of temperature set points by occupants near the windows. Modern tints can provide the rejection of infrared energy while not blocking visible light. This expands the tinting opportunities in view sensitive locations such as hotel and office buildings. TARGET AUDIENCE Who – AOAOs, Property Managers, Private and Public Facilities Directors. Window Tinting Companies What – Hotel, Office, Condominium and Apartments & Government housing. INCENTIVE & TARGETED ECONOMICS The offering of a $0.85 / sq. ft. prescriptive incentive based on the film's Solar Heat Gain Coefficient (SHGC) < 0.435. • *Warranty* – Film must have a minimum five-year manufacturer's warranty and one-year installer's warranty • *Conditioned Space* – Incentives shall be paid on actual square footage of glass in a conditioned space on the east, west, and south facing windows. • *Eligible Types* – Windows may be clear or factory tinted, single or double pane, but must not have reflected glass. • *Unshaded* – Windows significantly shaded by buildings, trees or awnings are not eligible for rebates. • *Replacement Film* – Replacement of deteriorated window film is eligible for incentives if the customer did not receive an incentive for the existing film, depending on measure life. Must meet/exceed existing SHGC. This incentive is targeted to provide a 25% cost reduction for the installation.

Program Category	**5.3 Business Energy Efficiency Measures** **5.3.7 Building Envelope Improvements** **5.3.7.1 Window Tinting**
Description & Implementation Strategies (continued)	APPLICATION PROCESS 1. A prescriptive worksheet will be completed and submitted for review • Square footage of tinting • HVAC system Information • Site Layout • Exterior Photo of the south, east and west of the facility 2. Manufacturer specification sheets. 3. A request for a manufacturer's energy savings model run based on the location specific site conditions. 4. All sites will have pre/post inspections COMPLEMENTARY PROGRAMS • High Efficiency HVAC Measures • Central Plant Optimization

Program Category	**5.3 Business Energy Efficiency Measures** **5.3.7 Building Envelope Improvements** **5.3.7.2 Cool Roof Technologies**
Projected Impacts	Demand 4 kW Energy 6,227 kWh Incentive Budget $ 5,000 (<1%) Cost per kWh $0.80 /kWh TRB $17,231
Incentives	**Incentive** / **Unit** Cool Roof Technologies $0.20/sq.ft 25,000 sq.ft.
Description & Implementation Strategies	ENERGY REDUCTION OPPORTUNITY Cool Roofs increase the reflectivity of the roof and reduce cooling loads by either the reflective white or silver color and/or by "stealth" technologies such as ceramic and titanium oxide particles embedded in the material. The cool roof technologies allow a wide range of roof colors. TARGET AUDIENCE Who – AOAOs, Property Managers, Private and Public Facilities Directors. Roofing Companies, Architects What – All Commercial Facilities INCENTIVE & TARGETED ECONOMICS The offering of a $0.20 / sq. ft. prescriptive incentive based on Energy Star Qualified roofing products. • *Warranty* – Roof must have a minimum fifteen-year manufacturer's warranty and one-year installer's warranty • *Conditioned Space* – Incentives shall be paid on actual square footage of roof covering a conditioned space. • *Unshaded* – Roofs significantly shaded by buildings, trees or awnings are not eligible for rebates. This is targeted to incentive will provide a 25% of the incremental cost of moving from standard to Energy Star roofing materials.

Program Category	**5.3 Business Energy Efficiency Measures** **5.3.8 Energy Star Business Equipment** **5.3.8.1 Energy Star Refrigerators w/Recycling**
Projected Impacts	Demand 14 kW Energy 339,987 kWh Incentive Budget $ 25,000 (<1%) Cost per kWh $0.07 /kWh TRB $434,468
Incentives	**Incentive** **Unit** Energy Star Refrigerators w/Recycling $50/unit 500 units
Description & Implementation Strategies	ENERGY REDUCTION OPPORTUNITY There is a 32 to 62% energy reduction opportunity in the replacement of the "old" office refrigerator with a modern Energy Star model. TARGET AUDIENCE Who – Property Managers, Executive Level Company Officers What – All Commercial INCENTIVE & TARGETED ECONOMICS The offering of a $50 incentive for Energy Star units bought and delivered by participating retailers. This incentive is a 10 to 25% reduction in the cost of a new Energy Star model. APPLICATION PROCESS 3. A retailer submitted application and recycling verification worksheet. • Unit size, model, • Confirmation of Pickup and Recycling. • Unit location description 4. A sample of sites will have post inspections COMPLEMENTARY PROGRAMS • High Efficiency HVAC and Lighting Measures

Program Category	**5.3 Business Energy Efficiency Measures** **5.3.9 Energy Awareness, Measurement and Control Systems**
Projected Impacts	Demand 33 kW Energy 458,746 kWh Incentive Budget $ 140,000 (1%) Cost per kWh $0.31 /kWh TRB $419,936
Incentives	Hotel Room Occupancy Controls — Incentive $100 — Unit 500 units Condominium Submetering — Incentive $150 — Unit 500 units metered Small Business Submetering — Incentive $150 — Unit 100 units metered

Program Category	**5.3 Business Energy Efficiency Measures** **5.3.9 Energy Awareness, Measurement and Control Systems** **5.3.9.1 Hotel Room Occupancy Controls**
Projected Impacts	Demand 0 kW Energy 311,344 kWh Incentive Budget $ 50,000 (1%) Cost per kWh $0.16 /kWh TRB $228,763
Incentives	**Incentive** **Unit** Hotel Room Occupancy Controls $100 500 units
Description & Implementation Strategies	PROGRAM OBJECTIVE • This offer is for the installation of energy management systems that gives thermostat control to existing guest room air conditioning systems using occupancy sensors. REQUIREMENTS • All entry and lanai doors must have door switches or other technologies that will de-energize the fan coil unit • (FCU) when the door remains open. • All main rooms must have occupancy sensors that will de-energize the FCU when no movement is detected for a given period of time (not to exceed 15 minutes) Thermostat controls must be preset • Applicant must be on a Commercial Rate Schedule (reference utility bill). APPLICATION • Completed Commercial and Industrial Prescriptive Incentive Application • W-9 Tax Form • Completed Hotel Guest Room EMS Worksheet • Hotel Guest Room List • Equipment Invoice: Must clearly show the manufacturer, model number and quantity. • Equipment Specification Sheets INCENTIVE • $100 per guest room controlled

Program Category	**5.3 Business Energy Efficiency Measures** **5.3.9 Energy Awareness, Measurement and Control Systems** **5.3.9.2 Condominium Submetering**
Projected Impacts	Demand 24 kW Energy 113,329 kWh Incentive Budget $ 75,000 (1%) Cost per kWh $0.16 /kWh TRB $142,461
Incentives	**Incentive** **Unit** Condominium Submetering $150 500 units metered
Description & Implementation Strategies	PROGRAM OBJECTIVE • This program is designed to assist master-metered condominiums and their Association of Apartment Owners (AOAO) to install billing sub meters for their units and common areas to drive energy conservation and ensure equity and fairness in allocating energy costs to tenants and/or owners of their condominium units. The knowledge of personal energy usage and the responsibility to pay for it can result in energy usage behavior modification and reward those making investments in energy efficient equipment. • The combination of billing sub meters, along with education, peer group comparisons and special equipment offerings, will assist the owner or tenant to achieve significant energy conservation and efficiency. • Provides the AOAO an opportunity to receive an energy audit of the property and participate in other Hawaii Energy incentives for conservation in all common areas. Possible incentives could include A/C, lighting, pool pumps, domestic water pumps and parking garage exhaust fans. INCENTIVE • The payment of this $150 per unit metered incentive is payable to the AOAO towards the purchase and installation of a third party sub metering system. The metering system is to be used for billing purposes so that each owner or tenant of the unit metered will be responsible for the payment of their own electric consumption. • Incentive payment will be made upon completion of: installation of each meter and billing system, tenant education sub metering workshop, energy audit of the AOAO property and commencement of real time billing to individual tenants. • Incentive payment cannot exceed 50% of total project cost.

Program Category	**5.3 Business Energy Efficiency Measures** **5.3.9 Energy Awareness, Measurement and Control Systems** **5.3.9.2 Condominium Submetering**
Description & Implementation Strategies (continued)	ENERGY SAVINGS • It is expected there will be at least a 10% reduction in energy usage; however, there is no minimum reduction in electrical use required to retain the incentive. • Currently the M&V Review suggests 3.8% this will be reviewed as compared to actual project performance. REQUIREMENTS • The metering system must remain in place and billing to occur for a period of at least five (5) years or a pro-rated portion of the incentive will be recovered by Hawaii Energy. • Energy meter data (sub metered billing statements) must be provided to Hawaii Energy for analysis purposes. • A joint educational and monitoring program will be undertaken with AOAO to assist in the verification of savings and development of an ongoing energy incentive offering for other condominiums in Hawaii. Components of the Pilot Program: • Physical verification review of meters serving the building. Review monthly billing history • AOAO to provide monthly individual data collection for a two month period after meter installation to Hawaii Energy. This would be the mock billing information that is supplied to the tenant. • Sub Metering system installation inspection review • Identification of Top (T) and Bottom (B) 5 energy users for the purpose of peer comparison. All information will be anonymous. • AOAO to host sub metering and energy conservation and efficiency workshops presented by Hawaii Energy. A free energy efficient power strip will be given to encourage attendance. (If power strips are not available, Hawaii Energy reserves the right to offer a comparable promotional item.) • CFL's and LED's can be purchased utilizing the point of purchase rebates made available by Hawaii Energy in retail outlets throughout the state. • AOAO owners/tenants are eligible for Energy Star Appliance rebates and can purchase Energy Star appliances through major retailers throughout the state.

Program Category	**5.3 Business Energy Efficiency Measures** **5.3.9 Energy Awareness, Measurement and Control Systems** **5.3.9.2 Condominium Submetering**
Description & Implementation Strategies (continued)	• AOAO to perform energy audit/Vendor Project Proposals with Hawaii Energy assistance on the following: 1. Common Area Lighting 2. HVAC 3. Domestic Water Pumping 4. Domestic Water Heating

Program Category	**5.3 Business Energy Efficiency Measures** **5.3.9 Energy Awareness, Measurement and Control Systems** **5.3.9.3 Small Business Submetering**
Projected Impacts	Demand 9 kW Energy 34,073 kWh Incentive Budget $ 15,000 (<1%) Cost per kWh $0.44 /kWh TRB $48,712
Incentives	Small Business Submetering — Incentive: $150 — Unit: 100 units metered
Description & Implementation Strategies	• Small Businesses ongoing efforts to reduce energy consumption and support the current submetering proposal as one that will insure both fairness in allocating energy costs as well as encouraging energy conservation through direct feedback of business energy use to the tenants. • Combining the submetering program with education and audits as proposed will complete developing the tenant's newfound desire for energy conservation with the how to achieve it. • $150 per unit metered, payable to the owner or small business • The payment of the incentive will be based on owner installing and utilizing the submeters for billing purposes as well as participating in the actions proposed below. • It is expected there will be at least 10% reduction in energy use, however, there is no minimum reduction in electrical use to be required by owner to retain the incentive. • We do require that the system remain in place and billing to occur for a period of at least five years or a pro-rated portion of the incentive will be recovered by Hawaii Energy. • A joint educational and monitoring program will be undertaken with owner to assist in the verification of savings and development of an ongoing energy incentive offering for other condominiums in Hawaii. • This will be a pilot program subject to review and approval of how savings will be determined. Savings methodology to be included in the TRM for 2012 Programs.

Program Category	**5.4 Custom Business Energy Efficiency Measures** **Customized Programs Overview**
Projected Impacts	Demand 190 kW Energy 6,642,000 kWh Incentive Budget $ 1,060,000 (5%) Cost per kWh $0.16 /kWh TRB $6,383,768
Incentives	This program provides for incentives for all energy-savings actions that are not already covered by the prescribed incentives. Custom incentives will not be limited to a certain list of measures.

	Incentive	Units
Customized Project Measures <5 yrs.	$0.08	2,000,000 kWh
Customized Project Measures >5 yrs.	$0.12	4,000,000 kWh
Customized Project Measures – Carry Over	$0.16	2,000,000 kWh

Program Category	**5.4 Custom Business Energy Efficiency Measures** **5.4.1 Customized Project Measures** **5.4.1.1 Customized Project Measures <= 5 yrs.** **5.4.1.2 Customized Project Measures >5 yrs.**
Projected Impacts	Demand 190 kW Energy 6,642,000 kWh Incentive Budget $1,060,000 (4%) Cost per kWh $0.16 /kWh TRB $6,383,768
Incentives	**Incentive** / **Units** Customized Project Measures <=5 yrs. $0.08 2,000,000 kWh Customized Project Measures >5 yrs. $0.12 4,000,000 kWh Customized Project – Carry Over $0.16 2,000,000 kWh
Market Barriers	• Risk Avoidance • Market acceptance of new technologies • Lack of familiarity with availability of energy efficient technology • High initial up-front cost • Life Cycle Cost vs. Simple Payback decision analysis • Need for a cash positive investment • Access to and/or understanding of financial options • Lack of knowledge of operation and maintenance of technologies
Description & Implementation Strategies	**Customized Application Process** This program will provide a custom application and granting process for participants to receive incentives for installing non-standard energy efficiency technologies. The intent of this structure is to enable customers to invest in energy efficiency processes and technology measures that may require calculations of energy savings for specific, unique applications. Incentive awards will be based on calculated savings that ensure program cost-effectiveness. The process includes: • Program performs outreach and promotions to inform customers of incentive opportunities • Customer learns about the program offerings through various channels • Customer may call the program to request assistance. Customer or his agent must submit a brief proposal that describes the project and includes estimates of energy savings and payback • Engineering calculations are required and may be reviewed either internally or with a third-party engineering firm • Program provide feedback on the project to clarify if needed

Program Category	**5.4 Custom Business Energy Efficiency Measures** **5.4.1 Customized Project Measures** **5.4.1.1 Customized Project Measures < = 5 yrs.** **5.4.1.2 Customized Project Measures >5 yrs.**
Description & Implementation Strategies (continued)	• Program provides pre-inspection and/or arranges for pre-metering of existing equipment if required • Customers select and approve purchase and installation of energy efficiency measures **Customized Project Criteria** • Payback of greater than one year or 6 months for LED projects. • Pass the utility benefit-cost test, Total Resource Cost Ratio (TRC) based on the value of the Utility avoided demand (kW) and avoided energy (kWh) that the project produces • Incentive rate will not exceed the 50 percent of incremental cost of the energy efficiency improvement **Customized Worksheet of Decision Criteria** We listened to feedback that the prior customized application process was mysterious and subjective. A customized worksheet was developed and implemented in PY2009 that incorporates all the information required to screen the project: • Base case and enhanced case scenarios • Project savings • Project costs The worksheet calculates and we are able to screen based on the following: • Simple Payback (>1 year or 6 months or greater for LED projects) • Incentive Amount (<=50% of incremental cost) • Total Resource Cost Ratio(>=1) Encouraged technology categories • Fresh Water Pumping / Waste Water Pumping • Data Centers - Airflow Optimization • Data Centers - Server Virtualization and Related Technologies • Parking Garages - Perimeter Dimming • Parking Ventilation Control • Demand Control Ventilation (CO2 Sensors in return airstream) • LED Refrigeration Case Lighting • LED Interior Lights

Program Category	**5.4 Custom Business Energy Efficiency Measures** **5.4.2 Customized Project Measures** **5.4.2.1 Customized Project Measures <5 yrs.** **5.4.2.2 Customized Project Measures >5 yrs.**
Description & Implementation Strategies (continued)	• LED Traffic Lights and Exterior Lighting • Commercial Refrigeration Measures • Advanced Energy Management Controls • High Performance Commercial Lighting • Bi-Level Parking Garage Lighting
Key Changes	**Tiered Incentives by Payback** • Projects that have longer life measures often have longer paybacks that businesses have a harder time gaining approval for. These projects can be pushed into reality by offering increases in the incentive levels in order to enhance feasibility and get them to a point where the customers will implement them.
Marketing Strategies	• Offer program ally custom incentive training and workshops to ensure program allies are comfortable with utilizing all aspects of the custom incentive program to sell more energy-efficient options to their respective customers • Maintain direct contact with key market players to understand the markets and decision points and to leverage their marketing resources to inform members • Email informational campaigns • Award and publish success of customer and ally partners to demonstrate highest level leadership in an effort to pull the market

Measure Life	Reduction in Energy Use Incentive	Evening Peak Demand Reduction (5PM-9PM Weekdays)	Day Peak Demand Reduction (12PM-2PM Weekdays)
< = 5 years	$0.08 / kWh	$125 / kW	*$100 / kW
> 5 years	$0.12 / kWh	$125 / kW	*$100 / kW
* HVAC application only			

Program Category	**5.4 Custom Business Energy Efficiency Measures** **5.4.1 Customized Project Measures** **5.4.1.3 Customized Project – Carry Over**
Projected Impacts	Demand 47 kW Energy 1,660,500 kWh Incentive Budget $320,000 (1%) Cost per kWh $0.19 /kWh TRB $1,829,224
Incentives	**Incentive** **Units** Customized Project – Carry Over $0.16 2,000,000 kWh
Description & Implementation Strategies	The program will provide an open opportunity for achieving energy efficiency by developing cost-effective projects that focus on high energy consumption businesses. The program will be a formal offer of matching or leveraging funds for projects that have not moved forward even with other sources of funding. The example were the HTDC (High Technology Development Corporation) funds for energy studies that were not fully subscribed due to the customers not having the remainder of the funding to execute. This co-funded work resulted in 2010 in eight energy studies resulting in at least one immediately implemented project. The projects will use utility metered data and if needed, will be submetered to ensure savings performance.

Program Category	**5.5 Business Energy Services & Maintenance** **BESM Program Overview**
Projected Impacts	Demand 2,273 kW Energy 21,085,583 kWh Incentive Budget $4,645,069 (24%) Cost per kWh $0.22 /kWh TRB $32,840,076
Incentives	**5.3.1 Business Direct Installation** Small Business Direct Lighting Retrofits — $0.60 — 1,250,000 kWh **5.3.2 Business Design, Audits & Commissioning** Benchmark Metering — $80,000 — 4 groups Decision Maker – Real-Time Submeters — $50,000 — 2 groups Energy Audit — $5,000 — 12 Studies Energy Study Project implementation — $25,000 — 8 Studies Energy Study Assistance – 50% — $15,000 — 3 Studies Design Study Assistance – 50% — $15,000 — 1 Design Water/Wastewater Catalyst — $0.18 / kwh — 18,000,000 kWh

Program Category

5.5 Business Energy Services & Maintenance
5.5.1 Business Direct Installation
5.5.1.1 Small Business Direct Lighting Retrofits

Target Market

Small Business Customers receiving electric power under a Schedule "G" rate are eligible under this program.

Small customers similar to Schedule "G" customers that are under master-metered accounts would also be eligible.

The program will target the 50,000 customers within the small business market that have limited time and expertise within their organizations to research lighting technology options, obtain financing and contract with lighting contractors to replace their older less efficient lighting technologies.

Schedule "G" Customers	
Oahu	29,117
Big Island	12,614
Maui	8,503
Lanai	194
Molokai	498
Totals	50,926

Projected Impacts

Demand	113	kW
Energy	1,314,563	kWh
Incentive Budget	$ 750,000	(4%)
Cost per kWh	$0.57	/kWh
TRB	$1,900,860	

Incentives

	Incentive	**Units**
Small Business Direct Lighting Retrofits	$0.60	1,250,000 kWh

Technologies

Small Business Lighting Retrofit providing a "Turnkey" program consisting of audits, 100% incentivized lighting measures, installation by participating Hawaii Energy Participating contractors and 6 month financing of lighting retrofit costs of custom measures beyond the cost per kWh incentive.

Program Category	**5.5 Business Energy Services & Maintenance** **5.5.1 Business Direct Installation** **5.5.1.1 Small Business Direct Lighting Retrofits**
Technologies (continued)	The program will be modified to return T8 32W to Low-wattage T8s (25/28W) to the standard incentive levels. This action is taken to increase cost effectiveness of the program and utilize the SBDIL budget to target the more T12s that remain in service. This also addressed more directly the customers that have for whatever operational/financial reason been unable to upgrade their T12 lighting. The 100% incentive levels will be reviewed to insure that changes in equipment pricing (LEDs in particular) are taken into account. Changes to the Partcipating Contractor Memorandum of Understandings (MOUs) will be made to address lessons learned in the first full year of implementation and to closely resemble the Solar Water Heater Program MOUs.
Market Barriers	• Trust in equipment vendors/contractors • Lack of familiarity with energy efficient lighting technologies • Inability to obtain project financing • Lack of time and expertise to seek and select lighting contractors • Life Cycle Cost vs. Simple Payback decision analysis

Description & Implementation Strategies	• Provide complete process to provide direct installation of lighting retrofits for small business customers. • Participating Hawaii Energy Participating contractors will offer six month payment plans for the lighting retrofits • Use of workforce development groups and grass roots volunteer organizations to generate leads and perform initial audits to lower cost of sales for Lighting contractors • Quick Inventory worksheet to ID potential targeting for future mechanical measures (AC/Water heating/Appliances/Refrigeration)
Marketing Strategies	• Direct contact with participating lighting contractors • Direct contact with Small Business Administration • Direct contact and printed materials to Property Management groups • Door-to-Door contact through Grassroots Action Groups • Website listing of participating lighting contractors

Program Category	**5.5 Business Energy Services & Maintenance** **5.5.2 Business Design, Audits and Commissioning** **5.5.2.1 Benchmark Metering**
Projected Impacts	Demand 0 kW Energy 420,660 kWh Incentive Budget $ 320,000 (1%) Cost per kWh $0.76 /kWh TRB $43,617
Incentives	**Incentive** **Unit** Benchmark Metering $80,000 4 Groups
Description & Implementation Strategies	The Benchmark Metering incentive is designed to encourage business customers to install a central chiller plant metering and data logging system that will provide real-time data and trend data. This data reflects actual tons of cooling and measured efficiency in KW per ton. The new equipment will make it possible for the customer to set meaningful energy efficiency goals and track progress towards those goals. With the Hawaii Energy incentive, there is no cost to the customer for the metering equipment or installation (up to $80,000). Procedure: Customer: 1. Have a central chiller plant (or a central chiller plant project in the planning phase) with a total building electrical energy consumption of at least 3 million kWh per year. 2. Complete and submit Central Chiller Plant Benchmarking Application 3. The Hawaii Energy monitoring and data acquisition server shall be located at the customer's site and connected to the internet via customer's connection. 4. Submit to Hawaii Energy all payee information and the IRS Form W-9 at the beginning of every calendar year for processing of the IRS Form 1099. It is understood that Hawaii Energy will forward a copy of the IRS Form 1099 to the payee at the end of the calendar year. 5. Agree to inspection of project for up to 5 years after completion Industry Partners: 1. Assist customer in submission of application, savings estimate worksheet, and project proposal.

Program Category	**5.5 Business Energy Services & Maintenance** **5.5.2 Business Design, Audits and Commissioning** **5.5.2.1 Benchmark Metering**
Description & Implementation Strategies (continued)	2. Provide quotations for metering installation at customer's location. Only firm/fixed cost quotes will be accepted by Hawaii Energy. 3. Provide supporting documentation to support information submitted on Worksheet. Information may include drawings, vendor cut sheets, energy savings estimates (methodology and calculations). 4. Install approved measures and required metering/monitoring equipment Hawaii Energy: **1.** Review application, worksheet, and proposal to determine if proposed project meets the intent of the program. **2.** Perform post installation inspection to ensure all measures/equipment are properly install and operational. **3.** Process approved incentive payments (to customer or authorized third party) based on validated savings calculations **4.** Prepare and file close out report documenting actual savings achieved and incentives paid.
Marketing Strategies	• Direct contact with Mechanical Services companies, chief engineers, property managers and manufacturers representatives,

Program Category	**5.5 Business Energy Services & Maintenance** **5.5.2 Business Design, Audits and Commissioning** **5.5.2.2 Decision Maker – Real-Time Submeters**
Projected Impacts	Demand 0 kW Energy 420,660 kWh Incentive Budget $100,000 (1%) Cost per kWh $0.24 /kWh TRB $43,617
Incentives	Decision Maker – Real-Time Submeters — **Incentive** $50,000/group — **Units** 2 Groups
Description & Implementation Strategies	ENERGY REDUCTION OPPORTUNITY There are individuals within business organization who have influence over large numbers of employees whose behavior within the work environment drive unnecessary energy consumption. Examples can be leaving on lights, additional electronic equipment, and items such as foot heaters and additional fans that mask larger energy efficiency issues etc. This will be a pilot program subject to review and approval of how savings will be determined. Savings methodology to be included in the TRM for 2012 Programs. TARGET AUDIENCE Who – Property Managers, Executive Level Company Officers What – All Commercial INCENTIVE & TARGETED ECONOMICS The offering of the direct installation or materials with in-house installation of web-based electrical metering. This metering will be monitored by decision makers within the organization to identify usage patterns and be the basis of peer group competitions within the organization. APPLICATION PROCESS An MOU will be developed with the customer that will outline the purpose and process of setting up education and peer group competitions within their businesses. COMPLEMENTARY PROGRAMS • High Efficiency HVAC • High Efficiency Lighting Measures

Program Category	**5.5 Business Energy Services & Maintenance** **5.5.2 Business Design, Audits and Commissioning** **5.5.2.3 Energy Audit**
Projected Impacts	Demand 0 kW Energy 0 kWh Incentive Budget $ 60,000 (<1%) Cost per kWh $0.00 /kWh TRB $0
Incentives	Energy Audit — Incentive: $60,000 — Unit: 12 Studies
Description & Implementation Strategies	This offer is designed to promote energy-saving evaluations of building equipment and operations that consume electricity. Hawaii Energy provides an incentive for a portion of the existing facility's energy consumption analysis through a two phase process: (1) the completion of a preliminary energy audit (see Energy Audit Worksheet from website) and (2) a detailed energy study upon approval of the audit. Pre-approval is required prior to the start of any audit in order to ensure budget availability, review any prior studies at the location, and have a discussion about the goals and context of the energy analysis.

Program Category	**5.5 Business Energy Services & Maintenance** **5.5.2 Business Design, Audits and Commissioning** **5.5.2.4 Energy Study Project Implementation - 100%**
Projected Impacts	Demand 0 kW Energy 0 kWh Incentive Budget $ 200,000 (1%) Cost per kWh n/a TRB n/a
Incentives	**Incentive** **Units** Energy Study Assistance $25,000/study 8 studies
Description & Implementation Strategies	• 100% Funded up to $25,000 • Customer agrees to implement reccomendations with less than 2 year paybacks within 1 year up to the value of the energy study or pays back 50% of the energy study cost. • Load / Existing Performance Measurements • Modeling new systems • Actionable recommendations

Program Category	**5.5 Business Energy Services & Maintenance** **5.5.2 Business Design, Audits and Commissioning** **5.5.2.5 Energy Study Assistance**
Projected Impacts	Demand 0 kW Energy 0 kWh Incentive Budget $ 45,000 (<1%) Cost per kWh n/a TRB n/a
Incentives	Energy Study Assistance — **Incentive** $15,000/study — **Units** 3 studies
Description & Implementation Strategies	• 50% matching up to $15,000 • Load / Existing Performance Measurements • Modeling new systems • Actionable recommendations

Program Category	**5.5 Business Energy Services & Maintenance** **5.5.2 Business Design, Audits and Commissioning** **5.5.2.6 Design Assistance**
Projected Impacts	Demand 0 kW Energy 0 kWh Incentive Budget $ 15,000 (1%) Cost per kWh n/a TRB n/a
Incentives	Energy Study Assistance — **Incentive** $15,000/study — **Units** 1 Design
Description & Implementation Strategies	• 50% matching up to $15,000 for projects exceeding code requirements • Meet targeted energy efficiency levels • Actionable recommendations
Marketing Strategies	• Direct interaction with potential customers and mechanical engineers • Promote measure information on the website • Promote successful projects in the media and events

Program Category	**5.5 Business Energy Services & Maintenance** **5.5.2 Business Design, Audits and Commissioning** **5.5.2.7 Water & Wastewater Energy Project Catalyst**
Projected Impacts	Demand 2,161 kW Energy 18,929,700 kWh Incentive Budget $ 3,155,069 (16%) Cost per kWh $0.17 /kWh TRB $30,851,981
Incentives	W/WW Energy Project Catalyst — **Incentive** $0.18/kWh — **Units** 18,000,000 kWh
Description & Implementation Strategies	The objective of the catalyst program is to accelerate stalled high impact UV disinfection project. • *5 year Cost Neutral Incentive* – This measure will provide the funding required to drive this project into a 5 year lease that is cash neutral for the customer.

Program Category	**5.6 Business Hard-to-Reach** **BHTR Program Overview**
Target Market	Offices Water coolers use a significant amount of energy. A standard hot and cold water cooler can use more energy than a large refrigerator – according to Energy Star. The solution is to install timers to shut down during non-usage hours. Restaurants This sector has a low participation rate, low saturation of high efficiency equipment and high potential for energy savings. The Small Business Direct Installation (SBDI) method has shown to be effective to get attention and participation with the ability to then gather information on the restaurant equipment and operations that can lead to greater energy savings through other programs such as the ENERGY STAR Kitchen equipment program. Landlords The landlord/tenant relationship provides challenges to making energy efficiency capital investments in properties and operations such as air conditioning and lighting upgrades. This funding is to create a program that works with landlords that are taking This program will be targeted to provide landlords of small business schedule "G" customers with comprehensive audit, RFP and other support for energy saving projects that will drive down the energy cost of their tenants.
Projected Impacts	Demand 775 kW Energy 7,299,438 kWh Incentive Budget $842,000 (5%) Cost per kWh $0.11 /kWh TRB $7,917,209
Incentives	**5.6.1 Energy Efficiency Equipment Grants** Water Cooler Timers — $15 — 10,000 units **5.6.2 Restaurant Targeted Participation Programs** SBDI - Kitchen Exhaust Hood Demand Ventilation — $1,700 — 50 hp Low Flow Spray Rinse Nozzles — $22 — 500 units Energy Star Commercial Kitchen Equipment — $0.10/kWh — 778,846 kWh SBDI - Restaurant Lighting — $0.50 — 1,000,000 kWh **5.6.3 Landlord, Tenant, AOAO Measures** Energy Hero Landlord — $0.30 — 50,000 kWh

Program Category	**5.6 Business Hard to Reach** **5.6.1 Energy Efficiency Equipment Grants** **5.6.1.1 – Water Cooler Timers**
Projected Impacts	Demand 548 kW Energy 2,465,843 kWh Incentive Budget $ 150,000 (1%) Cost per kWh $0.06 /kWh TRB $2,130,499
Incentives	**Incentive** **Unit** Water Cooler Timers $15 10,000 units
Description & Implementation Strategies	ENERGY REDUCTION OPPORTUNITY Water coolers use a significant amount of energy. To address the vast energy waste, water cooler timers can save over 70% on water cooler electricity cost in a standard office work week. Water coolers programmed to shut down during non-usage hours will save significant amount of energy. TARGET AUDIENCE Offices INCENTIVE & TARGETED ECONOMICS $15 per water cooler timer APPLICATION PROCESS. This program will be implemented through home-office delivery (HOD) companies that provide water services. Water cooler timers will be programmed to shut down during non-usage office hours.

Program Category	**5.6 Business Hard–to-Reach** **5.6.2 Restaurant Targeted Participation Program** **5.6.2.1 Low Flow Spray Rinse Nozzles**
Target Market	• Restaurants
Projected Impacts	Demand 0 kW Energy 2,685,029 kWh Incentive Budget $11,000 (<1%) Cost per kWh $0.00 /kWh TRB $2,695,920
Incentives	**Incentive** **Units** Low Flow Spray Rinse Nozzles $22 500 unit
Description & Implementation Strategies	A low-flow pre-rinse spray valve is one of the easiest and most cost effective energy saving devices available to the foodservice operator. In addition to minimizing water consumption, water heating energy and sewer charges are also reduced.

Program Category	**5.6 Business Hard-to-Reach** **5.6.2 Restaurant Targeted Participation Programs** **5.6.2.2 SBDI - Kitchen Exhaust Hood Demand Ventilation**
Target Market	• Restaurants
Projected Impacts	Demand 25 kW Energy 144,279 kWh Incentive Budget $85,000 (<1%) Cost per kWh $0.59 /kWh TRB $267,867
Incentives	**Incentive** **Unit** SBDI - Kitchen Exhaust Hood Demand Ventilation $1,700 50 hp
Market Barriers	• Familiarity with technology • Vendor/Contractor sales and support in Hawaii for technology • Customer lack of access to capital for energy improvements • Renter and Lessee reluctance to invest in non-owned property
Description & Implementation Strategies	ENERGY REDUCTION OPPORTUNITY Kitchen Exhaust hoods run typically at full speed during the operating hours of the restaurant. These controller systems monitor the cooking surfaces for heat and/or particulates in the air to run the fans only when needed. Saving the energy that is wasted during idle periods. This will be a pilot program subject to review and approval of how savings will be determined. Savings methodology to be included in the TRM for 2012 Programs. The modest savings value is based on a single project monitored in PY2011. TARGET AUDIENCE Who – Restaurant Owners, Hawaii Restaurant Association What – Restaurants INCENTIVE & TARGETED ECONOMICS The offering of the direct installation 100% Cost Incentive. Work to be performed by participating contractors/manufacturers. APPLICATION PROCESS • Targeted Anticipation and Vendor Driven leads drive interest. • Application and site audit information • Agreement to allow marketing/promotions in Restaurant regarding work performed and savings achieved.

Program Category	**5.6 Business Hard-to-Reach** **5.6.2 Restaurant Targeted Participation Programs** **5.6.2.3 SBDI - Restaurant Lighting**
Target Market	• Restaurants
Projected Impacts	Demand 31 kW Energy 1,095,930 kWh Incentive Budget $500,000 (3%) Cost per kWh $0.46 /kWh TRB $1,346,278
Incentives	Small Business Direct Installation — **Incentive** $0.50 — **Units** 1,000,000 kWh
Market Barriers	• Customer lack of access to capital for energy improvements • Renter and Lessee reluctance to invest in non-owned property
Description & Implementation Strategies	• Provide complete process to provide direct installation of lighting retrofits for small business customers. • Participating Hawaii Energy Participating contractors will offer six month payment plans for the lighting retrofits • Use of workforce development groups and grass roots volunteer organizations to generate leads and perform initial audits to lower cost of sales for Lighting contractors • Quick Inventory worksheet to ID potential targeting for future mechanical measures (AC/Water heating/Appliances/Refrigeration)
Marketing	• Direct contact with participating lighting contractors • Direct contact with Small Business Administration • Direct contact and printed materials to Property Management groups • Door-to-Door contact through Grassroots Action Groups • Website listing of participating lighting contractors

Program Category	**5.6 Business Hard-to-Reach** **5.6.2 Restaurant Targeted Participation Program** **5.6.2.3 SBDI - Restaurant Lighting**
Technologies	A "Turnkey" program consisting of audits, 100% incentivized lighting measures, installation by participating Hawaii Energy Participating contractors and 6 month financing of lighting retrofit costs of custom measures beyond the cost per kWh incentive. Changes to the Partcipating Contractor Memorandum of Understandings (MOUs) will be made to address lessons learned in the first full year of implementation and to closely resemble the Solar Water Heater Program MOUs. The program will be modified to return T8 32W to Low-wattage T8s (25/28W) to the standard incentive levels. This action is taken to increase cost effectiveness of the program and utilize the SBDIL budget to target the more T12s that remain in service. This also addressed more directly the customers that have for whatever operational/financial reason been unable to upgrade their T12 lighting. The 100% incentive levels will be reviewed to insure that changes in equipment pricing (LEDs in particular) are taken into account.
Market Barriers	• Trust in equipment vendors/contractors • Lack of familiarity with energy efficient lighting technologies • Inability to obtain project financing • Lack of time and expertise to seek and select lighting contractors • Life Cycle Cost vs. Simple Payback decision analysis

Program Category	**5.6 Business Hard to Reach** **5.6.2 Restaurant Targeted Participation Programs** **5.6.2.4 - ENERGY STAR Commercial Kitchen Equipment**
Projected Impacts	Demand 171 kW Energy 853,561 kWh Incentive Budget $ 81,000 (<1%) Cost per kWh $0.09 /kWh TRB $1,440,565
Incentives	**Incentive** **Unit** Commercial Kitchen Equipment $0.10 /kWh 778,846 kWh
Description & Implementation Strategies	ENERGY REDUCTION OPPORTUNITY This program will start with direct installation of variable exhaust ventilation systems that adjust to the cooking exhaust loads. TARGET AUDIENCE Who – Restaurants and commercial kitchens What – Commercial Kitchen Equipment INCENTIVE & TARGETED ECONOMICS This program will have a variety of incentives for dozens of equipment types. It is expected that the average cost per kWh will be $0.30 /kWh. We will work with Fishnick and CEE to develop equipment types and incentive levels. APPLICATION PROCESS. This program will be implemented through specialty contractors on a dollar per kWh capture basis. The program will also develop vendor driven program that will provide them direct incentives and the support of Hawaii Energy technology papers and sales call assistance. COMPLEMENTARY PROGRAMS • Target Cost per kWh Request for Proposals

Program Category	**5.6 Business Hard–to-Reach** **5.6.3 Landlord, Tenant, AOAO Measures** **5.6.3.1 Energy Hero Landlord**
Target Market	• Property Managers, Landlords, BOMA
Projected Impacts	Demand 0 kW Energy 54,797 kWh Incentive Budget $15,000 (<1%) Cost per kWh $0.30 /kWh TRB $36,080
Incentives	**Incentive** **Units** Energy Hero Landlord $0.30 50,000 kWh
Market Barriers	The landlord/tenant relationship provides challenges to making energy efficiency capital investments in properties and operations such as air conditioning and lighting upgrades. The tenant energy usage can be accounted for by: 1. Paying a flat rate per square foot based on a lease agreement 2. Costs Incorporated in CAM 3. Third-Party submetered 4. Separate Utility submeter Energy savings project may: • not have a direct financial incentive for either party • have simple payback beyond lease term
Description & Implementation Strategies	**Energy Hero Landlord - Major Project Support** This program will be targeted to provide landlords of small business schedule "G" customers with comprehensive audit, RFP and other support for energy saving projects that will drive down the energy cost of their tenants. The program will work with local lenders to provide project financing support in conjunction with the program.

6.0 PROGRAM-LEVEL BUDGET

Below is the PY13 Program-Level Budget.*

Hawaii Energy Efficiency Program Annual Plan Budget
July 1, 2013 through June 30, 2014

Activity	Non-Incentive	Incentive	Total
Residential Programs			
REEM	2,591,084	7,504,500	10,095,584
CESH	40,486	25,000	65,486
RESM	121,457	540,000	661,457
RHTR	121,457	801,939	923,396
Total Residential Programs	**2,874,484**	**8,871,439**	**11,745,923**
Residential Market Evaluation	**242,914**	**0**	**242,914**
Residential Outreach	**931,171**	**0**	**931,171**
Total Residential Services and Initiatives	**4,048,569**	**8,871,439**	**12,920,008**
Business Programs			
BEEM	1,286,545	4,295,800	5,582,345
CBEEM	989,650	1,060,000	2,049,650
BESM	692,755	4,645,069	5,337,824
BHTR	544,308	842,000	1,386,308
Total Business Programs	**3,513,258**	**10,842,869**	**14,356,127**
Business Market Evaluation	**296,895**	**0**	**296,895**
Business Outreach	**1,138,098**	**0**	**1,138,098**
Total Business Services and Initiatives	**4,948,251**	**10,842,869**	**15,791,120**
Total Residential and Business Services and Initiatives	**8,996,820**	**19,714,308**	**28,711,128**
Transformational Programs			
Residential Transformational Programs	0	985,715	985,715
Business Transformational Programs	0	1,204,763	1,204,763
Total Transformation Services and Initiatives	**0**	**2,190,478**	**2,190,478**
Total Supporting Services	**2,091,908**	**0**	**2,091,908**
Total Tax on Non-Incentive	**489,517**	**0**	**489,517**
Estimated Contractor Costs	**11,578,245**	**21,904,786**	**33,483,031**

* This table provides a program-level itemization of the overall contract budget. While the contractual budget categories and limitations are as set forth in the contract, the Hawaii Energy team will continue reporting status of budget and expenditures at the program-level, consistent with prior years. Formal changes to the contract budget will be in accordance with the contract.

7.0 PERFORMANCE INCENTIVE GOALS AND INCENTIVE WEIGHTING

7.1 Performance Incentive Goals

The following table shows the PY13 Program Performance Goals and Incentives as contained in the supplemental contract covering the PY13 budget. The transition between Minimum, Target and Maximum shall be calculated on a linear basis for both goals and awards where appropriate.

PY2013 Performance Goals				
Performance Target Item	*Performance Goals*			
	Minimum	*Target*	*Maximum*	
	75%	*100%*	110%	
First Year Energy Reduction	106,212,107	141,616,143	155,777,757	kWh
Peak Demand Reduction	13,366	17,821	19,603	kW
Total Resource Benefit	$ 132,760,481	$ 177,013,974	$ 194,715,371	$
Transformation Infrastructure Development	*Minimum Participation*	*Target Participation*		
Behavior Modification	13,500	18,000		
Professional Development	750	1,000		
Technical "Know How"	1,500	2,000		
Island Incentive Equity	*Minimum*	*Target*	*Maximum*	*Contribution*
	80%	100%		
County of Hawaii	$ 1,987,202	$ 2,484,003	n/a	12.6%
C&C Honolulu	$ 11,733,956	$ 14,667,445	n/a	74.4%
County of Maui	$ 2,050,288	$ 2,562,860	n/a	13.0%
Total		$ 19,714,308		100.0%

PY2013 Performance Incentives				
Performance Target Item	*% of Target*	*Program Incentive Award*		
		Minimum	*Target*	*Maximum*
		75%	*100%*	123.8%
First Year Energy Reduction	35%	$ 183,750	$ 245,000	$ 303,188
Peak Demand Reduction	5%	$ 26,250	$ 35,000	$ 43,313
Total Resource Benefit	40%	$ 210,000	$ 280,000	$ 346,500
Infrastructure development	10%	n/a	$ 70,000	$ 70,000
Island Incentive Equity	10%	n/a	$ 70,000	$ 70,000
Total			$ 700,000	$ 833,000
Potential Award for Performance in Excess of Targets				$ 133,000

7.2 Performance Incentive Fractions

The following table shows the PY13 Performance Incentive Fractions as contained in the supplemental contract covering the PY13 budget.

Performance Target Goal	Fraction of Incentive
First Year Energy Reduction	35%
Peak Demand Reduction	5%
Total Resource Benefit	40%
Infrastructure development	10%
Island Incentive Equity	10%

8.0 CONCLUSION

The Hawaii Energy Team is projecting strong energy savings results for PY12 (ending 30 Jun 2013).

Our ultimate energy efficiency and conservation success will require continuous innovation and improvement of our efficiency technologies, energy awareness education and program strategies to ensure that we stay ahead of our goals. The Hawaii Energy pledge is to engage these requirements with the best effort possible.

For PY13, the Hawaii Energy Team will continue the transparency, integrity, cost-effectiveness, innovation and singular focus on saving energy for Hawaii that have been the key hallmarks of our tenure as Hawaii's first independent Public Benefit Fee Administrator. Working under the PUC's leadership, together with our allies, government agencies, utilities and utility customers, we look forward to being a major catalyst and contributor to Hawaii's successful climb to a clean energy future.

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9.0 APPENDIX

Appendix A – Program Budget PY13 (Full Version)

Appendix B – Summary Presentation of Programs

Appendix C – TRB Utility Benefit Values

APPENDIX A – PROGRAM-LEVEL BUDGET PY2013 (Expanded Version)

As noted above, while the contract sets forth the overall budget categories and limitations, status of Hawaii Energy PY13 budget and expenditures will be reported at this itemized program-level.

Hawaii Energy Efficiency Program Annual Plan Budget - April 29, 2013	PY13 Budget
Residential Programs	
Residential Program Ops and Management	
REEM	2,591,084
CESM	40,486
RESM	121,457
RHTR	121,457
Subotal Residential Programs	2,874,484
Residential Market Evaluation	242,914
Residential Outreach	931,171
Total Residential Non-Incentive	*4,048,569*
Residential Incentives	
REEM	7,504,500
CESH	25,000
RESM	540,000
RHTR	801,939
Subtotal Residential Incentives	8,871,439
Residential Transformational	985,715
Total Residential Incentives	*9,857,154*
Total Residential Programs	**13,905,723**
Business (C&I) Programs	
Business Programs Ops and Management	
BEEM	1,286,545
CBEEM	989,650
BESM	692,755
BHTR	544,308
Subtotal Business Programs	3,513,258
Business Evaluation	296,895
Business Outreach	1,138,098
Total Business Non-Incentive	*4,948,251*
Business Incentives	
BEEM	4,295,800
CBEEM	1,060,000
BESM	4,645,069
BHTR	842,000
Subotal Business Incentive	10,842,869
Business Transformational	1,204,763
Total Business Incentives	*12,047,632*
Total Business Programs	**16,995,883**
Supporting Services	
Supporting Services	2,091,908
Total Supporting Services	**2,091,908**
Subtotal Non-Incentive (Prior to Tax)	11,088,728
Less Performance Incentives (Prior to Tax)	(700,000)
Subtotal Non-Incentive Less Performance Incentives (PI)	10,388,728
Total Tax on Non-Incentive Without PI	489,517
Performance Incentive Award (Inclusive of Tax)	700,000
Subtotal Non-Incentive Billed	*11,578,245*
Subtotal Residential and Business Customer Incentives	*19,714,308*
Subtotal Transformational Incentives	*2,190,478*
Subtotal Customer and Transformational Incentives	*21,904,786*
Sub-Total Estimated Contractor Costs	***33,483,031***
Performance Awards in Excess of Target Levels	133,000
Total Estimated Contractor Costs, including Performance Awards in Excess of Target Levels	**33,616,031**

Hawaii Energy - PY2013 ANNUAL PLAN
SUMMARY PROPOSED PROGRAM BUDGETS

PROGRAM BUDGET GUIDELINES

PBFA Contract Renewal Guidelines for Year 5

Program Year	2013
Period of Performance	7/1/13 to 6/30/14
PBFA Budget Allocation	$ 33,616,031

Budget Item / Category	Amount	% of Total Budget	% of Subtotal
General Adminstrative and IT Costs	$ 2,190,479	6.5%	94%
Performance Award in Excess of Target*	$ 133,000	0.4%	6%
Total PBFA Administrative Costs	$ 2,323,479	6.9%	100%

Budget Item / Category		Total	Allocation Targets: Direct Incentives	Allocation Targets: Direct Implementation
		100%	70.0%	30.0%
Residential Program Cost Split	45%	$ 14,081,648	$ 9,857,154	$ 4,224,494
Business Program Cost Split	55%	$ 17,210,904	$ 12,047,633	$ 5,163,271
Total Direct Program Costs	100%	$ 31,292,552	$ 21,904,787	$ 9,387,765

Budget Item / Category		Direct Incentives	Res + Bus Incentives
Residential Direct Incentives	40.5%	$ 8,871,439	90%
Business Direct Incentives	49.5%	$ 10,842,869	$ 19,714,308
Transformational Incentives	10.0%	$ 2,190,479	
Total Program Direct Incentives	100.0%	$ 21,904,787	

Proposed Incentives and Operations Breakouts

Budget Item / Category	Amount	% of Total Budget	% of Subtotal
Residential Incentives	$ 8,871,439.00	26%	40.5%
Business Incentives	$ 10,842,869.00	32%	49.5%
Transformation Incentives	$ 2,190,479.00	7%	10.0%
Total Incentives	$ 21,904,787.00	65%	100.0%
Administration / IT	$ 2,190,479.00	7%	19%
Direct Program Implementation Costs	$ 9,387,765.00	28%	81%
Total Operations	$ 11,578,244.00	34%	100%
Total Incentives	$ 21,904,787.00	65%	65%
Total Operations	$ 11,578,244.00	34%	34%
Total Award in Excess of Target*	$ 133,000.00	0%	0%
Total Budget	$ 33,616,031.00	100%	100%

* = This Incentive Award budget amount is not earned until performance is achieved.

These highlighted figures are key program metric percentages

APPENDIX B -

Hawaii Energy - PY2013 ANNUAL PLAN - SUMMARY PRESENTATION OF PROGRAMS BY MEASURE

Combined Programs		Budget	Plan	Diff
Residential	45%	$ 8,871,439	$ 8,871,439	$ -
Business	55%	$ 10,842,869	$ 10,842,869	$ -
Bottom Up Program Impacts		$ 19,714,308	$ 19,714,308	$ -
Target Program Impacts		$ 19,714,308		

Energy	kW	kWh	$/kWh	TRB
Residential	9,616	69,544,319	$ 0.128	$ 71,459,715
Business	8,205	72,071,824	$ 0.150	$ 105,553,489
Plan Estimate	17,821	141,616,143	$ 0.139	$ 177,013,203
Target Impact Levels	17,821	141,616,143	$ 0.139	$ 177,013,974
% of Target	100%	100%	100%	100%

Residential Programs

Residential Target	$	8,871,439
Difference	$	-
Residential Plan	$	8,871,439

Program	Category	Measures	Count	Units	Average Incentive per Unit	Estimated Budget	% Total Program	kW/Unit	kWh/Unit	$/Lifetime kWh	System Loss	Net-to-Gross	Effective kWh	Program Cost per kWh	kW	% Total Program	kWh	% Total Program	Life	TRB	% Total Program
															9,616		69,544,319			$ 71,459,715	
REEM	***Residential Energy Efficiency Measures***					$ 7,504,500	38%								9,056	51%	66,057,453	47%		$ 66,798,045	38%
	High Efficiency Water Heating					**$ 2,718,000**	**14%**								**1,124**	**6%**	**5,194,420**	**4%**		**$ 12,422,767**	**7%**
		Solar Water Heater (SWH) Incentive	2,400	systems	$ 1,000	$ 2,400,000	12%	0.460000	2,065.0	2.4%	10.7%	0.79	1,805.90	0.55	965	5%	4,334,171	3%	20.0	$ 10,756,287	6%
		Solar Water Heater Interest Buydown	258	systems	$ 1,000	$ 258,000	1%	0.460000	2,065.0	2.4%	10.7%	0.79	1,805.90	0.55	104	1%	465,923	0%	20.0	$ 1,156,301	1%
		Heat Pumps	300	units	$ 200	$ 60,000	0%	0.210000	1,503.0	1.3%	10.7%	0.79	1,314.42	0.15	55	0%	394,326	0%	10.0	$ 510,178	0%
	High Efficiency Lighting					$ 2,550,000	13%								6,953	39%	49,795,738	35%		$ 44,508,241	25%
		CFLs	1,500,000	lamps	$ 1.00	$ 1,500,000	8%	0.005000	36.3	0.5%	10.7%	0.79	31.75	0.03	6,559	37%	47,618,159	34%	6.0	$ 40,379,974	23%
		LED	150,000	lamps	$ 7	$ 1,050,000	5%	0.003000	16.6	2.8%	10.7%	0.79	14.52	0.48	394	2%	2,177,580	2%	15.0	$ 4,128,268	2%
	High Efficiency Air Conditioning					$ 207,500	1%								171	1%	916,140	1%		$ 1,470,281	1%
		VRF Split System AC	400	units	$ 200	$ 80,000	0%	0.095000	676.7	2.0%	10.7%	0.79	591.79	0.34	33	0%	236,718	0%	15.0	$ 410,619	0%
		Ceiling Fans	3,000	units	$ 35	$ 105,000	1%	0.019000	167.0	4.2%	10.7%	0.79	146.05	0.24	50	0%	438,140	0%	5.0	$ 298,982	0%
		Solar Attic Fans	150	units	$ 50	$ 7,500	0%	-	502.0	0.5%	10.7%	0.79	439.01	0.11	-	0%	65,852	0%	20.0	$ 92,974	0%
		Whole House Fans	200	units	$ 75	$ 15,000	0%	0.500000	1,003.0	0.4%	10.7%	0.79	877.15	0.09	87	0%	175,431	0%	20.0	$ 667,705	0%
	High Efficiency Appliances					$ 1,157,500	6%								349	2%	6,069,374	4%		$ 7,778,404	4%
		Refrigerator (<$600)	400	units	$ 50	$ 20,000	0%	0.017000	105.0	3.4%	10.7%	0.79	91.83	0.54	6	0%	36,730	0%	14.0	$ 63,793	0%
		Refrigerator with Recycling	5,500	units	$ 125	$ 687,500	3%	0.034000	819.0	1.1%	10.7%	0.79	716.24	0.17	164	1%	3,939,320	3%	14.0	$ 5,034,031	3%
		Garage Refrigerator / Freezer Bounty	1,000	units	$ 75	$ 75,000	0%	0.034000	859.0	0.6%	10.7%	0.79	751.22	0.10	30	0%	751,221	1%	14.0	$ 954,445	1%
		Clothes Washer (Tier II/III)	6,000	units	$ 50	$ 300,000	2%	0.028000	206.0	2.2%	10.7%	0.79	180.15	0.28	147	1%	1,080,919	1%	11.0	$ 1,489,311	1%
		Pool VFD Controller Pumps	500	units	$ 150	$ 75,000	0%	0.006000	597.3	2.5%	10.7%	0.79	522.37	0.29	3	0%	261,183	0%	10.0	$ 236,823	0%
	Energy Awareness, Measurement and Control Systems					$ 871,500	4%								460	3%	4,081,781	3%		$ 618,353	0%
		Room Occupancy Sensors & Timers	500	units	$ 5	$ 2,500	0%	0.004600	20.8	3.0%	10.7%	0.79	18.19	0.27	2	0%	9,095	0%	8.0	$ 11,714	0%
		Peer Group Comparison	75,000	homes	$ 11.32	$ 849,000	4%	0.006963	61.0	18.6%	10.7%	0.79	53.35	0.21	457	3%	4,000,975	3%	1.0	$ 576,162	0%
		Whole House Energy Metering	200	units	$ 100	$ 20,000	0%	0.007000	410.0	6.1%	10.7%	0.79	358.56	0.28	1	0%	71,711	0%	4.0	$ 30,477	0%
CESH	**Custom Energy Solutions for the Home**					$ 25,000	0%								72		71,955			$ 155,891	0%
	Target Cost Request for Proposals					$ 25,000	0%								72	0%	71,955	0%		$ 155,891	0%
		Custom Packaged Proposals (units in kWh)	100,000	kWh	$ 0.25	$ 25,000	0%	0.001000	1.0	5.0%	10.7%	0.65	0.72	0.35	72	0%	71,955	0%	5.0	$ 155,891	0%

Residential Programs Cont.

Program	Category	Measures	Count	Units	Average Incentive per Unit	Estimated Budget	% Total Program	kW/Unit	kWh/Unit		System Loss	Free Rider	Effective kWh	Program Cost per kWh	kW	% Total Program	kWh	% Total Program	Life	TRB	% Total Program
RESM	**Residential Energy Services & Maintenance**					$ 540,000	3%								268	2%	1,374,894	1%		$ 2,364,817	1%
	Residential Direct Installation					$ 10,000	0%								-		20,369			$ 13,412	
		TBD	20,000	kWh	$ 0.50	$ 10,000	0%	-	1.0	7.1%	10.7%	0.92	1.02	0.49	-	0%	20,369	0%	7.0	$ 13,412	0%
	Residential Design and Audits					$ 500,000	3%								204	1%	1,120,284	1%		$ 2,128,743	1%
		Efficiency Inside Home Design	500	Homes	$ 1,000	$ 500,000	3%	0.400000	2,200.0	3.0%	10.7%	0.92	2,240.57	0.45	204	1%	1,120,284	1%	15.0	$ 2,128,743	1%
	Residential System Tune-Ups					$ 30,000	0%								64	0%	234,241	0%		$ 222,662	0%
		Solar Water Heater Tune Up	200	Tune Ups	$ 150	$ 30,000	0%	0.315000	1,150.0	2.6%	10.7%	0.92	1,171.21	0.13	64	0%	234,241	0%	5.0	$ 222,662	0%
RHTR	***Residential Hard to Reach***					$ 801,939	4%								221	1%	2,040,017	1%		$ 2,296,853	1%
	Energy Efficiency Equipment Grants					$ 651,939									205		1,486,517			$ 1,439,520	
		Solar Inspections (WAP)	50	Inspections	$ 95	$ 4,750	0%	0.046000	206.5	9.2%	10.7%	1.00	228.60	0.42	3	0%	11,430	0%	5.0	$ 9,886	0%
		Solar Water Heater (SWH) Incentive	56	systems	$ 10,039	$ 562,189	3%	0.460000	3,097.5	16.2%	10.7%	0.79	2,708.86	3.71	23	0%	151,696	0%	20.0	$ 322,371	0%
		Energy Hero Gift Packs	250	Packs	$ 40	$ 10,000	0%	0.049100	245.9	3.3%	10.7%	1.00	272.21	0.15	14	0%	68,053	0%	5.0	$ 56,228	0%
		CFL Exchange	30,000	Lamps	$ 2.50	$ 75,000	0%	0.005000	37.8	1.1%	10.7%	1.00	41.84	0.06	166	1%	1,255,338	1%	6.0	$ 1,051,035	1%
	Landlord, Tenant, AOAO Measures					$ 150,000	1%								16		553,500			$ 857,332	0%
		Custom SWH Proposals (units in kWh)	500,000	kWh	$ 0.30	$ 150,000	1%	0.000029	1.0	1.5%	10.7%	1.00	1.11	0.27	16	0%	553,500	0%	20.0	$ 857,332	0%

Business Programs

							Business Target			$ 10,842,869													
							Difference			$ -													
							Business Plan			$ 10,842,869							8,205		72,071,824	$ 0.150		$ 105,553,489	
Program	**Category**	**New/ Exist**	**Measures**	**Count**	**Units**	**Average Incentive per Unit**	**Estimated Budget**	**% Total Program**	**kW/Unit**	**kWh/Unit**	**$/Lifetime kWh**	**System Loss**	**Net-to-Gross**	**Effective kWh**	**Program Cost per kWh**	**kW**	**% Total Program**	**kWh**	**% Total Program**	**Life**	**TRB**	**% Total Program**
BEEM	**Business Energy Efficiency Measures**						$ 4,295,800	22%							0.12	4,967	28%	37,044,804	26%		$ 58,412,435	33%
	High Efficiency Lighting						$ 1,885,700	10%							0.07	3,148	18%	26,952,779	19%		$ 39,278,297	22%
		E	CFL	16,100	lamps	$ 2.00	$ 32,200	0%	0.029000	246.5	0.3%	10.7%	0.75	204.66	0.01	388	2%	3,294,972	2%	3.0	$ 1,413,944	1%
		E	T12 to T8 Standard (2 / 3 / Straight 8 foot lamps)	5,000	lamps	$ 6.00	$ 30,000	0%	0.007000	56.4	0.8%	10.7%	0.75	46.83	0.13	29	0%	234,131	0%	14.0	$ 372,910	0%
		E	T12 to T8 Low Wattage	30,000	lamps	$ 10.00	$ 300,000	2%	0.010000	83.2	0.9%	10.7%	0.75	69.08	0.14	249	1%	2,072,304	1%	14.0	$ 3,269,678	2%
		E/N	T8 to T8 Low Wattage	100,000	lamps	$ 5.50	$ 550,000	3%	0.009000	78.1	0.5%	10.7%	0.75	64.84	0.08	747	4%	6,484,253	5%	14.0	$ 10,108,361	6%
		E	Delamp	5,000	lamps removed	$ 7.50	$ 37,500	0%	0.017000	149.2	0.4%	10.7%	0.75	123.87	0.06	71	0%	619,367	0%	14.0	$ 962,477	1%
		E	Delamp/Reflector	2,500	lamps removed	$ 15.00	$ 37,500	0%	0.017000	149.2	0.7%	10.7%	0.75	123.87	0.12	35	0%	309,683	0%	14.0	$ 481,238	0%
		E	LED Refrigerated Case Lighting	500	lamps	$ 75.00	$ 37,500	0%	0.023000	223.6	2.2%	10.7%	0.75	185.64	0.40	10	0%	92,822	0%	15.0	$ 147,094	0%
		E/N	ENERGY STAR LED Non-Dimmable	52,000	lamps	$ 7.00	$ 364,000	2%	0.017900	154.7	0.3%	10.7%	0.75	128.44	0.05	773	4%	6,678,863	5%	15.0	$ 10,926,770	6%
		E/N	ENERGY STAR LED Dimmable w/Controls	36,000	lamps	$ 10.00	$ 360,000	2%	0.023900	203.3	0.3%	10.7%	0.75	168.79	0.06	714	4%	6,076,434	4%	15.0	$ 9,986,159	6%
		E/N	ENERGY STAR LED Non-Dimmable A19	5,000	lamps	$ 7.00	$ 35,000	0%	0.006100	52.5	0.9%	10.7%	0.75	43.59	0.16	25	0%	217,941	0%	15.0	$ 356,976	0%
		E/N	ENERGY STAR LED Dimmable A19	3,000	lamps	$ 7.00	$ 21,000	0%	0.008100	70.1	0.7%	10.7%	0.75	58.20	0.12	20	0%	174,602	0%	15.0	$ 285,541	0%
		E	LED Exit Signs	1,000	signs	$ 20.00	$ 20,000	0%	0.035000	307.0	0.4%	10.7%	0.75	254.89	0.08	29	0%	254,887	0%	16.0	$ 433,626	0%
		E	HID Pulse Start	400	lamps	$ 40.00	$ 16,000	0%	0.035000	196.0	1.5%	10.7%	0.75	162.73	0.25	12	0%	65,092	0%	14.0	$ 117,186	0%
		E/N	Sensors	2,000	sensors	$ 20.00	$ 40,000	0%	0.025000	200.0	1.3%	10.7%	0.75	166.05	0.12	42	0%	332,100	0%	8.0	$ 347,858	0%
		E/N	Stairwell Bi-Level Dimming Fluorescent	100	Fixture	$ 50.00	$ 5,000	0%	0.056000	546.0	0.7%	10.7%	0.75	453.32	0.11	5	0%	45,332	0%	14.0	$ 68,478	0%
	High Efficiency HVAC						$ 970,000	5%							0.24	883	5%	4,028,680	3%		$ 8,248,653	5%
		E/N	Chillers - kW/Ton meter & Chiller Curve Optimization	1,500,000	kWh	$ 0.15	$ 225,000	1%	0.000200	1.0	0.8%	10.7%	0.75	0.83	0.18	249	1%	1,245,375	1%	20.0	$ 2,954,561	2%
		E	VFD - Chilled Water / Condenser Water	500	hp	$ 80	$ 40,000	0%	0.245000	902.7	0.6%	10.7%	0.75	749.47	0.11	102	1%	374,733	0%	15.0	$ 846,208	0%
		E	VFD - AHU	1,200	hp	$ 50	$ 60,000	0%	0.200000	471.6	0.7%	10.7%	0.75	391.55	0.13	199	1%	469,855	0%	15.0	$ 1,347,652	1%
		E/N	Garage Active Ventilation Control	1,000,000	kWh	$ 0.12	$ 120,000	1%	0.000114	1.0	1.5%	10.7%	0.75	0.83	0.14	95	1%	830,250	1%	8.0	$ 847,131	0%
		E	Package Units - 25% Better Than Code	500	tons	$ 200	$ 100,000	1%	0.093000	552.2	2.4%	10.7%	0.75	458.46	0.44	39	0%	229,232	0%	15.0	$ 423,308	0%
		E	VFR Split Systems - Existing	1,000	tons	$ 300	$ 300,000	2%	0.193000	782.0	2.6%	10.7%	0.75	649.26	0.46	160	1%	649,256	0%	15.0	$ 1,402,291	1%
		N	VFR Split Systems - New Construction	500	tons	$ 250	$ 125,000	1%	0.095000	554.0	3.0%	10.7%	0.75	459.96	0.54	39	0%	229,979	0%	15.0	$ 427,502	0%
	High Efficiency Water Heating						$ 826,200	4%							0.57	380	2%	1,440,409	1%		$ 3,774,728	2%
		E	Commercial Solar Water Heating - Electric Resistance	50	tons	$ 250	$ 12,500	0%	1.000000	927.0	1.8%	10.7%	0.75	769.64	0.32	42	0%	38,482	0%	15.0	$ 211,039	0%
		E/N	Commercial Solar Water Heating - Heat Pump	100	tons	$ 100	$ 10,000	0%	0.380000	164.0	4.1%	10.7%	0.75	136.16	0.73	32	0%	13,616	0%	15.0	$ 142,044	0%
		E	Single Family Solar Water Heater (SWH) Incentive	800	systems	$ 1,000	$ 800,000	4%	0.460000	2,066.0	2.4%	10.7%	0.75	1,715.30	0.58	306	2%	1,372,237	1%	20.0	$ 3,404,826	2%
		E	Heat Pump - Conversion - Electric Resistance	20	tons	$ 120	$ 2,400	0%	0.040000	668.0	1.8%	10.7%	0.75	554.61	0.22	1	0%	11,092	0%	10.0	$ 11,708	0%
		E	Heat Pump Upgrade	20	tons	$ 65	$ 1,300	0%	0.015000	300.0	2.2%	10.7%	0.75	249.08	0.26	0	0%	4,982	0%	10.0	$ 5,111	0%
	High Efficiency Water Pumping						$ 99,900	1%							0.21	42	0%	467,277	0%		$ 716,482	0%
		E	VFD Dom. Water Booster Packages - VFD ($3,000 per System)	75	hp	$ 600	$ 45,000	0%	0.373000	3,921.0	1.0%	10.7%	0.75	3,255.41	0.18	23	0%	244,156	0%	15.0	$ 379,368	0%
		E	VFD Dom. Water Booster Packages - added HP Reduction	30	hp reduced	$ 80	$ 2,400	0%	0.056000	588.0	0.9%	10.7%	0.75	488.19	0.16	1	0%	14,646	0%	15.0	$ 22,763	0%
		E/N	VFD Pool Pump Packages	150	hp	$ 350	$ 52,500	0%	0.140000	1,674.0	1.4%	10.7%	0.75	1,389.84	0.25	17	0%	208,476	0%	15.0	$ 314,351	0%
	High Efficiency Motors						$ 151,000	1%							0.06	288	2%	2,551,209	2%		$ 4,143,532	2%
		E/N	CEE Tier 1+ Premium Efficiency Motors	50	HP	$ 10	$ 500	0%	0.028300	46.4	1.4%	10.7%	0.75	38.52	0.26	1	0%	1,926	0%	15.0	$ 6,955	0%
		E/N	ECM w/Controller- Evaporator Fan Motors	800	motor	$ 85	$ 68,000	0%	0.150000	1,335.0	0.4%	10.7%	0.75	1,108.38	0.08	100	1%	886,707	1%	15.0	$ 1,438,809	1%
		E/N	ECM - Fan Coil Fans	1,500	motor	$ 55	$ 82,500	0%	0.150000	1,335.0	0.3%	10.7%	0.75	1,108.38	0.05	187	1%	1,662,576	1%	15.0	$ 2,697,768	2%
	Commercial Industrial Processes						$ 125,000	1%							0.26	89	1%	474,031	0%		$ 836,031	0%
		E/N	Kitchen Exhaust Hood Demand Ventilation	150	hp	$ 700	$ 105,000	1%	0.450000	2,633.0	1.8%	10.7%	0.75	2,186.05	0.32	56	0%	327,907	0%	15.0	$ 608,788	0%
		E/N	Refrigerated Case Night Covers	2,000	Linear Ft.	$ 10	$ 20,000	0%	0.020000	88.0	1.1%	10.7%	0.75	73.06	0.14	33	0%	146,124	0%	10.0	$ 227,242	0%
	Building Envelope Improvements						$ 73,000	0%								90	1%	331,685	0%		$ 560,309	0%
		E	Window Tinting	80,000	square feet	0.85	$ 68,000	0%	0.001300	4.9	1.7%	10.7%	0.75	4.07	0.21	86	0%	325,458	0%	10.0	$ 543,079	0%
		E	Cool Roof Technologies	25,000	square feet	0.20	$ 5,000	0%	0.000190	0.30	6.7%	10.7%	0.75	0.25	0.80	4	0%	6,227	0%	10.0	$ 17,231	0%
	Energy Star Business Equipment						$ 25,000	0%								14	0%	339,987	0%		$ 434,468	0%
		E	Refrigerators w/Recycling	500	units	$ 50	$ 25,000	0%	0.034000	819.0	0.4%	10.7%	0.75	679.97	0.07	14	0%	339,987	0%	14.0	$ 434,468	0%
	Energy Awareness, Measurement and Control Systems						$ 140,000	1%								33	0%	458,746	0%		$ 419,936	0%
		E/N	Hotel Room Occupancy Controls	500	units	$ 100	$ 50,000	0%	-	750.0	1.7%	10.7%	0.75	622.69	0.16	-	0%	311,344	0%	8.0	$ 228,763	0%
		E/N	Condominum Submetering Pilot	500	units metered	$ 150	$ 75,000	0%	0.057000	273.0	6.9%	10.7%	0.75	226.66	0.66	24	0%	113,329	0%	8.0	$ 142,461	0%
		E/N	Small Business Submetering Pilot	100	units metered	$ 150	$ 15,000	0%	0.114000	410.4	4.6%	10.7%	0.75	340.73	0.44	9	0%	34,073	0%	8.0	$ 48,712	0%

Business Programs Cont.

Program	Category	Measures	Count	Units	Average Incentive per Unit	Estimated Budget	% Total Program	kW/Unit	kWh/Unit		System Loss	Net-to-Gross	Effective kWh	Program Cost per kWh	kW	% Total Program	kWh	% Total Program	Life	TRB	% Total Program
CBEEM	**Custom Business Energy Efficiency Measures**					$ 1,060,000	5%							0.16	190	1%	6,642,000	5%		$ 6,383,768	4%
	Customized Project Measures					$ 1,060,000									190		6,642,000			$ 6,383,768	
	E/N	Customized Project Measures - Under 5 year Life	2,000,000	kWh	$ 0.11	$ 220,000	1%	0.000029	1.0	2.2%	10.7%	0.75	0.83	0.13	47	0%	1,660,500	1%	5.0	$ 896,097	1%
	E/N	Customized Project Measures - Over 5 year Life	4,000,000	kWh	$ 0.13	$ 520,000	3%	0.000029	1.0	1.1%	10.7%	0.75	0.83	0.16	95	1%	3,321,000	2%	12.0	$ 3,658,447	2%
	E/N	Customized Project Measures - Carry Over	2,000,000	kWh	$ 0.16	$ 320,000	2%	0.000029	1.0	1.3%	10.7%	0.75	0.83	0.19	47	0%	1,660,500	1%	12.0	$ 1,829,224	1%
BESM	**Business Service and Maintenance**					$ 4,645,069	24%								2,273	13%	21,085,583	15%		$ 32,840,076	19%
	Business Direct Installation					$ 750,000	4%								113	1%	1,314,563	1%		$ 1,900,860	1%
	E	SBDI - Lighting Retrofits	1,250,000	kWh	$ 0.60	$ 750,000	4%	0.000086	1.0	4.3%	10.7%	0.95	1.05	0.57	113	1%	1,314,563	1%	14.0	$ 1,900,860	1%
	Business Design, Audits and Commissioning					$ 3,895,069	20%								2,161	12%	19,771,020	14%		$ 30,939,216	17%
	E	Benchmark Metering	4	Groups	$ 80,000	$ 320,000	2%	0.000100	100,000	80.0%	10.7%	0.95	105,165	1	0	0%	420,660	0%	1.0	$ 43,617	0%
	E	Decision Maker - Real-Time Submeters	2	Groups	$ 50,000	$ 100,000	1%	0.000100	200,000	25.0%	10.7%	0.95	210,330	0	0	0%	420,660	0%	1.0	$ 43,617	0%
	E	Energy Audit	12	studies	$ 5,000	$ 60,000	0%				10.7%	0.95	-		-	0%	-	0%			0%
	E	Energy Study Project Implementation - 100%	8	studies	$ 25,000	$ 200,000	1%				10.7%	0.95	-		-	0%	-	0%			0%
	E	Energy Study Assistance - 50%	3	studies	$ 15,000	$ 45,000	0%				10.7%	0.95	-		-	0%	-	0%			0%
	E/N	Design Assistance - 50%	1	designs	$ 15,000	$ 15,000	0%				10.7%	0.95	-		-	0%	-	0%			0%
	E/N	Water & Waste Water Catalyst Projects	18,000,000	kWh	$ 0.18	$ 3,155,069	16%	0.000114	1.0	1.2%	10.7%	0.95	1.05	0.17	2,161	12%	18,929,700	13%	15.0	$ 30,851,981	17%
BHTR	**Business Hard to Reach**					$ 842,000	4%								775		7,299,438			$ 7,917,209	
	Energy Efficiency Equipment Grants					$ 150,000									548		2,465,843			$ 2,130,499	
	E	DI - Water Cooler Timers	10,000	units	$ 15.00	$ 150,000	1%	0.050000	225.0	1.3%	10.7%	0.99	246.58	0.06	548	3%	2,465,843	2%	5.0	$ 2,130,499	1%
	Restaurant Targeted Participation Programs					$ 677,000									227		4,778,799			$ 5,750,630	
	E	SBDI - Kitchen Exhaust Hood Demand Ventilation	50	hp	$ 1,700	$ 85,000	0%	0.450000	2,633.0	4.3%	10.7%	0.99	2,885.58	0.59	25	0%	144,279	0%	15.0	$ 267,867	0%
	E	Low Flow Spray Rinse Nozzles	500	each	$ 22.00	$ 11,000	0%	-	4,900.0	0.0%	10.7%	0.99	5,370.06	0.00	-	0%	2,685,029	2%	12.0	$ 2,695,920	2%
	E/N	ENERGY STAR Commercial Kitchen Equipment	778,846	kWh	$ 0.10	$ 81,000	0%	0.000200	1.0	0.9%	10.7%	0.99	1.10	0.09	171	1%	853,561	1%	12.0	$ 1,440,565	1%
	E	SBDI - Restaurant Lighting	1,000,000	kWh	$ 0.50	$ 500,000	3%	0.000029	1.0	3.6%	10.7%	0.99	1.10	0.46	31	0%	1,095,930	1%	14.0	$ 1,346,278	1%
	Landlord, Tenant, AOAO Measures					$ 15,000	0%								-		54,797			$ 36,080	0%
		Energy Hero Landlord	50,000	kWh	$ 0.30	$ 15,000	0%	-	1.0	4.3%	10.7%	0.99	1.10	0.27	-	0%	54,797	0%	7.0	$ 36,080	0%
	Potential Business Project Pending Developer Progress on Planned Schedule (figures provided for demonstration of impact and not summarized in Business Program Totals above.																				
SWAC	**Sea Water Air Conditioning**					$ 7,500,000	38%								15,858	89%	85,239,000	60%		$ 196,507,820	111%
	Sea Water Air Conditioning					$ 7,500,000	38%								15,858	89%	85,239,000	60%		$ 196,507,820	111%
		SWAC Infrastructure Support Incentive	25,000	tons	$ 300	$ 7,500,000	38%	0.573000	3,080.0	0.5%	10.7%	1.00	3,409.56	0.09	15,858	89%	85,239,000	60%	20.0	$ 196,507,820	111%

Hawaii Energy - PY2013 ANNUAL PLAN
PROPOSED PROGRAM COST EFFECTIVENESS AND BENEFIT TARGETS

PROPOSED PROGRAM TARGETS

PBFA Contract Renewal Proposed Target Figures for Year 5

Total Program Direct Incentives	$	19,714,308	
First Year Energy Reduction		141,616,143	kWh - Program Level
Peak Demand Reduction		17,821	kW on Peak 5 to 9 p.m. Weekdays
Total Resource Benefit	$	177,013,974	NPV of Utility Cost Avoidance Attributed to the PBFA

Derived Top Down Cost Effectiveness Metrics

Total Program Direct Incentives	$	19,714,308	
First Year Energy Reduction	÷	141,616,143	
Measure Cost Effectiveness - First Year	$	0.139	per kWh - Program Level
First Year Energy Reduction		141,616,143	
Average Measure Life	x	7.7	years (Derived from TRB using Target Guideline Values)
Lifetime Energy Savings		1,086,195,817	kWh - Program Level
Total Program Direct Incentives	$	19,714,308	
Lifetime Energy Savings	÷	1,086,195,817	
Measure Cost - Lifetime	$	0.018	per kWh - Program Level
Total Program Direct Incentives	$	19,714,308	
Avg. Incentive % of Incremental Cost	÷	25%	
TRC - Total Resource Cost	$	78,857,232	
TRB - Total Resource Benefit	$	177,013,974	
TRC - Total Resource Cost	÷ $	78,857,232	
Cost Effectiveness - TRB/TRC		2.2	
First Year Energy Reduction		141,616,143	kWh - Program Level
Estimated Average Net-to-Gross	÷	0.78	
First Year Energy Reduction		181,559,158	kWh First Year - System Level
First Year Energy Reduction		181,559,158	kWh First Year - System Level
County Generation and T&D Losses	÷	110.7%	
First Year Energy Reduction		163,951,904	kWh First Year - Customer Level
HCEI 2030 Energy Reduction Goal	÷	4,300,000,000	kWh/year
% Achievement towards HCEI 2030 Goal		3.8%	
		163,951,904	
Average Energy Cost	x	$ 0.36	per kWh
Participant Customer Energy Cost Savings	$	59,022,685	per year
Average Measure Life	x	7.7	
Participant Customer Energy Cost Savings	$	452,703,996	over lifetime of Equipment Investment

County Distribution Targets

PBFA Contribution by County for PY2012

Hawaii	Maui	Honolulu	Total
12.6%	13.0%	74.4%	100%

Program Level Targets by County

Hawaii	Maui	Honolulu	Total	
$ 2,484,003	$ 2,562,860	$ 14,667,445	$ 19,714,308	Incentives
12,745,453	14,161,614	114,709,076	141,616,143	kWh First Year - PL
$ 0.195	$ 0.181	$ 0.128	$ 0.139	Cost per kWh

Target Savings Contribution by County

Hawaii	Maui	Honolulu	Total
9.0%	10.0%	81.0%	100%

County Generation and T&D Losses

Hawaii	Maui	Honolulu	Average
9.0%	10.0%	11.2%	10.7%

New Net-to-Gross Factors

Program		Net-to-Gross
BEEM	Business Energy Efficiency Measures	0.75
CBEEM	Custom Business Energy Efficiency Measures	0.75
BESM	Business Services and Maintenance	0.95
BHTR	Business Hard to Reach	0.99
REEM	Residential Energy Efficiency Measures	0.79
CESH	Custom Energy Solutions for the Home	0.65
RESM	Residential Services and Maintenance	0.92
RHTR	Residential Hard to Reach	1.00
Effective Program Total Based on PY11 Portfolio Performance		0.78

APPENDIX C –

Hawaii Energy - PY2013 ANNUAL PLAN
Proposed TRB Utility Benefit Values

		Discount Rate						
		6%	HECO IRP4 Avoided Cost		NPV for each Year		NPV Cumulative from Final Year	
Year	Period	NPV Multiplier	$/kW/yr.	$/kWh/yr.	$/kW/yr.	$/kWh/yr.	$/kW/yr.	$/kWh/yr.
2013	1	1.00	$ 353.2	$ 0.104	$ 353	$ 0.1037	$ 353	$ 0.1037
2014	2	0.94	$ 370.6	$ 0.109	$ 350	$ 0.1027	$ 703	$ 0.2064
2015	3	0.89	$ 382.5	$ 0.112	$ 340	$ 0.1000	$ 1,043	$ 0.3064
2016	4	0.84	$ 386.2	$ 0.113	$ 324	$ 0.0953	$ 1,368	$ 0.4016
2017	5	0.79	$ 387.7	$ 0.114	$ 307	$ 0.0902	$ 1,675	$ 0.4919
2018	**6**	**0.75**	**$ 389.1**	**$ 0.114**	**$ 291**	**$ 0.0854**	**$ 1,965**	**$ 0.5773**
2019	7	0.70	$ 391.9	$ 0.115	$ 276	$ 0.0812	$ 2,242	$ 0.6584
2020	8	0.67	$ 390.7	$ 0.115	$ 260	$ 0.0763	$ 2,502	$ 0.7348
2021	9	0.63	$ 394.6	$ 0.116	$ 248	$ 0.0727	$ 2,749	$ 0.8075
2022	10	0.59	$ 398.3	$ 0.117	$ 236	$ 0.0693	$ 2,985	$ 0.8767
2023	**11**	**0.56**	**$ 397.4**	**$ 0.117**	**$ 222**	**$ 0.0652**	**$ 3,207**	**$ 0.9419**
2024	12	0.53	$ 401.4	$ 0.118	$ 211	$ 0.0621	$ 3,418	$ 1.0041
2025	13	0.50	$ 405.7	$ 0.119	$ 202	$ 0.0592	$ 3,620	$ 1.0633
2026	14	0.47	$ 409.3	$ 0.120	$ 192	$ 0.0564	$ 3,812	$ 1.1197
2027	15	0.44	$ 415.9	$ 0.122	$ 184	$ 0.0540	$ 3,996	$ 1.1737
2028	**16**	**0.42**	**$ 423.3**	**$ 0.124**	**$ 177**	**$ 0.0519**	**$ 4,172**	**$ 1.2256**
2029	17	0.39	$ 428.9	$ 0.126	$ 169	$ 0.0496	$ 4,341	$ 1.2752
2030	18	0.37	$ 433.9	$ 0.128	$ 161	$ 0.0475	$ 4,502	$ 1.3227
2031	19	0.35	$ 438.9	$ 0.130	$ 154	$ 0.0455	$ 4,656	$ 1.3682
2032	20	0.33	$ 443.9	$ 0.132	$ 147	$ 0.0436	$ 4,803	$ 1.4119