Hawaii Energy
Conservation and Efficiency Programs

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September 10, 2010

The Honorable Chairman and Members of
the Hawaii Public Utilities Commission
465 S. King St., 1st Floor
Honolulu, HI 96813

Subject: R.W. Beck's PY2009 Annual Report

Dear Commissioners:

In accordance with Section 5c.of Attachment A to the Contract for Services between the Hawaii Public Utilities Commission and R.W. Beck dated March 3, 2009, attached is R.W. Beck's PY2009 Annual Report.

If you have any questions on this matter, please call me at 521-2188.

Mahalo,

H. Ray Starling
Program Manager

Attachment

cc: Contract Manager
Program Evaluator
Technical Advisory Group
HECO Companies

Hawaii Energy

Conservation and Efficiency Programs

Annual Report Program Year 2009

Submitted to:
Hawaii Public Utilities Commission

Submitted by:
R.W. BECK (an SAIC company)
1132 Bishop St., Suite 1800
Honolulu, HI 96813

September 10, 2010

Table of Contents

I. INTRODUCTION

Welcome to the first Annual Report of R.W. Beck (*an SAIC Company*) as Public Benefits Fee Administrator (PBFA) and independent third-party Administrator of the Hawaii Energy Efficiency Program (now referred to as the *Hawaii Energy Conservation and Efficiency Program* or simply *Hawaii Energy)*. This Program operates under contract with the Hawaii Public Utilities Commission (PUC) dated March 3, 2009 (PBFA Contract).

This Annual Report covers Program Year (PY) 2009 which began July 1, 2009 and ended June 30, 2010. The Report is required under the PBFA Contract (Section 5c of Attachment A) to meet the legislative deadline for the PUC to produce a Legislative Annual Report for PY2009 by January 2, 2011 as required under Hawaii Revised Statutes, Section 269-124(7). The Legislative Report must include verification by an independent auditor of the reported energy and capacity savings as well as incremental renewable energy production savings associated with the Program.

Besides providing the required claimed energy and capacity savings for PY2009 with justification, the Annual Report contained herein provides details of the Program from transition from the utility and start-up under SAIC (now R.W. Beck), to evolution and expansion of the Program through increased residential and business offerings, marketing and outreach, leveraging PBF funds, and ally collaboration over the Program Year. Tables, graphs and narratives describing portfolio impacts, Program metrics and performance results, saved energy and peak demand, budgets and expenditures, unspent funds, portfolio total resource benefits, portfolio total resource cost test, island equity, market transformation, emerging technologies, EM&V, key milestones and lessons learned are included to describe the Program performance.

Once the energy and capacity savings claimed hereunder are verified by the Contract Manager and Program Evaluator and approved by the PUC, this Report or portions thereof may be incorporated into the PUC's Legislative Annual Report for PY2009.

II. BACKGROUND, ORGANIZATIONAL STRUCTURE AND PERFORMANCE CLAIMS SUMMARY

In 2006, the Hawaii Legislature (at HRS Sec 269-121 through Sec 269-124) authorized the PUC to transfer the existing demand-side management surcharge collected by Hawaii's electric utilities to a third-party administrator that would be contracted by the PUC. The transferred surcharge would be called the Public Benefits Fee and would be used by the contracted third-party administrator (the Public Benefits Fee Administrator) to manage and deliver energy-efficiency and demand-side management (DSM) programs and services under the oversight of the PUC.

By Decision & Order # 23258 (Docket No. 2005-0069) dated February 13, 2007, the PUC announced it would establish a Public Benefits Fund to promote the development of programs and services that increase energy efficiency, reduce electricity consumption and demand, and ultimately decrease Hawaii's dependence on imported fossil fuels. In 2008, the PUC took further actions to direct the HECO companies to begin collecting a Public Benefits Fee (PBF) surcharge.

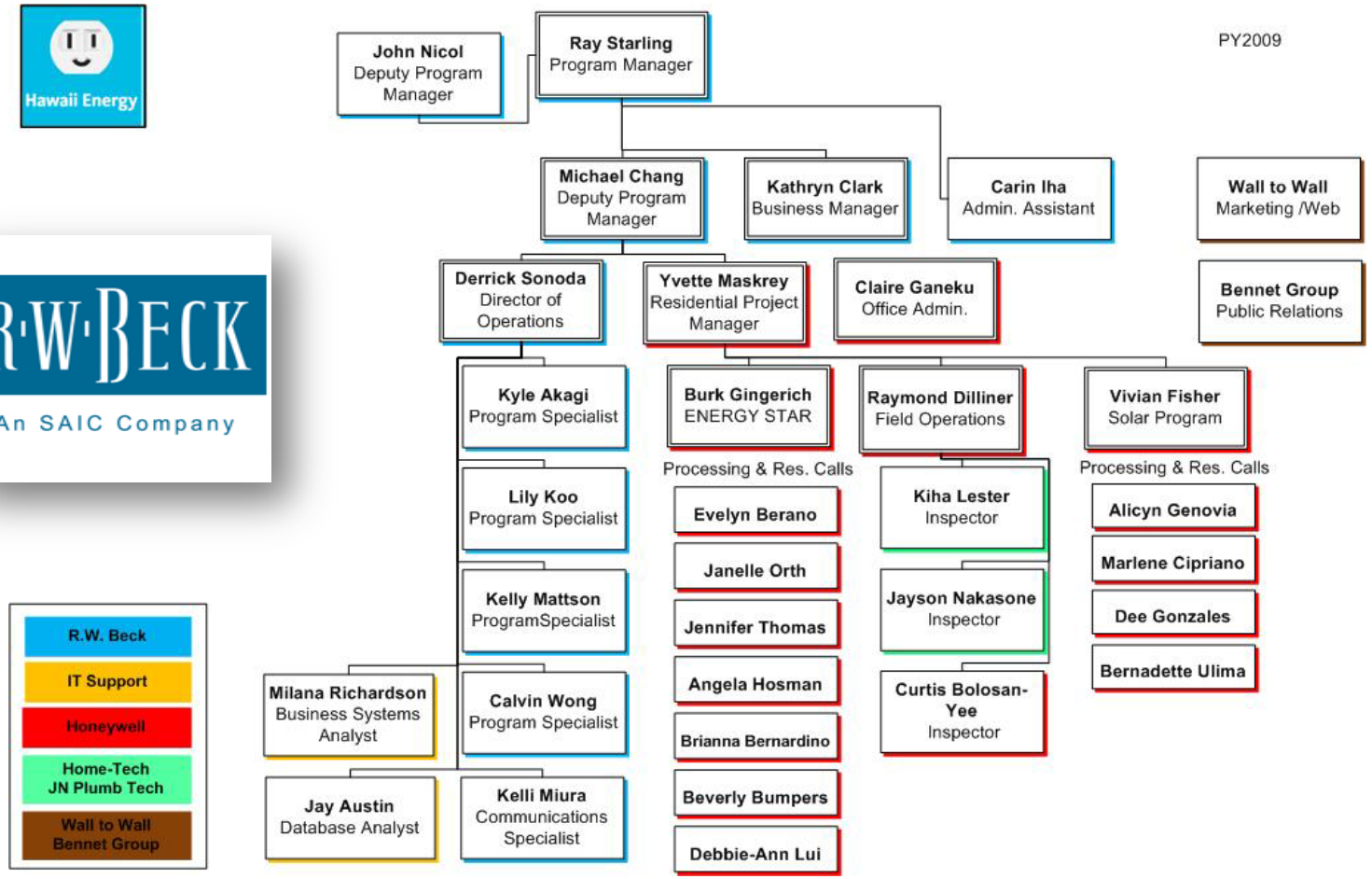
On September 18, 2008, the PUC issued a competitive Request for Proposal (RFP) soliciting proposals and pricing for a Program Administrator for the Hawaii Energy Efficiency Program. Science Applications International Corporation (SAIC) submitted a proposal and was subsequently selected to negotiate a contract with the PUC. As a result of those negotiations, a contract was signed on March 3, 2009 between the PUC and SAIC whereby SAIC would become the Hawaii's first Public Benefits Fee Administrator (PBFA) and would operate the Hawaii Energy Efficiency Program until December 31, 2013 (with a possible extension until December 31, 2016 at the discretion of the PUC). The initial two year budget in the contract was $38.4M, of which 70% is designated for direct incentives in the form of rebates or services.

Hawaii Energy Team - PY2009

On July 1, 2009, after four (4) months of preparation and recruiting, SAIC (operating as *Hawaii Energy)* assumed responsibility for the legacy demand side management program from the electric utility. The team began with a local staff of nine (9) direct employees. The transition was relatively smooth in part due to the fact that six (6) of the key staff hires and two (2) subcontractors had previous experience with the legacy utility program and were able to contribute significantly to the Program under new management. Few changes were made in the rebate incentives offered during PY2009; primarily to defuse concerns of customers and contractors that the new Administrator would make disruptive changes (reductions and discontinuations) to the existing program.

The current staff and key subcontractors are shown in Table 1 below:

Table1 – Program Organizational Chart



Specific information about the key subcontractors for the Program is contained in Table 2 below.

Table 2 – Program Subcontractors

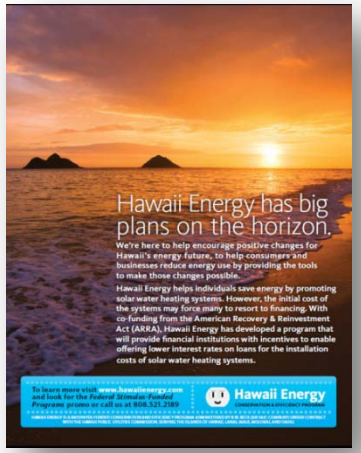
- **Honeywell** – 220 South King Street, Suite 1460, Honolulu, Hawaii 96813 – Provides administrative functions to support the following residential programs on behalf of R. W. Beck/SAIC: Residential Efficient Water Heating Program (REWH), Residential New Construction (RNC), Residential Energy Solutions for the Home Program (RESH – Energy Star Appliance Rebates). In addition, provides check processing services for all rebate programs, including the Residential and Commercial/Industrial Programs.
- **Wall-to-Wall Studios** – 1128 Nuuanu Avenue, Suite 203, Honolulu, Hawaii 96817 – Provides marketing and advertising creative design services for Hawaii Energy.
- **The Bennet Group** – 3300-A Pacific Heights, Honolulu, Hawaii 96813 – Provides ongoing strategic communications and public relations to Hawaii Energy.
- **Home-Tech** – P.O. Box 7305, Hilo, Hawaii 96720 – Provides solar water heating systems and commercial equipment inspections on the Hawaii Island (Big Island).
- **JN Plumb Tech** – 102 Alaapapa Place, Makawao, Hawaii 96768 – Provides solar water heating systems and commercial equipment inspections on the islands of Lanai, Maui and Molokai.
- **Paul Maki** – 1100 Alakea Street, Honolulu, Hawaii 96813 – Provided legal services with logo trademark inquiry.
- **PN Public Relations** – 1126 A Wainiha Street, Honolulu, Hawaii 96825 – Provides website development for residential and commercial/industrial content.**WECC** – 431 Charmany Drive, Madison, Wisconsin, 53719 – Provided technical consulting for the PV proposal to the PUC.

While few changes were made to the legacy rebate offerings in the first Program Year, important changes were made in how the Program was operated, to include seeking and implementing ideas that stretched traditional efficiency paradigms. The Program used its reach back ability with SAIC technical expertise to develop a powerful custom data-tracking and verification software called Efficiency Program Management and Information System (EPMIS) to automate the labor intensive processes formerly needed to operate the legacy DSM program. Additionally, the Program enlisted the support of trade allies and community-based organizations in the Program's education, outreach and marketing. This force-multiplier effect enabled the Program to reach a record number of new customers – particularly low income and hard to reach customers - even though the Program's marketing budget was substantially smaller than it had been in the past.

In January 2010, an SAIC internal corporate restructure resulted in the Program being turned over to R.W. Beck, a wholly owned subsidiary of SAIC, thus requiring a contract novation making R.W. Beck the new contractor. At this same time, the Program offices moved from a temporary office near the Honolulu Airport to a permanent office near Bishop Square in downtown Honolulu, thus meeting the need to be in walking distance of the PUC, as well as the State Energy Office, Legislature, Hawaiian Electric and other entities heavily involved with the State's energy policy.

During the last two quarters of PY2009, a number of first-year lessons were learned and mid-course corrections implemented to enhance evolution and effectiveness of the Program going forward. These included changes in the budget allocations among defined programs within classes of customers and other similar corrections to issues impairing maximum effectiveness of the Program. These corrections also included working through significant disconnects in the very large and diverse data exchanges that have to take place seamlessly among several entities on a frequent basis.

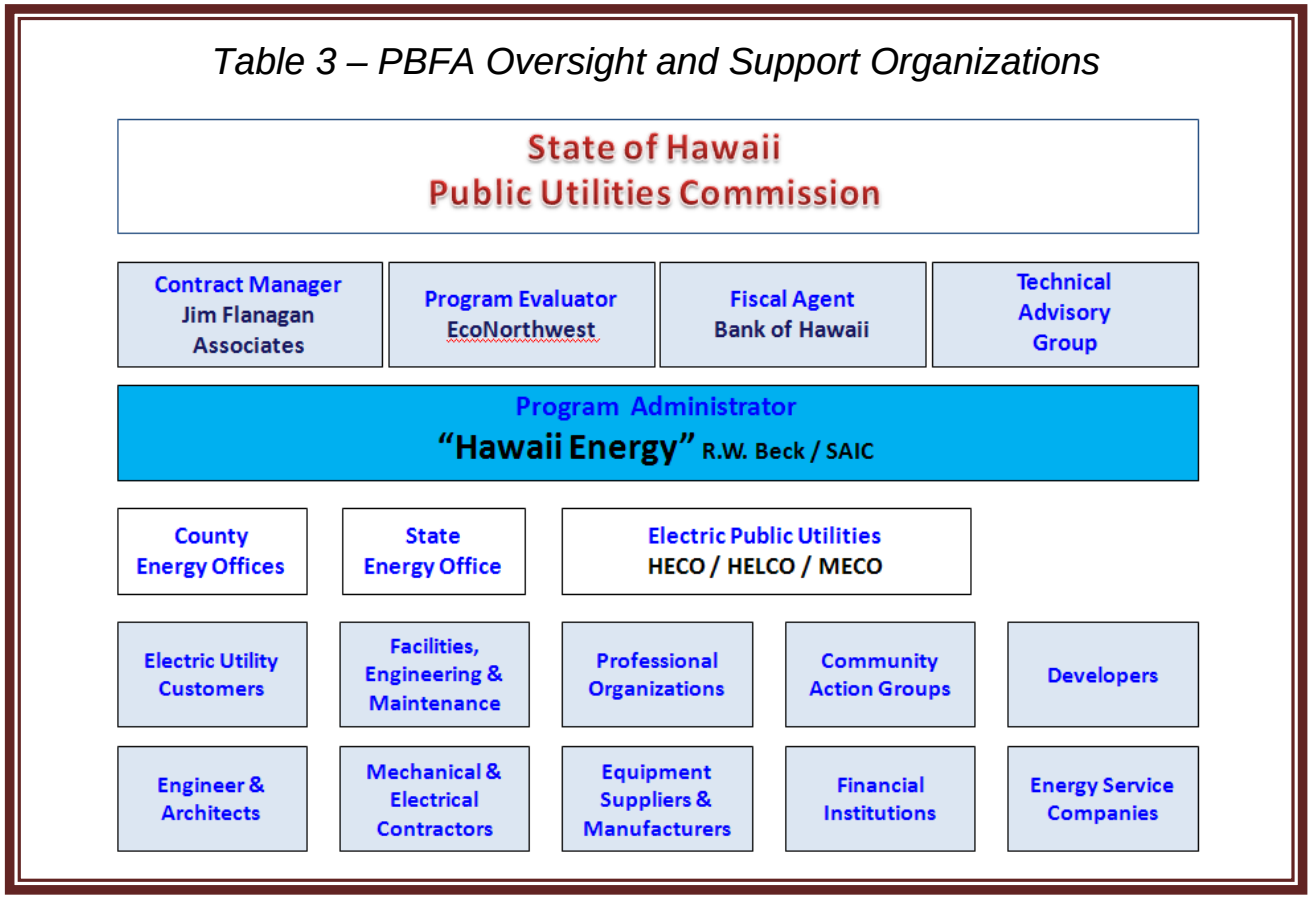
Also during the last two quarters of PY2009, the Program was asked by the State Energy Office to administer approximately $7M in Federal Stimulus grants (under ARRA) allocated to the state to boost energy conservation and efficiency measures. After negotiating supplemental amendments to the Program's existing PBFA Contract, the Program developed and continues to implement ARRA-funded conservation and efficiency programs which augment Hawaii Energy's offerings. The funding for the EnergyStar portion of these programs was quickly exhausted due to phenomenal marketing success. All other offerings are expected to continue through PY2010.



In the last quarter, the Program was asked by the PUC to take a participating role as a named party in the Integrated Resource Planning (IRP) Framework and Energy Efficiency Portfolio Standards (EEPS) open dockets on behalf of the Program and the PBFA. While not budgeted for in the Administrator Contract, the Program is now participating in both of these important dockets and is taking a leadership role in the EEPS docket, ensuring that energy conservation and efficiency keep their critical places in the Clean Energy debate.

Beyond operational changes, the Program now has a singular focus on saving energy and a unique implementation and oversight organization composed of an active PUC, Contract Manager, Fiscal Agent, Contract Evaluator and Technical Advisory Group (TAG). The TAG is made up of local energy stakeholders who lend their expertise, technical guidance and support to ensure success of the Program. Together with our supporting trade allies and community groups, this oversight organization works with us in many ways to improve the accountability, functionality, offerings, efficiency and cost-effectiveness of the Program through constant innovation and evolutionary change. The Program oversight and support operatives are shown in Table 3 below:

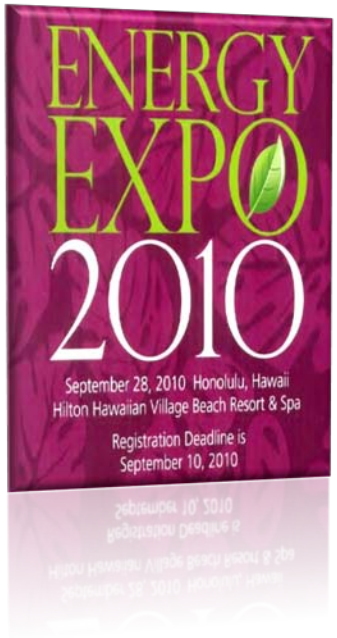
Table 3 – PBFA Oversight and Support Organizations



Finally, during PY2009, the Program was able to meet or exceed all but one of its minimum performance goals (Island Equity), resulting in an award claim for 93% of its target performance incentives. More specifically, the PY2009 Net Impact Performance results are shown in Table 4. Details and backup materials for the claimed performance incentives can be found in the Annual Report contained herein.

Table 4 – PY2009 Performance Net Impact Summary

PY2009 Performance Net Impact Summary					
		Target		PY2009 Results	% of Target
Residential Energy		68,722,000 kWh		66,486,914 kWh	97%
Commercial Energy		57,301,000 kWh		46,672,459 kWh	81%
Peak Demand		20,097 kW		22,767 kW	113%
TRB	$	140,079,739	$	126,547,369	90%
Market Transformation					
Emerging Technologies		20		21	105%
Trade Ally Referrals		40		423	1058%
Island Equity					
C&C Honolulu	$	8,043,361	$	10,086,557	+25%
County of Hawaii	$	1,403,448	$	950,321	-32%
County of Maui	$	2,405,320	$	815,251	-66%



PERFORMANCE METRICS

Purpose of Performance Metrics

The following performance metrics were established in the PBFA contract in order to set measureable performance targets that meet the Commission's objectives and to provide financial incentives as a reward for superior performance in achieving the metrics. The performance indicators for PY2009 are Cumulative Annual Electric Energy Savings, Peak Demand, Total Resource Benefit, Market Transformation – Emerging Technologies & Ally Development, and Broad Participation-Island Equity.

Table 5 defines the minimum, target and maximum award levels for each indicator used to measure the Program's performance.

Table 5 – PY2009 Performance Indicators

PY2009 Performance Indicators				
	Minimum	Target	Maximum	
Cumulative Annual Electric Energy Savings				
Residential Energy Reductions	51,542,000	68,722,000	75,594,000	kWh
Business Energy Reductions	42,976,000	57,301,000	63,031,000	kWh
Peak Demand	15,073	20,097	22,107	kW
Total Resource Benefits	80%	100%	120%	
	$ 112,063,791	$ 140,079,739	$ 168,095,687	$ NPV of Utility Cost Benefits
Market Transformation				
Emerging Technologies	20			-Listed Technology Projects - Four Categories - >25,000 kWh Savings
Trade Ally Referrals	40			
Island Equity	-20% TIP	Total Incentives Paid (TIP)	+20% TIP	PY2009 PBF Contribution Total
HECO Customers		TIP * C&C %		C&C %
HELCO Customers		TIP * Hawaii %		Hawaii %
MECO Customers		TIP * Maui %		Maui %

Net Savings

The performance indicators are set at a savings level known as "Net Savings." The following three figures are used to measure Net Savings:

1. ***Customer Level Savings*** – This savings figure is realized by the end-use customer and is determined by direct metering, engineering calculations, or measurement and verification of prior installations of the particular savings measure in question.

2. ***Gross Level Savings "System"*** – This savings figure is realized at the utility system level and includes the transmission, distribution and generation station energy lost between the customer and the generating units. Table 7 shows the values used for each County.

3. ***Net Level Savings*** - This savings figure is the amount of energy reductions determined to be directly attributed to the PBFA actions by removing a portion of the customers called "free riders." Free riders are rate-payers who received an incentive and/or education by the Program, but the incentive and/or education did not play a role in their decision to purchase the savings measure. These rate-payers would have purchased the energy efficient item regardless of the Program and therefore, net level savings removes their participation. The Net-to-Gross adjustment figure for PY2009 operations across all programs and counties is 73%. See Tables 6 and 7.

Table 6 – Example of Customer, System and Net Level Savings

PY2009 Energy (kWh) Reduction by Impact Level and by Island					
	Customer Savings	System Losses	Gross Level Savings	Net-to-Gross Ratio	PBFA Net Level Savings
Oahu	116,985,432	11.17%	130,052,704	73.0%	94,938,474
Hawaii	12,855,492	9.00%	14,012,487	73.0%	10,229,115
Maui	9,808,510	9.96%	10,785,438	73.0%	7,873,370
Lanai	61,937	9.96%	68,106	73.0%	49,718
Molokai	85,581	9.96%	94,105	73.0%	68,697
Total	**139,796,953**	**10.88%**	**155,012,840**	**73.0%**	**113,159,373**
% of Customer Level Savings			111%		81%

Table 7– Net-To Gross and Utility System Loss Factors

Net-to-Gross		
Oahu	Maui	Hawaii
73%	73%	73%
Utility System Losses		
Oahu	Maui	Hawaii
11.17%	9.96%	9.00%

Objectives for each Performance Indicator

1. Cumulative Annual Electric Energy Savings – Target: 126,023,000 kWh
(Residential 68,722,000 kWh, Commercial 57,331,000 kWh)

Annual Electric Energy Savings directly benefit the State goal of achieving energy independence by reducing the consumption of imported fossil fuels in proportion to the fossil fueled units used to serve this load. The program participants directly benefit through lower electrical costs.

The Target of 126,023,000 kWh currently equates to 1,208 MMBTUs or avoided use of 198,854 BBLs of liquid fossil fuels in Hawaii, see Table 8. This equates to enough energy to power 16,000 homes for a year.

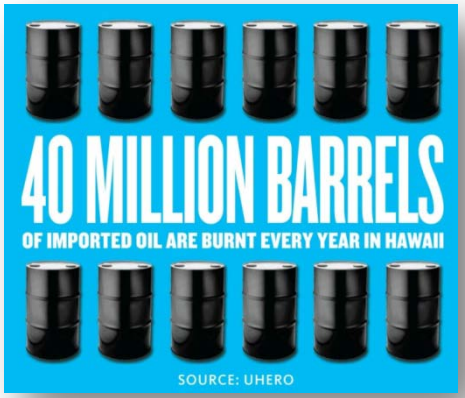


Table 8 – Estimation of Potential Fossil Fuel Avoidance

First Year BBLs of Fossil Fuels Avoided				
First Year Annual Energy Savings Target		126,023,000	kWh/Yr.	
2009 Electrical Generation Source Distribution				
Renewable Generated		11,722,644	kWh/Yr.	9%
Fossil-Fuel Generated		114,300,356	kWh/Yr.	91%
2009 Energy Avoided at the Generators				
Fossil-Fuel Generated		114,300,356	kWh/Yr.	
2009 System Generation Heat Rate	x	10,573	BTU/kWh	
Avoided Generation Fuel Energy Consumption		1,208,497,664,546	BTU/Yr.	
Generation Liquid Fossil Fuel Mix				
Energy in BBL of Low Sulfur Fuel Oil		6,200,000	BTU/BBL	67%
Energy in BBL of #2 Fuel Oil (Diesel)		5,860,000	BTU/BBL	31%
Energy in BBL of Naptha		5,335,500	BTU/BBL	2%
Average System BTU/BBL of Fuel		6,077,310	BTU/BBL	100%
Avoided Generation Fuel Energy Consumption		1,208,497,664,546	BTU /Yr.	
Average System BTU/BBL of Fuel	÷	6,077,310	BTU/BBL	
Number of Barrels of Fuel Avoided		198,854	BBLs/Yr.	

2. Summer Peak Demand Savings – Target: 20,097 kW

Peak Demand Reduction is focused on reducing the electrical loads during the traditional peak period that occurs between 5 and 9 p.m. weekdays. Usage is typically at its highest when humid nights increase air conditioner usage in addition to the evening water heating loads. This system peak load is used to plan the requirements for additional generation capacity. Reducing the load reduces the cost to the utility customer by deferring the need for an additional unit of generation. With aggressive peak load reductions, it may allow the retirement of less efficient generation units as more renewable generation is available.

Program participants benefit with lower electrical costs and all customers benefit from the avoided cost to provide additional units of generation to meet increasing electrical peak demand. The Target of 20,097 kW is equivalent to the power required to operate 5,000 water heaters at 4 kW each.

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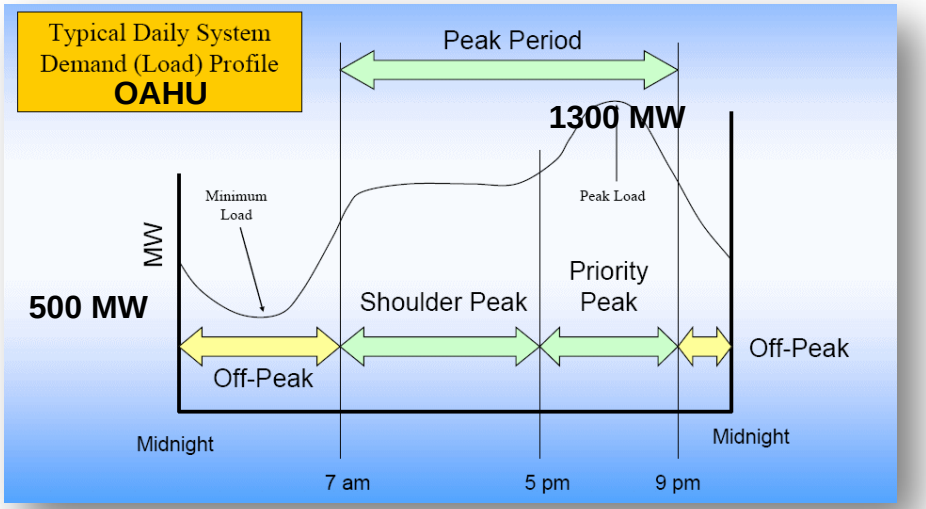


3. Total Resource Benefits – Target: $140,079,739

The Total Resource Benefit (TRB) is the estimated total net present value (PV) of the avoided cost for the utility from the reduced demand (kW) capacity and energy (kWh) from energy efficiency projects over the life of the projects. The utility costs were determined using average avoided cost data for energy and capacity that was provided by HECO IRP4 and adjusted under the advice of the Contract Manager. Average annual avoided cost for capacity and energy for calendar year 2009 escalated for a 20-year period was the basis for the analysis. The TRB has incorporated avoided transmission and distribution costs into the avoided energy and capacity costs. The time value of money is represented by a discount rate of 6%. The discount rate is used to convert all costs and benefits to a "present value" for comparing alternative costs and benefits in the same year's dollars.

Table 9 provides an example of the TRB calculation as if this project was a made up of a single measure with a nine year life achieving the program demand (kW) and energy (kWh) targets. In actual program implementation, this calculation is done for every measure individually and the entire portfolio added together to determine the TRB. Program participants benefit with lower electrical costs and all customers benefit from the avoided cost to provide additional units of generation to meet increasing electrical peak demand.

Table 9 – Demonstration of TRB Look up Table

Example of the TRB Calculation using Look Up Table

Life	Discount Rate	kW Target	kWh Target	TRB Target
9	6%	20,097	126,023,000	$140,079,739

			Utility Avoided Cost		NPV for each Year		Cumulative NPV		TRB		
Year	Measure Life	NPV Multiplier	$/kW/yr.	$/kWh/yr.	$/kW/yr.	$/kWh/yr.	$/kW/yr.	$/kWh/yr.	Capacity Benefit	Energy Benefit	Total Resource Benefit
2009	1	1.00	$ 181	$ 0.107	$ 181	$ 0.1069	$ 181	$ 0.1069	$ 3,640,326	$ 13,470,595	$ 17,110,922
2010	2	0.94	$ 280	$ 0.099	$ 264	$ 0.0933	$ 445	$ 0.2002	$ 8,944,910	$ 25,228,482	$ 34,173,392
2011	3	0.89	$ 306	$ 0.100	$ 272	$ 0.0894	$ 717	$ 0.2896	$ 14,411,649	$ 36,490,481	$ 50,902,130
2012	4	0.84	$ 339	$ 0.104	$ 284	$ 0.0874	$ 1,001	$ 0.3769	$ 20,125,921	$ 47,499,325	$ 67,625,246
2013	5	0.79	$ 353	$ 0.104	$ 280	$ 0.0821	$ 1,281	$ 0.4590	$ 25,748,178	$ 57,849,609	$ 83,597,787
2014	6	0.75	$ 371	$ 0.109	$ 277	$ 0.0813	$ 1,558	$ 0.5404	$ 31,313,540	$ 68,101,150	$ 99,414,690
2015	7	0.70	$ 383	$ 0.112	$ 270	$ 0.0792	$ 1,828	$ 0.6196	$ 36,732,838	$ 78,083,637	$ 114,816,475
2016	8	0.67	$ 386	$ 0.113	$ 257	$ 0.0755	$ 2,085	$ 0.6951	$ 41,894,934	$ 87,592,352	$ 129,487,287
2017	9	0.63	$ 388	$ 0.114	$ 243	$ 0.0715	$ 2,328	$ 0.7665	$ 46,783,974	$ 96,598,089	$ 143,382,063

4. Market Transformation – Target: 20 Emerging Technologies and 40 Trade Ally Referrals

Market Transformation goals are designed to encourage lasting change with regard to how energy is used in businesses and homes. For PY2009, Market Transformation goals include the introduction of new and emerging technologies and the development of a trade ally network of contractors and service providers.

The Targets are as follows:

Emerging Technologies – Foster twenty (20) projects utilizing emerging technologies with at least four (4) unique emerging technology projects. Each emerging technology project size shall provide a minimum annual gross energy savings of 25,000 kWh. See Table 10 for the list of technologies.

Trade Ally Referrals – Receive forty (40) projects from trade allies for the Program. This goal is to build a trained trade ally network to leverage. The training enables and encourages the allies to educate their customers and promote the benefits of incentives by Hawaii Energy. In addition, they educate customers about the urgency of the Hawaii Clean Energy Initiative.

Table 10 – Approved Emerging Technologies

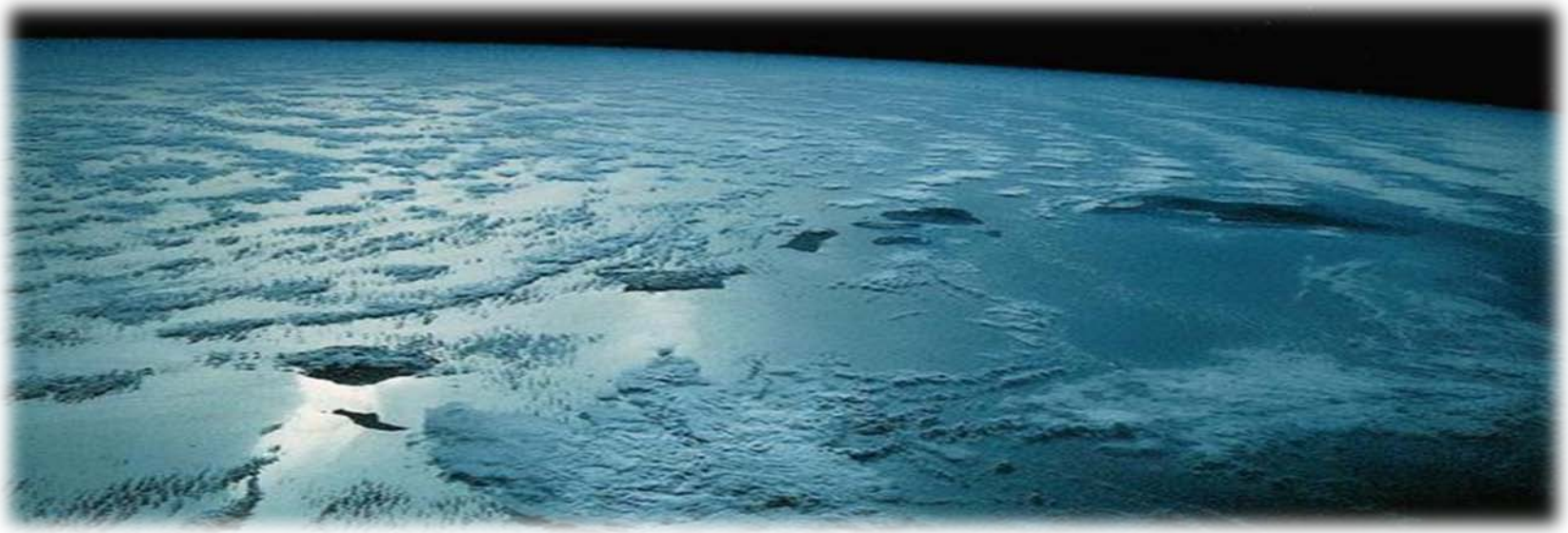
Approved Emerging Technologies:
A. Fresh Water Pumping
B. Waste Water Pumping
C. Data Centers - Airflow Optimization
D. Data Centers - Server Virtualization and Related Technologies
E. Parking Garages - Perimeter Dimming
F. Parking Ventilation Control
G. Non Residential Demand Control Ventilation
H. LED Refrigeration Case Lighting
I. LED Interior Lights
J. LED Traffic Lights and Exterior Lighting
K. District Sea Water Cooling Projects
L. Integrated Building Design and Construction Standards
M. Advanced Energy Management Controls
N. Variable Volume Refrigerant Air Conditioning
O. High Performance Commercial Lighting
P. Bi-Level Stairwell and Parking Garage Lighting
Q. EC Motors and Controllers

5. Broad Participation (Island Equity) - Target: +/- 20% of each Islands Contribution to the Public Benefits Fund

The broad participation measure is intended to indicate that Program services and incentives are promoted and offered in a geographically equitable manner. For PY2009 the target is to provide direct customer incentives within 20% of the proportion of each Counties total contribution to the Public Benefits Fee in PY2009. Table 10a lists the results of the PY2009 contributions to the PBF by county.

Table 10a – County Contribution to PBF

PY09 PBF Contibution by Island		
County	Contribution	%
HECO	$18,024,928.28	74%
HELCO	$3,026,861.49	13%
MECO	$3,155,105.82	13%
Total	$24,206,895.59	100%



Performance Incentives

The performance incentives are provided from a "performance pool" created through a holdback of approximately $58,000 per monthly invoice from R.W. Beck to the PUC. A total of $700,000 was withheld over the Program Year. R.W. Beck, as the PBFA, has the ability to earn the $700,000 (or fraction of) through demonstrated performance as compared to the performance indicator metrics. In addition, there is bonus for maximum performance at $133,000. Table 11 provides the potential incentives.

Table 11 – PY2009 Potential Performance Incentive Awards

PY2009 Performance Incentives					
	Min.	**Target**	**Max.**	**Weight**	**Target**
				100%	$ 700,000
Cumulative Annual Electric Energy Savings	75%	100%	125%	40%	$ 280,000
Residential Energy Reductions	$ 105,000	$ 140,000	$ 175,000		
Business Energy Reductions	$ 105,000	$ 140,000	$ 175,000		
Peak Demand	73%	100%	127%	15%	$ 105,000
	$ 77,000	$ 105,000	$ 133,000		
Total Resource Benefits	83%	100%	117%	30%	$ 210,000
	$ 175,000	$ 210,000	$ 245,000		
Market Transformation	100%	100%	100%	10%	$ 70,000
Emerging Technologies	$ 35,000	$ 35,000	$ 35,000		
Trade Ally Referrals	$ 35,000	$ 35,000	$ 35,000		
Broad Participation (Equity across each island)	100%	100%	100%	5%	$ 35,000
	$ 35,000	$ 35,000	$ 35,000		
If all Indicator Metrics meet this level:	**Min.**	**Target**	**Max.**		
Performance Incentive Potential	$ 567,000	$ 700,000	$ 833,000		

III. 2009-2010 ACCOMPLISHMENTS

PY2009 PORTFOLIO IMPACTS OVERVIEW

Portfolio First Year Impact Summary

The Net Energy First Year Savings was 113,489,154 kWh per year. When considering measure life, the Net Energy Life Cycle Savings is 995,657,872 kWh.

The First Year Annual Savings was distributed 56% in Residential and 44% in Commercial Programs. CFLs play a large role in the Residential Program but have a short measure life. Therefore, lifetime savings for the measures has the opposite distribution; 44% in Residential and 56% in Commercial Programs.

The Utility Net Peak Demand reduction impact was 21,667 kW, split 59% from Residential and 41% from Commercial programs.

The following pages provide the program Summary Tables for energy and demand by Net and Gross levels.

- Table 12 – PY2009 Net Level Summary Impacts by Program
- Table 13 – PY2009 Gross "System" Level Summary Impacts by Program
- Table 14 – PY2009 Customer Level Summary Impacts by Program

Table 12 – PY2009 Net Level Summary Impacts by Program

PY 2009 Hawaii Energy Net Impact Summary by Program									
	Applications	Incentives*	Net kW Demand Impact	Net kWh Energy Impact	Net TRB	TRC	Lifecycle Net kWh Energy Impact	Incentive $ per 1st year Impact	Incentive $ per Lifecycle Impact
CIEE	978	$ 2,188,802	5,129	27,201,830	$ 35,003,969	$ 3,878,628	279,292,620	$ 0.080	$ 0.008
CINC	1,633	$ 2,674,227	3,459	17,298,481	$ 26,823,349	$ 9,437,687	240,199,333	$ 0.155	$ 0.011
CICR	269	$ 241,755	342	2,135,790	$ 2,166,533	$ 2,151,371	18,629,669	$ 0.113	$ 0.013
New	2	$ 5,235	2	36,358	$ 46,582	$ 46,548	545,368	$ 0.144	$ 0.010
Commercial	2,882	$ 5,110,019	8,932	46,672,459	$ 64,040,433	$15,514,234	538,666,990	$ 0.109	$ 0.009
REWH	3,829	$ 2,996,645	1,311	5,768,552	$ 10,892,787	$12,584,811	85,881,831	$ 0.519	$ 0.035
RNC	1,041	$ 960,330	408	1,797,980	$ 3,502,405	$ 3,971,839	26,968,939	$ 0.534	$ 0.036
ESH	32,313	$ 2,665,799	11,546	55,862,450	$ 45,980,943	$ 8,674,784	321,903,980	$ 0.048	$ 0.008
RLI	177	$ 119,336	569	3,057,932	$ 2,130,801	$ 4,724,894	16,283,654	$ 0.039	$ 0.007
Residential	37,360	$ 6,742,110	13,835	66,486,914	$ 62,506,936	$29,956,328	451,038,404	$ 0.101	$ 0.015
Commercial	2,882	$ 5,110,019	8,932	46,672,459	$ 64,040,433	$15,514,234	538,666,990	$ 0.109	$ 0.009
Residential	37,360	$ 6,742,110	13,835	66,486,914	$ 62,506,936	$29,956,328	451,038,404	$ 0.101	$ 0.015
Total Program	40,242	$11,852,129	22,767	113,159,373	$126,547,369	$45,470,563	989,705,393	$ 0.105	$ 0.012

* The Total Program Incentives spent matches PY2009 Expenditure Table 30b
However, individual program values have variances that are outlined in Appendix I.

Table 13 – PY2009 Gross "System" Level Summary Impacts by Program

PY 2009 Hawaii Energy Gross Impact Summary by Program									
	Applications	Incentives*	Gross kW Demand Impact	Gross kWh Energy Impact	Gross TRB	TRC	Lifecycle Gross kWh Energy Impact	Incentive $ per 1st year Impact	Incentive $ per Lifecycle Impact
CIEE	978	$ 2,188,802	7,026	37,262,781	$ 47,950,642	$ 3,883,378	382,592,630	$ 0.059	$ 0.006
CINC	1,633	$ 2,674,227	4,739	23,696,549	$ 36,744,314	$ 9,437,687	329,040,183	$ 0.113	$ 0.008
CICR	269	$ 241,755	469	2,925,740	$ 2,967,854	$ 2,176,851	25,520,094	$ 0.083	$ 0.009
New	2	$ 5,235	2	49,805	$ 63,811	$ 46,548	747,079	$ 0.105	$ 0.007
Commercial	2,882	$ 5,110,019	12,236	63,934,876	$ 87,726,620	$15,544,465	737,899,986	$ 0.080	$ 0.007
REWH	3,829	$ 2,996,645	1,797	7,902,126	$ 14,921,626	$12,584,811	117,646,343	$ 0.379	$ 0.025
RNC	1,041	$ 960,330	559	2,462,987	$ 4,797,815	$ 3,971,839	36,943,753	$ 0.390	$ 0.026
ESH	32,313	$ 2,665,799	15,817	76,523,904	$ 62,987,593	$ 9,273,578	440,964,356	$ 0.035	$ 0.006
RLI	177	$ 119,336	780	4,188,948	$ 2,918,905	$ 351,666	22,306,375	$ 0.028	$ 0.005
Residential	37,360	$ 6,742,110	18,952	91,077,964	$ 85,625,940	$26,181,894	617,860,827	$ 0.074	$ 0.011
Commercial	2,882	$ 5,110,019	12,236	63,934,876	$ 87,726,620	$15,544,465	737,899,986	$ 0.080	$ 0.007
Residential	37,360	$ 6,742,110	18,952	91,077,964	$ 85,625,940	$26,181,894	617,860,827	$ 0.074	$ 0.011
Total Program	40,242	$11,852,129	31,188	155,012,840	$173,352,560	$41,726,359	1,355,760,813	$ 0.076	$ 0.009

* The Total Program Incentives spent matches PY2009 Expenditure Table 30b.
However, individual program values have variances that are outlined in Appendix I.

Table 14 – PY2009 Customer Level Summary Impacts by Program

PY 2009 Hawaii Energy Customer Impact Summary by Program									
	Applications	Incentives*	Customer kW Demand Impact	Customer kWh Energy Impact	Customer TRB	TRC	Lifecycle Customer kWh Energy Impact	Incentive $ per 1st year Impact	Incentive $ per Lifecycle Impact
CIEE	978	$ 2,188,802	6,335	33,590,721	$ 43,132,717	$ 3,883,378	279,292,620	$ 0.065	$ 0.008
CINC	1,633	$ 2,674,227	4,266	21,332,319	$ 33,052,365	$ 9,437,687	240,199,333	$ 0.125	$ 0.011
CICR	269	$ 241,755	422	2,635,282	$ 2,669,653	$ 2,176,851	18,629,669	$ 0.092	$ 0.013
New	2	$ 5,235	2	44,801	$ 57,399	$ 46,548	545,368	$ 0.117	$ 0.010
Commercial	2,882	$ 5,110,019	11,024	57,603,123	$ 78,912,135	$15,544,465	538,666,990	$ 0.089	$ 0.009
REWH	3,829	$ 2,996,645	1,622	7,135,125	$ 13,422,350	$12,584,811	85,881,831	$ 0.420	$ 0.035
RNC	1,041	$ 960,330	505	2,223,160	$ 4,315,747	$ 3,971,839	26,968,939	$ 0.432	$ 0.036
ESH	32,313	$ 2,665,799	14,269	69,058,241	$ 56,658,805	$ 9,273,578	321,903,980	$ 0.039	$ 0.008
RLI	177	$ 119,336	703	3,777,304	$ 2,625,623	$ 351,666	16,283,654	$ 0.032	$ 0.007
Residential	37,360	$ 6,742,110	17,099	82,193,830	$ 77,022,524	$26,181,894	451,038,404	$ 0.082	$ 0.015
Commercial	2,882	$ 5,110,019	11,024	57,603,123	$ 78,912,135	$15,544,465	538,666,990	$ 0.089	$ 0.009
Residential	37,360	$ 6,742,110	17,099	82,193,830	$ 77,022,524	$26,181,894	451,038,404	$ 0.082	$ 0.015
Total Program	40,242	$11,852,129	28,123	139,796,953	$155,934,659	$41,726,359	989,705,393	$ 0.085	$ 0.012

* The Total Program Incentives spent matches PY2009 Expenditure Table 30b.
However, individual program values have variances that are outlined in Appendix I.

Savings in Customer, Gross (System) and Net Levels

The Program net saving translates to the program participants achieving an overall first year Customer Energy Savings of 139,796,953 kWh per year (1.4% of 2009 Sales) and a Customer Utility Peak Demand savings of 28,123 kW (1.6% of 2009 Sales). This does not reflect the Peak Demand savings for the customer as it may not be coincident with their actual measured peak demand used for billing purposes. In tables 15 and 16 show savings by Program and impact level. In tables 17 and 18 show level of savings by island.

Table 15 – PY2009 Customer, Gross System and Net Level Energy Savings by Program

PY2009 Energy (kWh) Reduction Impacts by Program and Impact Level					
	Customer Savings	System Losses	Gross Level Savings	Net-to-Gross Ratio	PBFA Net Level Savings
CIEE	33,590,721	10.9%	37,262,781	73.0%	27,201,830
CINC	21,332,319	11.1%	23,696,549	73.0%	17,298,481
CICR	2,635,282	11.0%	2,925,740	73.0%	2,135,790
New	44,801	11.2%	49,805	73.0%	36,358
Commercial	57,603,123	11.0%	63,934,876	73.0%	46,672,459
REWH	7,135,125	10.7%	7,902,126	73.0%	5,768,552
RNC	2,223,160	10.8%	2,462,987	73.0%	1,797,980
ESH	69,058,241	10.8%	76,523,904	73.0%	55,862,450
RLI	3,777,304	10.9%	4,188,948	73.0%	3,057,932
Residential	82,193,830	10.8%	91,077,964	73.0%	66,486,914
Commercial	57,603,123	11.0%	63,934,876	73.0%	46,672,459
Residential	82,193,830	10.8%	91,077,964	73.0%	66,486,914
Total Program	139,796,953	10.9%	155,012,840	73.0%	113,159,373

Table 16 – PY2009 Customer, Gross System and Net Level Demand Savings by Program

PY2009 Demand (kW) Reduction Impacts by Program and Impact Level					
	Customer Savings	System Losses	Gross Level Savings	Net-to-Gross Ratio	PBFA Net Level Savings
CIEE	6,335	10.9%	7,026	73.0%	5,129
CINC	4,266	11.1%	4,739	73.0%	3,459
CICR	422	11.1%	469	73.0%	342
New	2	11.2%	2	73.0%	2
Commercial	11,024	11.0%	12,236	73.0%	8,932
REWH	1,622	10.7%	1,797	73.0%	1,311
RNC	505	10.8%	559	73.0%	408
ESH	14,269	10.8%	15,817	73.0%	11,546
RLI	703	10.9%	780	73.0%	569
Residential	17,099	10.8%	18,952	73.0%	13,835
Commercial	11,024	11.0%	12,236	73.0%	8,932
Residential	17,099	10.8%	18,952	73.0%	13,835
Total Program	28,123	10.9%	31,188	73.0%	22,767

Table 17 – PY2009 Customer, Gross System and Net Level Demand Savings by Island

PY2009 Demand (kW) Reduction by Impact Level and by Island					
	Customer Savings	System Losses	Gross Level Savings	Net-to-Gross Ratio	PBFA Net Level Savings
Oahu	23,750	11.17%	26,403	73.0%	19,274
Hawaii	2,491	9.00%	2,715	73.0%	1,982
Maui	1,853	9.96%	2,038	73.0%	1,488
Lanai	13	9.96%	14	73.0%	10
Molokai	16	9.96%	18	73.0%	13
Total	**28,123**	**10.90%**	**31,188**	**73.0%**	**22,767**
% of Customer Level Savings			111%		81%

Table 18 – PY2009 Customer, Gross System and Net Level Energy Savings by Island

PY2009 Energy (kWh) Reduction by Impact Level and by Island					
	Customer Savings	System Losses	Gross Level Savings	Net-to-Gross Ratio	PBFA Net Level Savings
Oahu	116,985,432	11.17%	130,052,704	73.0%	94,938,474
Hawaii	12,855,492	9.00%	14,012,487	73.0%	10,229,115
Maui	9,808,510	9.96%	10,785,438	73.0%	7,873,370
Lanai	61,937	9.96%	68,106	73.0%	49,718
Molokai	85,581	9.96%	94,105	73.0%	68,697
Total	**139,796,953**	**10.88%**	**155,012,840**	**73.0%**	**113,159,373**
% of Customer Level Savings			111%		81%

CFL Major Source of Savings

The largest single measure contributor to the programs were the 1,081,930 CFLs at 50% of the Portfolio's total first year energy reductions and 78% of the residential program's total first year energy reductions as shown in Table 19.

The demand contribution is 10,303 kW (45%) of the portfolio impacts.

The CFL contribution drops to 28% of the Portfolio Life Cycle Energy savings as shown in Table 20.

Table 19 – PY2009 CFL Statistics

PY2009 CFL Statistics				
County Comparison	**Commercial**	**Residential**	**Total**	**%**
C&C of Honolulu	45,516	770,703	816,219 bulbs	75%
Hawaii County	27,408	122,867	150,275 bulbs	14%
Maui County	4,176	111,260	115,436 bulbs	11%
Grand Total	**77,100**	**1,004,830**	**1,081,930 bulbs**	**100%**

Demand Comparison	**Commercial**	**Residential**	**Total**
CFL Net Demand	752	9,551	10,303 kW
Portfolio Net Demand	8,932	13,875	22,807 kW
CFL % of Demand	**8%**	**69%**	**45%**

Energy Comparison	**Commercial**	**Residential**	**Total**
CFL Net Energy	4,099,193	52,054,220	56,153,413 kWh
Portfolio Net Energy	46,737,383	66,486,914	113,224,297 kWh
CFL % of Energy	**9%**	**78%**	**50%**

Cost Comparison	**Commercial**	**Residential**	**Total**
Incentives	$ 132,104	$ 1,375,545	$ 1,507,649
Portfolio Net Energy	$ 5,110,019	$ 6,742,110	$ 11,852,129
CFL % of Incentives	**3%**	**20%**	**13%**

Cost Effectiveness	**Commercial**	**Residential**	**Total**
Incentives	$ 132,104	$ 1,375,545	$ 1,507,649
CFL Net Energy	4,099,193	52,054,220	56,153,413
First Year $/kWh	**$ 0.032**	**$ 0.026**	**$ 0.027**

Measure Contribution towards Savings Impacts

Commercial lighting provides the second largest contribution to the program energy savings impacts as shown in Table 20, with a 22% share of first year and 23% of life cycle energy savings.

Solar Water Heating is in third place with an 8% first year contribution and increasing to 14% of the life cycle savings as the solar water heaters have a useful life of 15 years versus the 5 year CFL and 10 years for most commercial lighting measures.

Table 20 – PY2009 Contribution by Measure Type in Order of Net Life Energy Impact

PY2009 Contribution by Measure in order of Net Lifetime Energy Impact

Measure	Applications	%	Net Demand Impact kW	%	Net Energy Impact kWh 1st Year	%	Net Energy Impact kWh Life	%
CFL	8,752	22%	10,267	45%	55,959,109	49%	279,818,893	28%
Commercial Lighting	638	2%	4,604	20%	25,419,490	22%	224,259,420	23%
Solar Water Heater	5,178	13%	2,103	9%	9,257,998	8%	138,869,971	14%
Custom - Envelope	13	0%	742	3%	5,179,447	5%	113,946,881	12%
HVAC - Package / Split	290	1%	1,041	5%	3,684,115	3%	55,261,718	6%
HVAC - Chiller	10	0%	576	3%	1,802,944	2%	36,058,876	4%
Refrigerator	7,797	19%	731	3%	1,973,375	2%	23,680,504	2%
Window AC	5,122	13%	849	4%	1,666,787	1%	20,001,443	2%
Clothes Washer	6,364	16%	596	3%	1,609,134	1%	19,411,179	2%
Custom	29	0%	297	1%	2,016,689	2%	17,783,102	2%
Envelope - Window Film	17	0%	96	0%	843,668	1%	16,873,361	2%
HVAC - VFD Fan	36	0%	182	1%	691,805	1%	13,836,096	1%
Dishwasher	2,506	6%	234	1%	632,581	1%	7,705,711	1%
Ceiling Fans	1,593	4%	19	0%	749,185	1%	3,745,924	0%
HVAC - VFD Water Pumping	8	0%	48	0%	175,104	0%	3,502,075	0%
AC - Ductless Split	430	1%	135	1%	233,529	0%	2,802,348	0%
Domestic Water Booster Pumps	4	0%	19	0%	175,078	0%	2,626,167	0%
High Efficiency Motors	91	0%	20	0%	117,284	0%	1,759,261	0%
Custom - LED	11	0%	42	0%	288,963	0%	1,513,489	0%
Lighting - Sensors	85	0%	45	0%	155,874	0%	1,246,993	0%
High Efficiency Water Heater	991	2%	28	0%	128,197	0%	1,153,777	0%
RLI - Solar Water Heater	167	0%	17	0%	75,245	0%	1,128,670	0%
Smart Power Strip	4	0%	35	0%	163,907	0%	1,061,082	0%
HVAC - Window AC	34	0%	19	0%	58,879	0%	706,552	0%
Solar Water Heating - Commercial	2	0%	2	0%	36,358	0%	545,368	0%
Heat Pump - Residential	51	0%	8	0%	25,377	0%	228,393	0%
Low Flow Showerheads	4	0%	7	0%	34,723	0%	173,613	0%
Maintenance - AC	9	0%	3	0%	4,528	0%	4,528	0%
Energy Study	6	0%	-	0%	-	0%	-	0%
Totals	**40,242**		**22,767**		**113,159,373**		**989,705,393**	

Impacts by Rate Schedule

The Net Energy First year impacts were greatest in the Schedule "R" Residential Rate schedule with 66,189,902 kWh or 58% of savings.

Oahu Residential Customers provided the greatest savings of 51,784,806 kWh per year of all the rate schedules.

Demand impact had similar results with the Residential Rate schedule customers providing 13,674 kW or 60% of the demand savings.

Oahu Residential Customers provided the greatest savings of 10,928 kW per year of all the rate schedules.

Table 21 – PY2009 Net Energy Impact by Rate Schedule

Hawaii Energy PY2009 Portfolio Energy (kWh) Reduction Impacts by Rate Schedule (Net)							
	"G"	"H & K"	"J"	"P"	"R"	Net Total	
Oahu	910,300	47,413	9,663,699	32,532,256	51,784,806	94,938,474	kWh/Yr.
Big Island	190,196	-	1,746,899	623,879	7,668,141	10,229,115	kWh/Yr.
Maui	131,769	29,408	435,972	608,300	6,667,920	7,873,370	kWh/Yr.
Lanai	-	-	-	-	49,718	49,718	kWh/Yr.
Molokai	13,010	-	23,494	12,875	19,317	68,697	kWh/Yr.
Total	**1,245,276**	**76,822**	**11,870,063**	**33,777,311**	**66,189,902**	**113,159,373**	**kWh/Yr.**
%	1.1%	0.1%	10.5%	29.8%	58.5%	100.0%	

Table 22 – PY2009 Net Demand Impact by Rate Schedule

Hawaii Energy PY2009 Portfolio Demand (kW) Reduction Impacts by Rate Schedule (Net)							
	"G"	"H & K"	"J"	"P"	"R"	Net Total	
Oahu	196	8	1,875	6,268	10,928	19,274	kW
Big Island	39	-	351	128	1,463	1,982	kW
Maui	29	13	77	100	1,268	1,488	kW
Lanai	-	-	-	-	10	10	kW
Molokai	3	-	3	2	5	13	kW
Total	**267**	**21**	**2,307**	**6,498**	**13,674**	**22,767**	**kW**
%	1.2%	0.1%	10.1%	28.5%	60.1%	100.0%	

Net Energy by Program by Rate Class

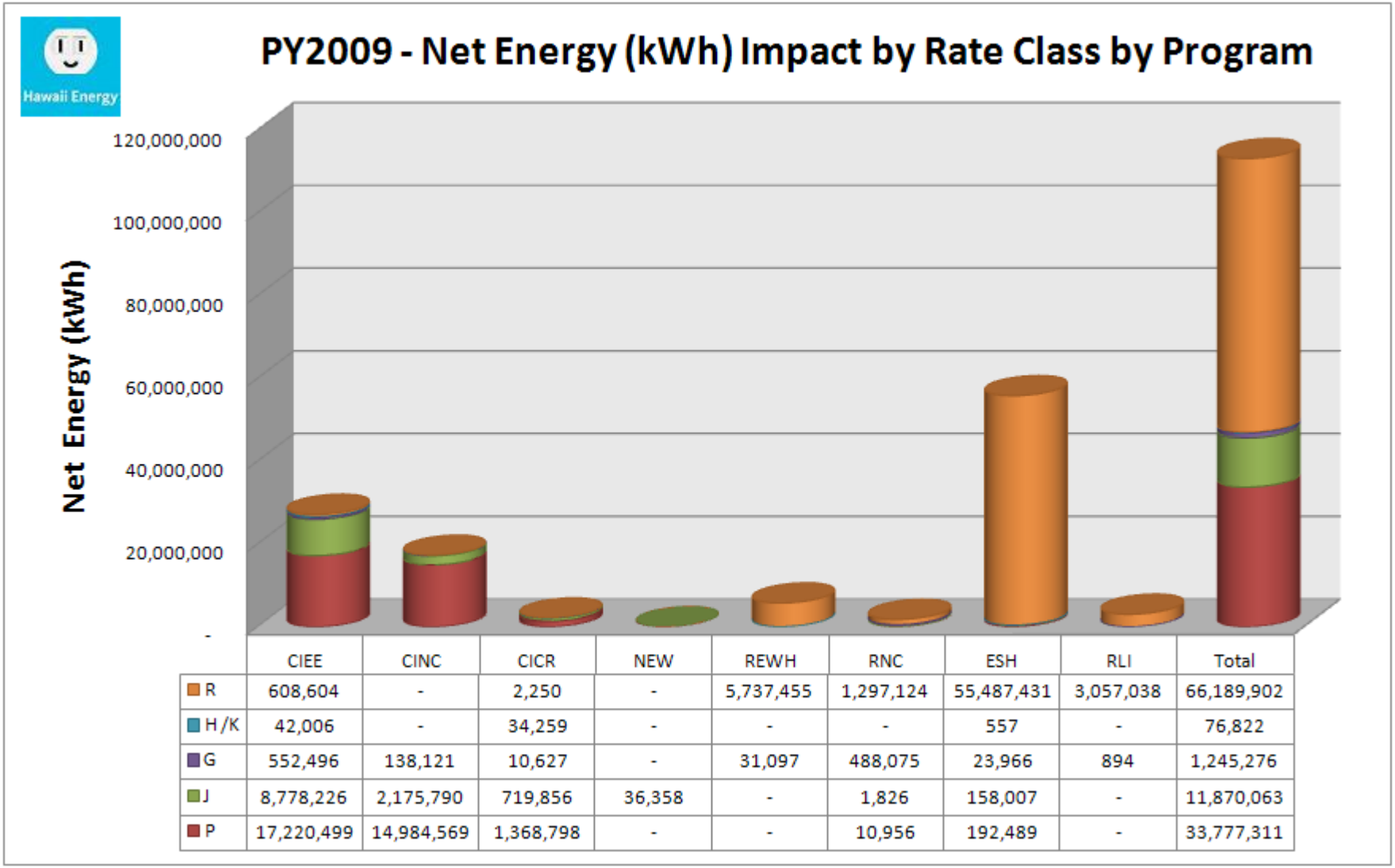
Table 23 shows the relative contributions of the rate classes as well as net program impacts. The largest contributor is the ESH program supported mostly by the Residential "R" rate class with a Net Energy Impact of 55,862,450 kWh per year impact. Chart 1 graphically illustrates the significant ESH Program contribution boosted by Residential CFLs.

The largest Schedule "P" rate class program, as well as the second largest contributor overall, is the CIEE Program with a Net Energy Impact of 17,220,499 kWh per year contribution.

Table 23 - PY2009 Net Energy by Program by Rate Class

PY2009 Net Energy (kWh) Impact by Rate Class and Program									
	CIEE	CINC	CICR	NEW	REWH	RNC	ESH	RLI	Total
Total	27,201,830	17,298,481	2,135,790	36,358	5,768,552	1,797,980	55,862,450	3,057,932	113,159,373
P	17,220,499	14,984,569	1,368,798	-	-	10,956	192,489	-	33,777,311
J	8,778,226	2,175,790	719,856	36,358	-	1,826	158,007	-	11,870,063
G	552,496	138,121	10,627	-	31,097	488,075	23,966	894	1,245,276
H /K	42,006	-	34,259	-	-	-	557	-	76,822
R	608,604	-	2,250	-	5,737,455	1,297,124	55,487,431	3,057,038	66,189,902

Chart 1 – PY2009 Net Energy by Program by Rate Class



	CIEE	CINC	CICR	NEW	REWH	RNC	ESH	RLI	Total
R	608,604	-	2,250	-	5,737,455	1,297,124	55,487,431	3,057,038	66,189,902
H/K	42,006	-	34,259	-	-	-	557	-	76,822
G	552,496	138,121	10,627	-	31,097	488,075	23,966	894	1,245,276
J	8,778,226	2,175,790	719,856	36,358	-	1,826	158,007	-	11,870,063
P	17,220,499	14,984,569	1,368,798	-	-	10,956	192,489	-	33,777,311

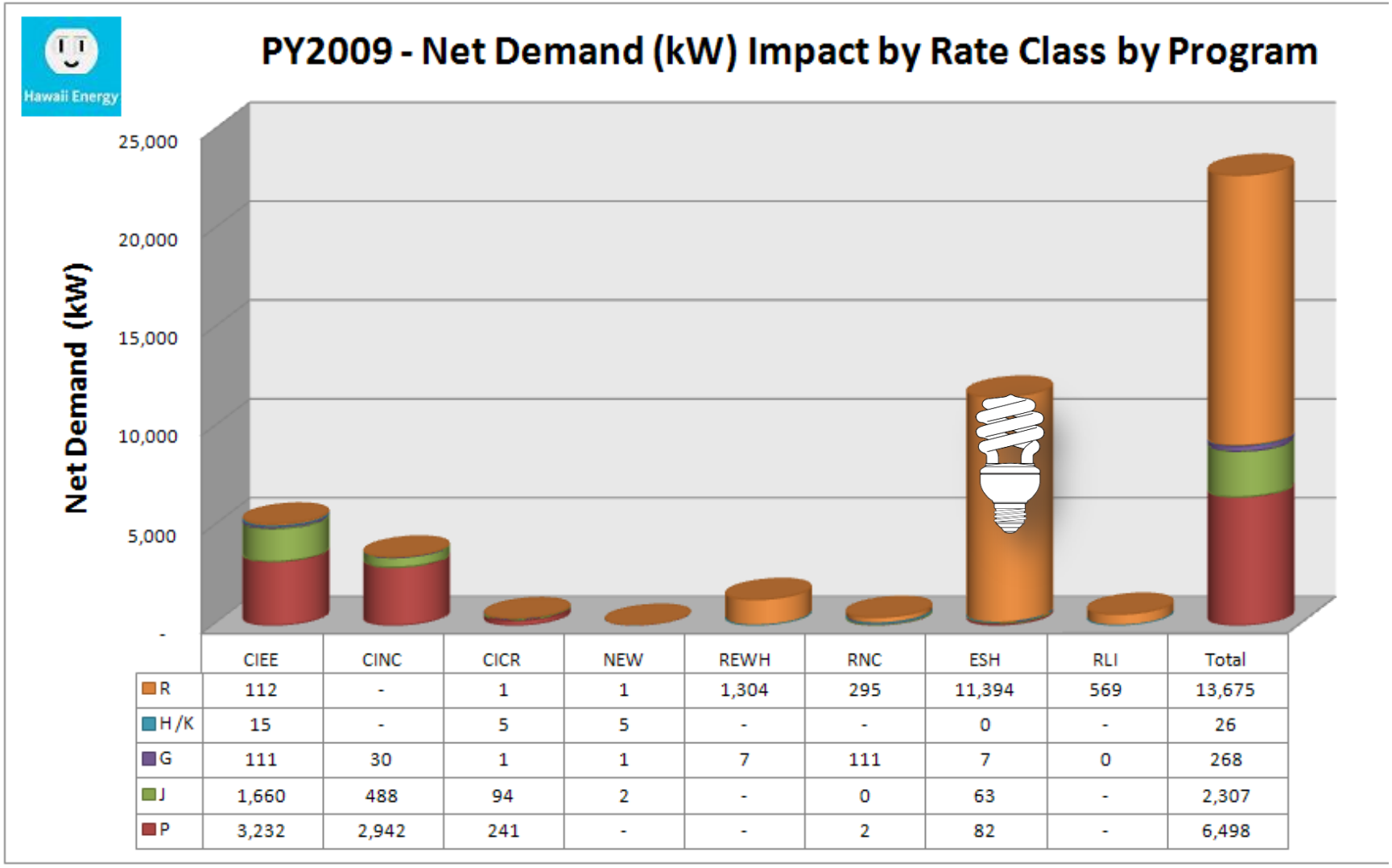
Net Demand by Program by Rate Class

Table 24 shows the relative contributions by Rate Class to each program and the Net Program Impacts. The largest contributor is the ESH program supported mostly by the Residential "R" rate class with a 11,394 kW impact. Chart 2 graphically illustrates the significant ESH Program contribution boosted by the performance of the Residential CFLs. The largest Schedule "P" rate class program as well as the second largest contributor overall is the CIEE program with a 3,232 kW Peak Demand contribution.

Table 24– PY2009 Net Demand by Program by Rate Class

PY2009 Net Demand (kW) Impact by Rate Class and Program									
	CIEE	CINC	CICR	NEW	REWH	RNC	ESH	RLI	Total
Total	5,129	3,459	342	9	1,311	408	11,546	569	22,774
P	3,232	2,942	241	-	-	2	82	-	6,498
J	1,660	488	94	2	-	0	63	-	2,307
G	111	30	1	1	7	111	7	0	268
H /K	15	-	5	5	-	-	0	-	26
R	112	-	1	1	1,304	295	11,394	569	13,675

Chart 2 – PY2009 Net Demand by Program by Rate Class



	CIEE	CINC	CICR	NEW	REWH	RNC	ESH	RLI	Total
R	112	-	1	1	1,304	295	11,394	569	13,675
H/K	15	-	5	5	-	-	0	-	26
G	111	30	1	1	7	111	7	0	268
J	1,660	488	94	2	-	0	63	-	2,307
P	3,232	2,942	241	-	-	2	82	-	6,498

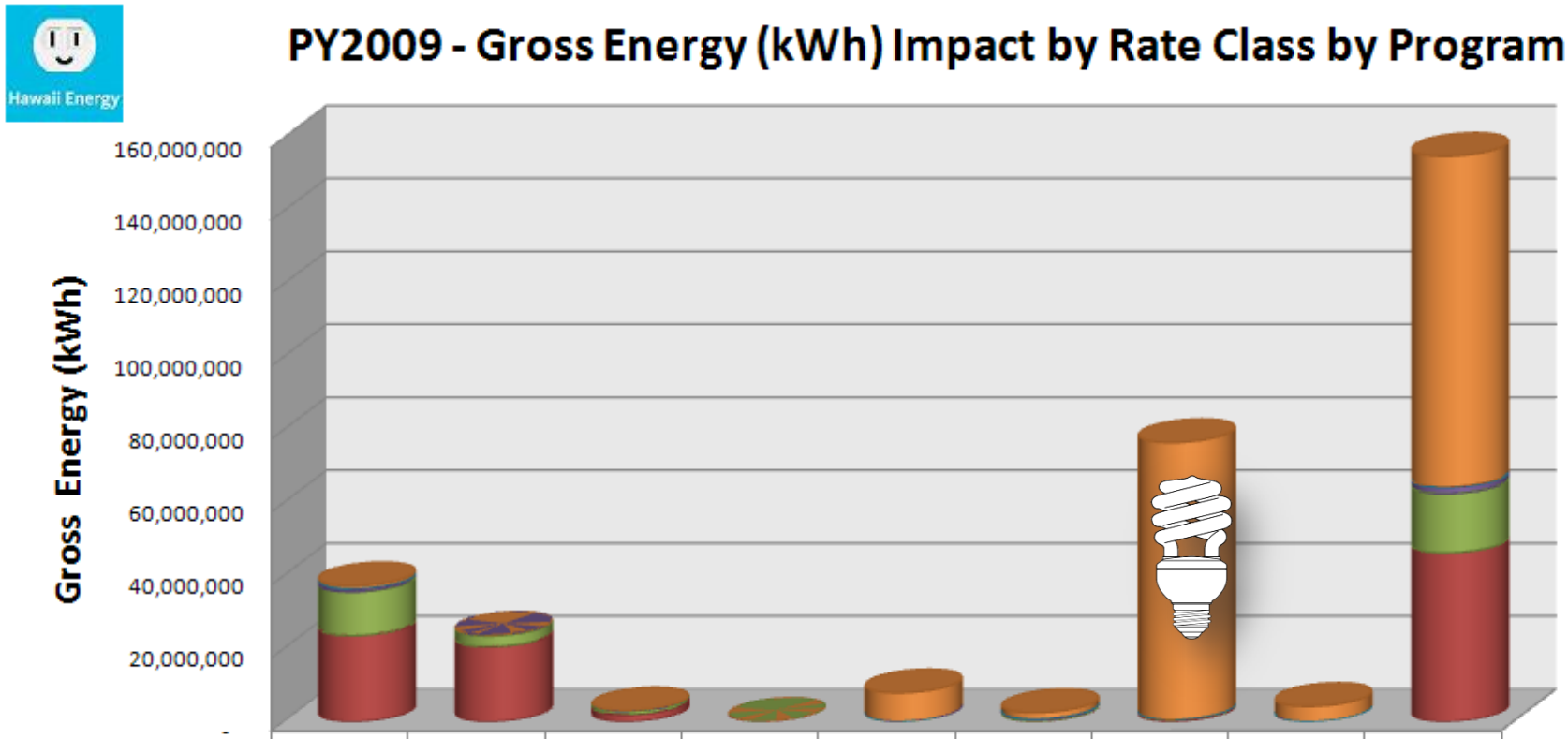
Gross Energy by Program by Rate Class

Table 25 shows the relative Rate Class contributions to the Net Program Impacts. The largest contributor is the ESH program which is supported mostly by the Residential "R" rate class. ESH contributed a 76,010,180 kWh per year impact. The Chart 3 graphically illustrates the significant ESH Program contribution boosted by the performance of the Residential CFLs. The second largest contributor is the CIEE program, with the largest Schedule "P" rate class participation, with a 23,589,724 kWh per year contribution.

Table 25– PY2009 Gross Energy by Rate Class and Program

PY2009 Gross Energy (kWh) Impact by Rate Class and Program									
	CIEE	CINC	CICR	NEW	REWH	RNC	ESH	RLI	Total
Total	37,262,781	23,696,549	2,925,740	49,805	7,902,126	2,462,987	76,523,904	4,188,948	155,012,840
P	23,589,724	20,526,807	1,875,066	-	-	15,008	263,683	-	46,270,289
J	12,024,967	2,980,535	986,105	49,805	-	2,501	216,448	-	16,260,361
G	756,844	189,207	14,557	-	42,599	668,596	32,831	1,225	1,705,857
H /K	57,542	-	46,930	-	-	-	763	-	105,235
R	833,704	-	3,082	-	7,859,527	1,776,882	76,010,180	4,187,723	90,671,098

Chart 3 – PY2009 Gross Energy by Program by Rate Class



	CIEE	CINC	CICR	NEW	REWH	RNC	ESH	RLI	Total
R	833,704	-	3,082	-	7,859,527	1,776,882	76,010,180	4,187,723	90,671,098
H/K	57,542	-	46,930	-	-	-	763	-	105,235
G	756,844	189,207	14,557	-	42,599	668,596	32,831	1,225	1,705,857
J	12,024,967	2,980,535	986,105	49,805	-	2,501	216,448	-	16,260,361
P	23,589,724	20,526,807	1,875,066	-	-	15,008	263,683	-	46,270,289

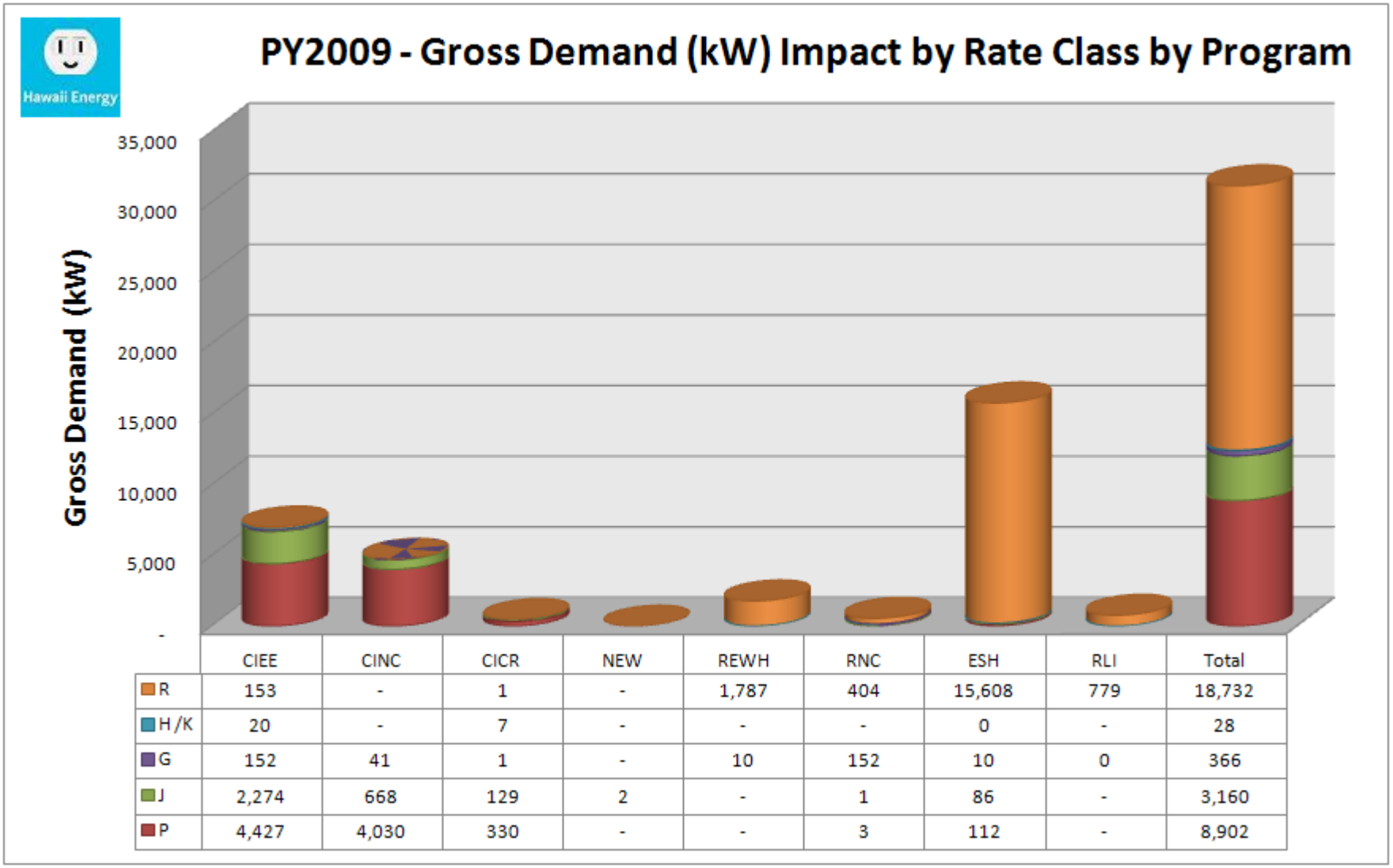
Gross Demand by Program by Rate Class

Table 26 shows the relative contributions to the Net Program Impacts. Chart 4 graphically illustrates the significant ESH Program contribution boosted by the performance of the Residential CFLs. The largest contributor is the ESH program in the Residential "R" rate class with a 15,608 kW impact. The second largest contributor is the CIEE program with the largest Schedule "P" rate class with a 4,427 kW contribution.

Table 26– PY2009 Gross Demand by Rate Class and Program

PY2009 Gross Demand (kW) Impact by Rate Class and Program									
	CIEE	CINC	CICR	NEW	REWH	RNC	ESH	RLI	Total
Total	7,026	4,739	469	2	1,797	559	15,817	780	31,188
P	4,427	4,030	330	-	-	3	112	-	8,902
J	2,274	668	129	2	-	1	86	-	3,160
G	152	41	1	-	10	152	10	0	366
H /K	20	-	7	-	-	-	0	-	28
R	153	-	1	-	1,787	404	15,608	779	18,732

Chart 4 – PY2009 Gross Demand by Program by Rate Class



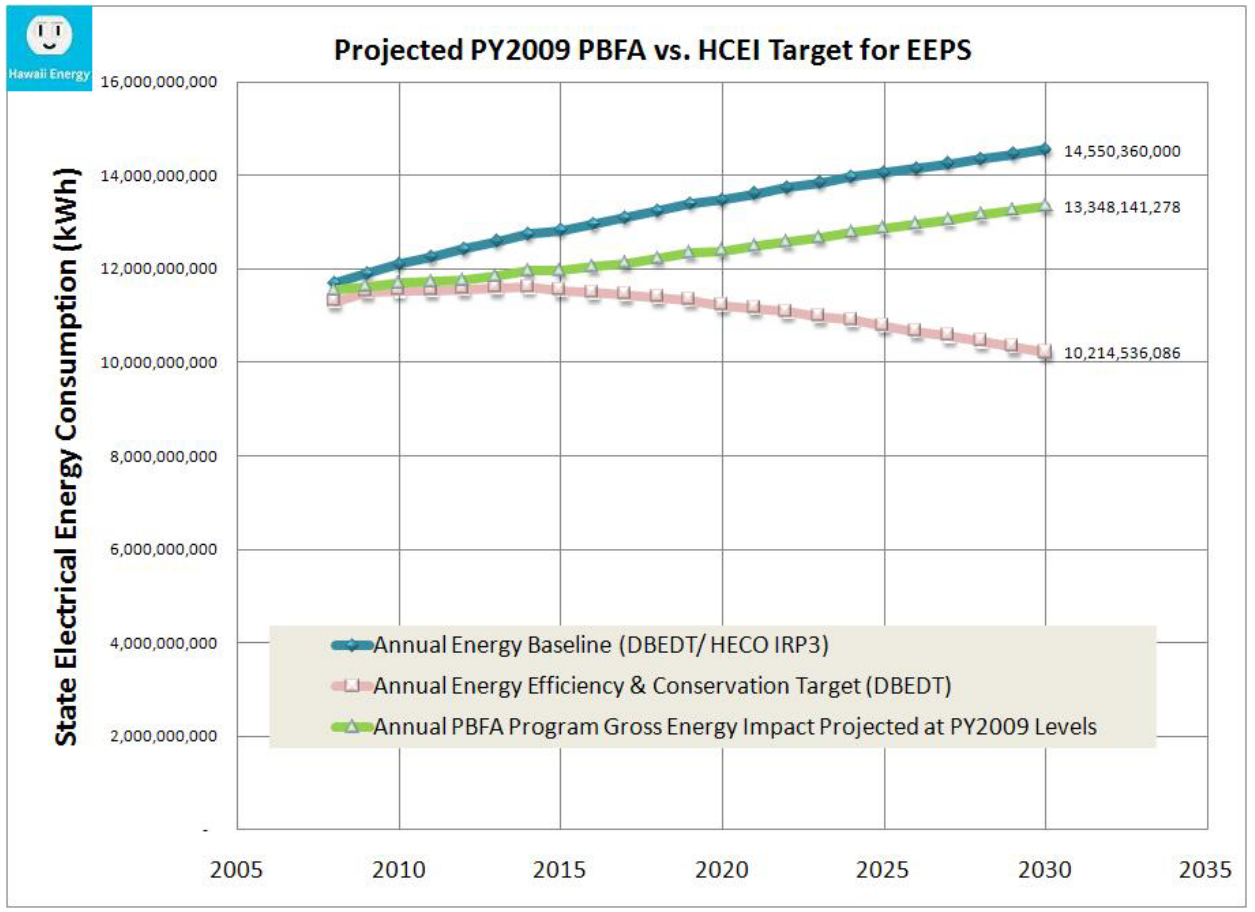
	CIEE	CINC	CICR	NEW	REWH	RNC	ESH	RLI	Total
R	153	-	1	-	1,787	404	15,608	779	18,732
H/K	20	-	7	-	-	-	0	-	28
G	152	41	1	-	10	152	10	0	366
J	2,274	668	129	2	-	1	86	-	3,160
P	4,427	4,030	330	-	-	3	112	-	8,902

Energy Efficiency Portfolio Standard Portfolio (EEPS) Impacts

PY2009 Performance as Compared to the 2030 EEPS Goal

Projecting at the current impact achievement level would result in the PBFA achieving 1,455 GWh (34%) of the 4,300 GWh 2030 energy efficiency goal (illustrated in Chart 5). This projects the current program portfolio being achieved each year from 2009 to 2030 with the addition of the offset solar thermal technologies returning from the RPS to EEPS in 2015 and all measures being credited beyond their useful life.

Chart 5 – PY2009 Projected PY2009 Performance projected to 2030 EEPS Target



Removal of Offset Technologies

The "Offset" technologies of Solar Water Heating are removed from the overall PBFA impacts to calculate the Energy Efficiency Portfolio Standard Portfolio (EEPS) impacts. These "offset" technologies are currently counted under the Renewable Portfolio Standard (RPS) until 2015, see Table 27.

The removal of the Solar Water Heating projects lowers the overall annual demand impacts by 2,623 kW (9%) and the annual energy impact by 11,582,155 kWh (8%). The overall life cycle annual energy impacts are reduced by 173,732,617 kWh (13%).

Table 27 – PY2009 EEPS Impacts

PY2009 Hawaii Energy EEPS Goal Impacts			
PY2009	**Customer Level Demand (kW)**	**Customer Annual Energy (kWh-A)**	**Customer Life Cycle Energy (kWh-L)**
Total Program Impacts	28,123	139,796,953	1,295,922,942
Solar Water Heating	(2,623)	(11,582,155)	(173,732,325)
EEPS Portfolio Impact	25,501	128,214,798	1,122,190,617
Offset Technologies % of Total	9%	8%	13%

Portfolio Impacts Relative To Load

Tables 28 and 29 show the program customer level impacts as compared to the 2009 electrical sales.

The customer level savings were equivalent to 1.4% of the 2009 annual energy usage and 1.7% of the peak demand for the utility customers.

Oahu had both the largest energy and demand reductions and the largest percentage of load with energy at 1.5% and demand at 2.0%.

Table 28 – PY2009 Energy Impacts vs. 2009 Sales

Hawaii Energy PY2009 Portfolio Energy (kWh) Reduction Impacts			
	2009 kWh Sales*	PY2009 Customer Savings	Customer % of Sales
Oahu	7,761,600,000	116,985,432	1.5%
Hawaii	1,210,000,000	12,855,492	1.1%
Maui	1,203,500,000	9,808,510	0.8%
Lanai	27,400,000	61,937	0.2%
Molokai	34,900,000	85,581	0.2%
Total	10,237,400,000	139,796,953	1.4%
* Reported by HEI in SEC Form 410K			

Table 29 – PY2009 Demand Impacts vs. 2009 Sales

Hawaii Energy PY2009 Portfolio Utility Peak Demand (kW) Reduction Impacts			
	2009 kW Utility Peak *	PY2009 Customer Savings	% of Peak
Oahu	1,213,000	23,750	2.0%
Hawaii	194,600	2,491	1.3%
Maui	199,900	1,853	0.9%
Lanai	4,700	13	0.3%
Molokai	5,900	16	0.3%
Total	1,618,100	28,123	1.7%
* Reported by HEI in SEC Form 410K			

Portfolio Expenditures & Unspent Funds

Hawaii Energy utilized a conservative approach for expending our non-incentive resources during our first program year to alleviate the $1.1 million decrease in non-incentive funds for PY2010. For PY2009, Residential Programs had the most expenses to meet the demand of residential incentives as well as to support Honeywell subcontracted staff. There was limited interest in the business programs due to the economic conditions making large capital investments difficult for commercial and industrial customers. For both the Residential and Business sectors, the Program was not able to expend nearly as much as budgeted in the categories of Advertising & Marketing, Market Evaluation, and Education & Training. Program Management & Operations took a priority to these items as the program established itself in its first year as well as the need to conserve for PY2010. Details of the final PY2009 allocations and unspent funds by program category are included in Table 30b.

Carry Over

The PY2009 carryover that is pending PUC approval is $ $2,256,999.83 which consists of $1,227,405.69 of non-incentive funding and $1,029,594.14 in incentive funding. To the Carryover, the performance incentive pool was added back to expenses as well as the tax on expected award. A revised PY2010 budget will be submitted with the request for this carryover. The format for next year's budget will ease the reporting by making performance incentives and taxes as individual line items rather than mixed within the budget categories. The PBFA plans to expend the entire two-year budget by the end of PY2010. Carry over summary is at Table 30a.

Table 30a – PY2009 Carry Over Summary

PY2009 Budget Carry Over Budget Summary						
		PY09 Budget R4				
Funding Type	FINAL PY09 Expenses	Less PI*	% Spent	Carryover	PY09 Budget R4	% Unspent
Total Non-Incentive	$5,026,289.31	$6,253,695.00	80%	$1,227,405.69	$6,984,611.00	18%
Total Incentive	$11,852,128.86	$12,881,723.00	92%	$1,029,594.14	$12,881,723.00	8%
Total	$16,878,418.17	$19,135,418.00	88%	$2,256,999.83	$19,866,334.00	11%

*$30,916 removed as the expected tax on performance award (tax at 4.712% on $656,112 award). Tax is applied on monthly invoices after perfomance incentives are removed and therefore tax is due upon award.

Table 30b – PY2009 Program Expenditures and Unspent Funds

PY2009 Expenditures and Unspent Funds	PY09 Allocations (No PI Tax)**	PY09 Budget R4 Authorization	% Spent	Unspent	% Unspent
Residential Programs					
Residential Non-Incentive					
Residential Program Ops and Management					
REWH	$ 1,202,513.76	$ 1,207,347.00	99.6%	$ 4,833.24	0.4%
RNC	$ 82,008.58	$ 84,912.00	96.6%	$ 2,903.42	3.4%
ESH	$ 743,370.02	$ 889,125.00	83.6%	$ 145,754.98	16.4%
RLI	$ 31,681.03	$ 33,344.00	95.0%	$ 1,662.97	5.0%
Total Residential Programs	$ 2,059,573.39	$ 2,214,728.00	*93.0%*	$ 155,154.61	*7.0%*
Education & Training (E&T)	$ 38,673.02	$ 63,450.00	61.0%	$ 24,776.98	39.0%
Market Evaluation	$ -	$ -		$ -	
Advertising/Marketing	$ 175,952.46	$ 341,729.00	51.5%	$ 165,776.54	48.5%
Total Residential Non-Incentive	*$ 2,274,198.88*	*$ 2,619,907.00*	*86.8%*	*$ 345,708.12*	*13.2%*
Residential Incentives				$ -	
REWH	$ 3,013,645.00	$ 3,093,610.00	97.4%	$ 79,965.00	2.6%
RNC	$ 959,330.00	$ 1,001,080.00	95.8%	$ 41,750.00	4.2%
ESH	$ 2,665,798.55	$ 3,228,943.00	82.6%	$ 563,144.45	17.4%
RLI	$ 122,297.21	$ 237,775.00	51.4%	$ 115,477.79	48.6%
Total Residential Incentives	*$ 6,761,070.76*	*$ 7,561,408.00*	*89.4%*	*$ 800,337.24*	*10.6%*
Total Residential Programs (No PI)	**$ 9,035,269.64**	**$ 10,181,315.00**	***88.7%***	**$ 1,146,045.36**	***11.3%***
Business (C&I) Programs					
Business Non-Incentive					
Business Programs Ops and Management					
CIEE	$ 422,427.47	$ 547,784.00	77.1%	$ 125,356.53	22.9%
CINC	$ 335,005.01	$ 484,372.00	69.2%	$ 149,366.99	30.8%
CICR	$ 434,676.63	$ 662,646.00	65.6%	$ 227,969.37	34.4%
PV	$ 14,305.96	$ 36,183.00	39.5%	$ 21,877.04	60.5%
Subtotal Business Programs	$ 1,206,415.06	$ 1,730,985.00	69.7%	$ 524,569.94	30.3%
Less Contractor Contribution*	$ (50,000.00)	$ (50,000.00)	100.0%	$ -	
Total Business Programs	$ 1,156,415.06	$ 1,680,985.00	68.8%	$ 524,569.94	31.2%
Education & Training (E&T)	$ 56,248.74	$ 77,550.00	72.5%	$ 21,301.26	27.5%
Market Evaluation	$ 52,845.22	$ 64,625.00	81.8%	$ 11,779.78	18.2%
Advertising/Marketing	$ 205,763.32	$ 417,669.00	49.3%	$ 211,905.68	50.7%
Total Business Non-Incentive	*$ 1,471,272.34*	*$ 2,240,829.00*	*65.7%*	*$ 769,556.66*	*34.3%*
Business Incentives					
CIEE	$ 2,209,265.00	$ 2,274,589.00	97.1%	$ 65,324.00	2.9%
CINC	$ 2,640,893.00	$ 2,641,803.00	100.0%	$ 910.00	0.0%
CICR	$ 235,665.10	$ 235,806.00	99.9%	$ 140.90	0.1%
PV	$ -	$ -		$ -	
New	$ 5,235.00	$ 168,117.00	3.1%	$ 162,882.00	96.9%
Total Business Incentives	*$ 5,091,058.10*	*$ 5,320,315.00*	*95.7%*	*$ 229,256.90*	*4.3%*
Total Business Programs (No PI)	**$ 6,562,330.44**	**$ 7,561,144.00**	**86.8%**	**$ 998,813.56**	**13.2%**
Total Services and Initiatives	**$ 15,597,600.08**	**$ 17,742,459.00**	**87.9%**	**$ 2,128,088.18**	**12.0%**
Supporting Services					
GA	$ 1,091,105.08	$ 1,221,451.00	89.3%	$ 130,345.92	10.7%
IT	$ 261,383.94	$ 274,372.00	95.3%	$ 12,988.06	4.7%
Total Supporting Services	**$ 1,352,489.02**	**$ 1,495,823.00**	**90.4%**	**$ 143,333.98**	**9.6%**
Sub-Total Estimated Contractor Costs	**$ 16,950,089.10**	**$ 19,238,282.00**	**88.1%**	**$ 2,271,422.16**	**11.8%**

*Deduction for the contractor contribution. This was a cost to the *Contractor* to benefit the program, therefore, deducted from the expenses of the program.

**16,392.11 was subtracted proportionally from the line items of residential non-incentive and business non-incentive to account for the excess tax that was added with the deduction of the performance measures. Next year, tax and performance measures will be at the bottom of the budget to avoid such calculations.

Budget Revisions

There were four (4) budget revisions over the Program Year to meet the changing needs of the Program and allow the Program to accept all qualified rate-payers of an incentive and ensure smooth program operations. The revisions and variations are included as Table 31 as well as detailed below.

First Revision (R1)

The first revision simplified some of the budget categories in order to create individual program budget categories, as well as reallocated funding to meet the needs encountered in set up of subcontractors and internal resources. The changes included:

- Consolidated Program Operations, Program Management, Call Center, and Data Tracking for each sector to make Program Operations & Management with the assumption Program Management activities would consume 30% of the effort expended
- Added individual program budgets to the newly formed Program Management & Operations
- Added the unspent funds from Program Ramp-Up to supplement PY2009 Program budgets
- Increased the IT budget by $192,298 using the carryover from General Administration and IT Ramp Up unspent funds to offer greater leverage to IT
- Remaining carryover from General Administration Ramp-Up budget allocated to PY2009 Program budgets
- Pushed forward $289,398 in advertising funding from PY10 to accommodate planned increased in media expenditures to help increase visibility at the launch the Program

Second Revision (R2)

The second revision shifted funds within Business Incentives and within Residential Incentives to meet increased demand of these programs. The changes included:

- Added $418,000 to RNC from ESH
- Added $516,000 to CINC from CICR

Third Revision (R3)

The third revision shifted funds from Business Incentives to Residential Incentives to accommodate increased market demand in the current economic environment. The changes included:

- Shifted $1,764,633 from Business Incentives to Residential Incentives; CICR had the largest variance between budget and committed rebates, therefore, $1.7 million was removed (significantly smaller deductions were taken from CIEE and CINC); ESH received the largest budget increase to meet expected demand with an increase of $1.6 million
- Moved $40,000 in non-incentive from CICR to ESH to accommodate increased ESH rebates; it was not a greater amount due to the significant shift in program costs from commercial to residential with the first budget revision
- Moved the amount equal to the tax overages for each ramp-up budget from its associated Program Year 2009 budget (except Program Ramp-Up); the Program chose to take the overage of Program Ramp Up from General Administrative to avoid the complication of splitting it between the many program budgets. The Program was willing to reduce our administrative budget to increase the Program budget.

Fourth Revision (R4)

The fourth revision shifted funds within business incentives to accommodate end of year demand. The changes included:

- Removed $914,000 from the New Program incentive budget
- Added funds to CINC ($450,000), CIEE ($386,000), and CICR ($78,000) incentive budgets.

These budget revisions enabled the Program to continue to encourage all rate-payers to capitalize on energy efficiency measures without needing to turn away qualified applicants based on budget restraints. Although the energy savings may not have been by the sector or program as planned, the State of Hawaii did realize energy savings.

Table 31 – Hawaii Energy Conservation and Efficiency Program Attachment F Budget Progression PY2009 – March 3, 2009 through June 30, 2010

	PY09 Contract	PY09 Revision 1	Variance Contract to R1	PY09 Revision 2	Variance R1 to R2	PY09 Revision 3	Variance R2 to R3	PY09 Revision 4	Variance R3 to R4	Variance (Contract to R4)
Residential Programs										
Residential Program Ops and Management										
REWH	NA	1,207,347	NA	1,207,347	-	1,207,347	-	1,207,347	-	NA
RNC	NA	84,912	NA	84,912	-	84,912	-	84,912	-	NA
ESH	NA	849,125	NA	849,125	-	889,125	40,000	889,125	-	NA
RLI	NA	33,344	NA	33,344	-	33,344	-	33,344	-	NA
Total Residential Programs	1,756,232	2,174,728	418,496	2,174,728	-	2,214,728	40,000	2,214,728	-	458,496
Education & Training (E&T)	63,450	63,450	-	63,450	-	63,450	-	63,450	-	-
Market Evaluation	52,875	-	(52,875)	-	-	-	-	-	-	(52,875)
Advertising/Marketing	211,500	341,729	130,229	341,729	-	341,729	(0)	341,729	-	130,229
Total Residential Non-Incentive	2,084,057	2,579,907	495,850	2,579,907	-	2,619,907	40,000	2,619,907	-	535,850
Less Performance Incentives	(350,000)	(350,000)	-	(350,000)	-	(350,000)	-	(350,000)	-	NA
Residential Incentives			-	-	-		-		-	
REWH	NA	2,986,000	NA	2,986,000	-	3,093,610	107,610	3,093,610	-	NA
RNC	NA	583,750	NA	1,001,750	418,000	1,001,080	(670)	1,001,080	-	NA
ESH	NA	1,989,250	NA	1,571,250	(418,000)	3,228,943	1,657,693	3,228,943	-	NA
RLI	NA	237,775	NA	237,775	-	237,775	-	237,775	-	NA
Total Residential Incentives	*5,796,775*	*5,796,775*	-	5,796,775	-	*7,561,408*	*1,764,633*	*7,561,408*	-	1,764,633
Performance Pool Award	350,000	350,000	-	350,000	-	350,000	-	350,000	-	NA
Total Residential Programs	**7,880,832**	**8,376,682**	**495,850**	**8,376,682**	**-**	**10,181,315**	**1,804,633**	**10,181,315**	**-**	**2,300,483**
Business (C&I) Programs			-	-	-		-		-	
Business Programs Ops and Management			-	-	-		-		-	
CIEE	NA	547,784	NA	547,784	-	547,784	-	547,784	-	NA
CINC	NA	484,372	NA	484,372	-	484,372	-	484,372	-	NA
CICR	NA	702,646	NA	702,646	-	662,646	(40,000)	662,646	-	NA
PV	NA	36,183	NA	36,183	-	36,183	-	36,183	-	NA
Subtotal Business Programs	2,146,505	1,770,985	(375,520)	1,770,985	-	1,730,985	(40,000)	1,730,985	-	(415,520)
Less Contractor Contribution	NA	(50,000)	NA	(50,000)	-	(50,000)	-	(50,000)	-	NA
Total Business Programs	2,146,505	1,720,985	(425,520)	1,720,985	-	1,680,985	(40,000)	1,680,985	-	(415,520)
Education & Training (E&T)	77,550	77,550	-	77,550	-	77,550	-	77,550	-	-
Market Evaluation	64,625	64,625	-	64,625	-	64,625	-	64,625	-	-
Advertising/Marketing	258,500	417,669	159,169	417,669	-	417,669	-	417,669	-	-
Total Business Non-Incentive	2,547,180	2,280,829	(266,351)	2,280,829	-	2,240,829	(40,000)	2,240,829	-	(306,351)
Less Performance Incentives	(350,000)	(350,000)	-	(350,000)	-	(350,000)	-	(350,000)	-	NA
Business Incentives			-	-	-		-		-	
CIEE	NA	1,895,465	NA	1,895,465	-	1,888,589	(6,876)	2,274,589	386,000	NA
CINC	NA	1,676,042	NA	2,192,042	516,000	2,191,803	(239)	2,641,803	450,000	NA
CICR	NA	2,431,324	NA	1,915,324	(516,000)	157,806	(1,757,518)	235,806	78,000	NA
PV	NA	-	NA	-	-	-	-	0	-	NA
New	NA	1,082,117	NA	1,082,117	-	1,082,117	-	168,117	(914,000)	NA
Total Business Incentives	*7,084,948*	*7,084,948*	-	7,084,948	-	*5,320,315*	*(1,764,633)*	*5,320,315*	-	*(1,764,633)*
Performance Pool Award	350,000	350,000	-	350,000	-	350,000	-	350,000	-	NA
Total Business Programs	**9,632,128**	**9,365,777**	**(266,351)**	**9,365,777**	**-**	**7,561,144**	**(1,804,633)**	**7,561,144**	**-**	**(2,070,984)**
Ramp Up Program Costs	321,000	467,277	146,277	467,277	-	486,055	18,778	486,055	-	165,055
Less Contractor Contribution	NA	(50,000)	NA	(50,000)	-	(50,000)	-	(50,000)	-	-
Ramp Up Program Costs Total	321,000	417,277	96,277	417,277	-	436,055	18,778	436,055	-	115,055
Total Services and Initiatives	**17,833,960**	**18,159,736**	**325,776**	**18,159,736**	**-**	**18,178,514**	**18,778**	**18,178,514**	**-**	**344,554**
Supporting Services			-	-	-		-		-	
GA	1,245,222	1,245,222	-	1,245,222	-	1,221,451	(23,771)	1,221,451	-	(23,771)
IT	85,350	277,648	192,298	277,648	-	274,372	(3,276)	274,372	-	189,022
Ramp up GA	493,554	160,945	(332,609)	160,945	-	165,938	4,993	165,938	-	(327,616)
Ramp Up IT	118,850	122,783	3,933	122,783	-	126,059	3,276	126,059	-	7,209
Less Contractor Contribution	(200,000)	(100,000)	100,000	(100,000)	-	(100,000)	-	(100,000)	-	-
Total Supporting Services	**1,742,976**	**1,706,598**	**(36,378)**	**1,706,598**	**-**	**1,687,820**	**(18,778)**	**1,687,820**	**-**	**(55,156)**
Sub-Total Estimated Contractor Costs	19,576,936	19,866,334	289,398	19,866,334	-	19,866,334	-	19,866,334	-	289,398
Performance Awards in Excess of Target Levels	133,000	133,000	-	133,000	-	133,000	-	133,000	-	-
Performance Awards in Excess of Target Levels	**19,709,936**	**19,999,334**	**289,398**	**19,999,334**	**-**	**19,999,334**	**-**	**19,999,334**	**-**	**(289,398)**

Notes:

1.) For Revision 1, Program Ops and Management includes Program Management, Program Operations, Call Center, and Data Tracking; Program Management will consume approximately 30%. Added individual budgets for residential and business programs; Increased Residential program operations by $418,486 to accommodate the Honeywell subcontract (funds taken from business program operations). Increased the IT budget by $192,298 to add greater value to general administration (used General administration carryover funds), added carryover from Ramp Up to the PY09 budget items. Added $289,398 from PY10 advertising budget to PY09 advertising budget. $200,000 Contractor Contribution was split into $150,000 being attributed to Ramp Up and one $50,000 contribution the first month of PY09 due to there only being 3 invoices during Ramp Up.

2.) For Revision 2, reallocated incentive funds within residential incentives and within business incentives.

3.) For Revision 3, Shifting funds from Business Incentives to Residential Incentives to accommodate increased market demand in the current economic environment. Moved $40,000 in labor from CICR to ESH to accommodate increased ESH rebates. It was not a greater amount due to the significant shift in program costs from commercial to residential with the first budget revision. As of December 2009 Monthly Report, corrected the sub-total of estimated contractor costs to reflect the performance incentive pool of $700,000. Moved the amount equal to the tax overages for each ramp-up budget from its associated Program Year 2009 budget (except Program Ramp-Up). We chose to take the overage of Program Ramp Up from General Administrative to avoid the complication of splitting it between the many program budgets and we are willing to reduce our administrative budget to increase the Program Ramp Up budget.

4.) For Revision 4, reallocated funds from Business New programs to CIEE, CINC, and CICR to accommodate end of year demand.

Portfolio Total Resource Benefits and Total Resource Costs

Table 31a on the next page provides the Portfolio TRB and TRC by measure.

Total Resource Benefit (TRB)
The utilities total avoided cost of all the saved energy and capacity avoided is called the Total Resource Benefit (TRB). The total program portfolio has a net TRB of $126,547,369. The Table on the next page shows the all the measures and their relative contributions. Three measures provided 66% of the TRB value. They are: CFLs, Commercial Lighting and Solar Water Heating.

- *CFLs* - The largest contributor to the TRB at $36,724,770 (29%). The CFLs have a 50% energy impact contribution to the program and despite a short five (5) year useful life and small per unit savings number it is the greatest contributor to the TRB.
- *Commercial Lighting* - The second largest contributor with $28,699,972 (23%). The Commercial Lighting measures had less than half of the first year energy contribution of CFLs, however, the 10 year average useful life of these measures lifted the TRB value.
- *Solar Water Heating* – The third and last measure to offer double digit contribution at $17,728,329 (14%) was Solar Water Heating. The measure has a 15 year useful life and the largest per unit first year energy savings of all Residential Measures.

Total Resource Cost (TRC)
This is the customer's project or incremental cost to purchase and install the energy efficient equipment or make operational changes above what would have been done anyway. The PY2009 program savings were achieved with an estimated Total Resource Cost of $41,726,359. The largest investment being Solar Water Heaters at $20,445,720 (49%) (Note: this is the after-tax credit cost to the customers). The next largest contributor was CFLs at $6,350,406 (15%).

Total Resource Cost Test (TRC Test)
This is a simple benefit cost test that compares the TRB divided by the TRC. The test of cost effectiveness is if the benefit exceeds the cost. The total program TRC Test was 3.0. The measures with the highest TRC values were HVAC related with small incremental costs above the standard equipment to overcome. The lowest TRC test values at just below 1 were for Solar Water Heaters.

Table 31a – Measure Portfolio TRB & TRC

PY2009 All Measure Impacts in order of First Year Energy Impact														
Measures	Apps.	%	Net Demand Impact (kW)	%	Net Energy 1st yr. Impact (kWh - 1st yr.)	%	Net Energy Life Impact (kWh - Life)	%	Net TRB	%	TRC	%	Net TRB/TRC
CFL	8,752	22%	10,267	45%	55,959,109	49%	279,818,893	28%	36,724,770	29%	6,350,406	15%	5.8
Commercial Lighting	638	2%	4,604	20%	25,419,490	22%	224,259,420	23%	28,699,972	23%	2,610,676	6%	11.0
Solar Water Heater	5,178	13%	2,103	9%	9,257,998	8%	138,869,971	14%	17,728,329	14%	20,445,720	49%	0.9
Custom - Envelope	13	0%	742	3%	5,179,447	5%	113,946,881	12%	9,601,219	8%	4,382,502	11%	2.2
HVAC - Package / Split	290	1%	1,041	5%	3,684,115	3%	55,261,718	6%	7,783,348	6%	551,494	1%	14.1
Custom	29	0%	297	1%	2,016,689	2%	17,783,102	2%	1,994,346	2%	2,086,574	5%	1.0
Refrigerator	7,797	19%	731	3%	1,973,375	2%	23,680,504	2%	4,315,629	3%	1,344,729	3%	3.2
HVAC - Chiller	10	0%	576	3%	1,802,944	2%	36,058,876	4%	4,922,806	4%	638,897	2%	7.7
Window AC	5,122	13%	849	4%	1,666,787	1%	20,001,443	2%	4,092,454	3%	275,450	1%	14.9
Clothes Washer	6,364	16%	596	3%	1,609,134	1%	19,411,179	2%	3,249,580	3%	1,096,647	3%	3.0
Envelope - Window Film	17	0%	96	0%	843,668	1%	16,873,361	2%	1,477,239	1%	229,355	1%	6.4
Ceiling Fans	1,593	4%	19	0%	749,185	1%	3,745,924	0%	361,677	0%	368,772	1%	1.0
HVAC - VFD Fan	36	0%	182	1%	691,805	1%	13,836,096	1%	1,709,820	1%	188,249	0%	9.1
Dishwasher	2,506	6%	234	1%	632,581	1%	7,705,711	1%	1,280,058	1%	431,116	1%	3.0
Custom - LED	11	0%	42	0%	288,963	0%	1,513,489	0%	206,160	0%	178,309	0%	1.2
AC - Ductless Split	430	1%	135	1%	233,529	0%	2,802,348	0%	620,507	0%	225,984	1%	2.7
HVAC - VFD Water Pumping	8	0%	48	0%	175,104	0%	3,502,075	0%	442,372	0%	47,793	0%	9.3
Domestic Water Booster Pumps	4	0%	19	0%	175,078	0%	2,626,167	0%	262,999	0%	47,591	0%	5.5
Smart Power Strip	4	0%	35	0%	163,907	0%	1,061,082	0%	145,377	0%	18,050	0%	8.1
Lighting - Sensors	85	0%	45	0%	155,874	0%	1,246,993	0%	199,275	0%	14,578	0%	13.7
High Efficiency Water Heater	991	2%	28	0%	128,197	0%	1,153,777	0%	164,643	0%	78,131	0%	2.1
High Efficiency Motors	91	0%	20	0%	117,284	0%	1,759,261	0%	204,390	0%	23,066	0%	8.9
RLI - Solar Water Heater	167	0%	17	0%	75,245	0%	1,128,670	0%	139,439	0%	14,195	0%	9.8
HVAC - Window AC	34	0%	19	0%	58,879	0%	706,552	0%	113,794	0%	2,800	0%	40.6
Solar Water Heating - Commercial	2	0%	2	0%	36,358	0%	545,368	0%	46,582	0%	46,548	0%	1.0
Low Flow Showerheads	4	0%	7	0%	34,723	0%	173,613	0%	23,885	0%	2,691	0%	8.9
Heat Pump - Residential	51	0%	8	0%	25,377	0%	228,393	0%	35,710	0%	24,327	0%	1.5
Maintenance - AC	9	0%	3	0%	4,528	0%	4,528	0%	991	0%	1,710	0%	0.6
Energy Study	6	0%	-	0%	-	0%	-	0%	-	0%	-	0%	
Total	**40,242**		**22,767**		**113,159,373**		**989,705,393**		**126,547,369**		**41,726,359**		**3.0**

TRC Cost Development

To calculate the TRC, the measure cost values used by HECO in the 2009 A&S report were utilized. These TRC values are older and will be reevaluated for PY2010. The following tables provide the per unit and per kWh savings values associated with the program measures.

Table 32 – PY2009 TRC Residential Measure Values

Hawaii Energy PY2009 Program Residential Measure Cost

Residential

Measure		Incremental Cost Each
Ceiling Fan	$	158
Central AC Maint	$	190
Clothes Washer	$	173
COMPACT FLUORESCENT LIGHT	$	6
Dishwasher	$	173
Ductless Split AC	$	428
HEWH 35 Gal or less HEWH .94 EFF	$	79
HEWH 36-45 Gal or less HEWH .93 EFF	$	79
HEWH 46-64 Gal or less HEWH .92 EFF	$	79
HEWH 66+ Gal HEWH .88 EFF	$	79
HEWH Heat Pump	$	477
Refrigerator	$	173
Low Flow Showerheads	$	3
Power Strip	$	19
Solar Hot Water Heater	$	4,020
Window AC	$	50

Table 33 – TRC Business Measures

Hawaii Energy PY2009 Program Business Measure Cost

Business

Measure		Incremental Cost Each
L01 Comm CFL 15W 40W	$	2
L02 Comm CFL 20W 60W	$	2
L03 Reflectored CFL	$	6
L04 Cold Cathode CFL	$	6
L05 Dimmable CFL	$	6
L06 Pin mount CFL	$	6
L07 LED Exit	$	20.92
HVAC - Window AC	$	50.00

Measure		Incremental Cost per First Year KWH Savings
L08 High Pressure Sodium indoor <100 W	$	0.8903
L010 High Pressure Sodium indoor >200 W	$	0.8903
L011 Pulse St MH <100 W	$	0.8903
L012 Pulse St MH 100 W-200 W	$	0.8903
L013 Pulse St MH >200 W	$	0.8903
L014 Induction <100 W	$	0.8903
L015 Induction >100W	$	0.8903
L016 2' T8 or T8 w/EB T12, 28W/25W/high lumen 32W	$	0.0773
L017 3' T8 or T8 w/EB T12, 28W/25W/high lumen 32W	$	0.0773
L018 4' T8 or T8 w/EB T12, 28W/25W/high lumen 32W	$	0.0773
L019 8' T8 or T8 w/EB T12, 28W/25W/high lumen 32W	$	0.0773
L020 4' Super T8 w/HEEB T12, 28W/25W/high lumen 32W	$	0.0773
L021 4' Super T8 w/HEEB T8, 28W/25W/high lumen 32W	$	0.0773
L022 4' Super T8 w/HEEB New, 28W/25W/high lumen 32W	$	0.0773
L023 2' T8/T12 delamp w/reflectors	$	0.0773
L024 4' T8/T12 delamp w/reflectors	$	0.0773
L025 8' T8/T12 delamp w/reflectors	$	0.0773
L026 2' T8/T12 delamp no reflectors	$	0.0773
L027 4' T8/T12 delamp no reflectors	$	0.0773
L028 8' T8/T12 delamp no reflectors	$	0.0773
L030 2' T8 w/EB, delamp w/reflector	$	0.0773
L032 4' T8 w/EB, delamp w/reflector	$	0.0773
L034 8' T8 w/EB, delamp w/reflector	$	0.0773
L035 2' T5 w/EB	$	0.0773
L036 3' T5 w/EB	$	0.0773
L037 4' T5 w/EB	$	0.0773
L038 2' T5HO w/EB	$	0.0773
L039 3' T5HO w/EB	$	0.0773
L040 4' T5HO w/EB	$	0.0773
L041 Metal Halide indoor <100 W	$	0.8903
L042 Metal Halide indoor 100 W-200 W	$	0.8903
Motors	$	0.1587
Booster Pumps	$	0.2206
HVAC - Packaged/Split	$	0.1213
Lighting - Sensors	$	2.9619
HVAC - Chiller	$	0.1488
Window Film	$	0.2206
HVAC - Pump Variable Frequency Drive	$	0.2206
HVAC - Fan Variable Frequency Drive	$	0.2206

Island Equity

The Program invested 85% of its incentive funds on Oahu, 8% on Hawaii and 7% on Maui. See Table 35 on the next page for details. The high investments in residential CFLs and Solar Water Heaters favored Oahu with a much greater percentage of homes, high Military program participation, and anecdotally appearing to be the least hit by the economic downturn.

Hawaii Energy offered a 50% bonus to Lighting Measure Incentives to Maui, Hawaii, Lanai and Molokai to stimulate activity in the third quarter. The promotion was successful in creating projects, as detailed in Table 34. To note, the lighting vendors reported that for many on these islands, unless the incentive is 100% of project cost, the customers are not going to make the capital investment.

Table 34 – PY2009 Island Equity Lighting Bonus

PY2009 Lighting Incentive Bonus Promotion Results				
		Incentive	kW	kWh
Maui County	$	42,308	146	870,152
Hawaii County	$	31,104	42	215,435
Total	**$**	**73,412**	**188**	**1,085,587**

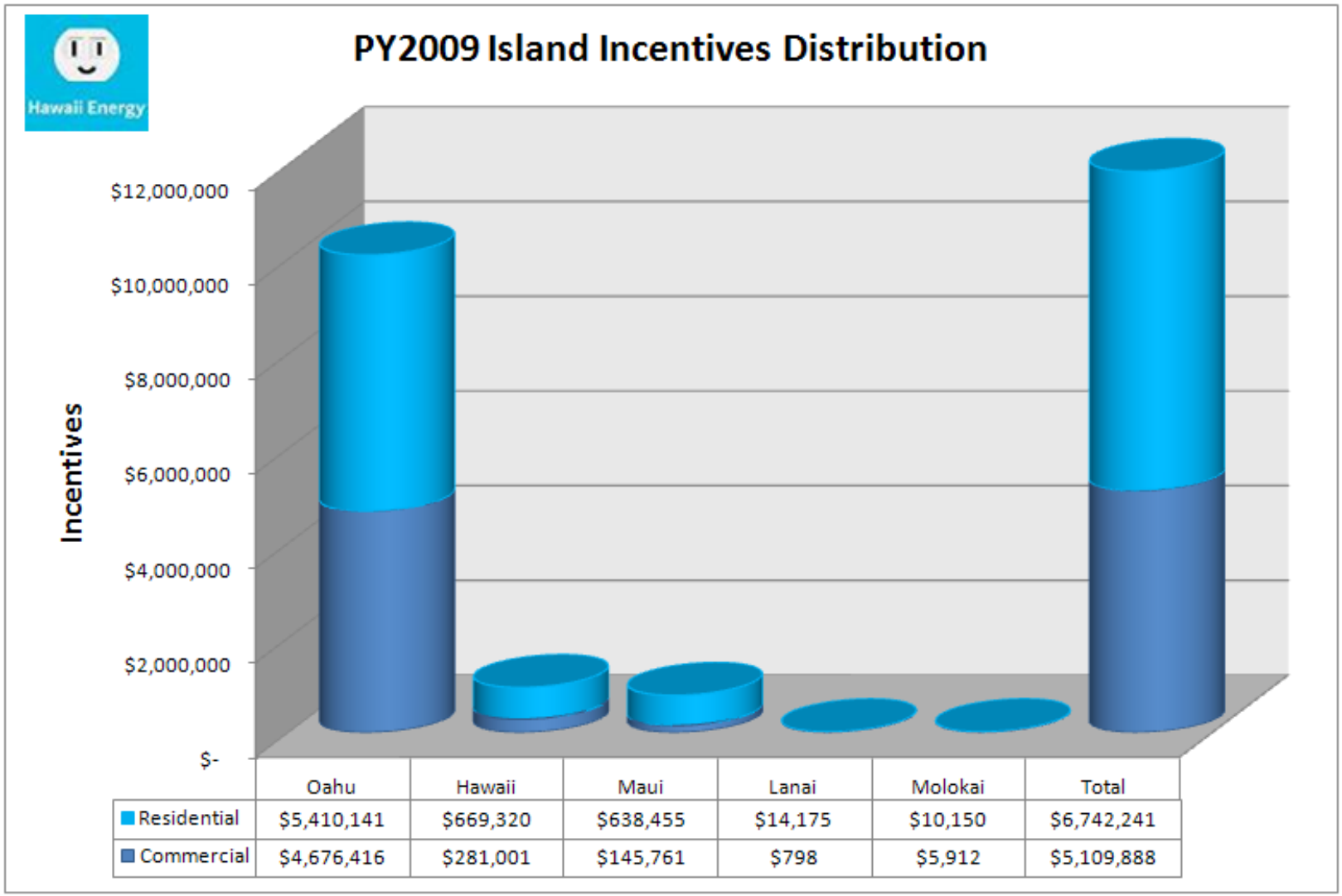
Table 35 – Island Incentive Spending by Island between Commercial and Residential

PY2009 Island Equity by Commercial vs. Residential Breakout													
	Oahu		Hawaii		Maui		Lanai		Molokai		Total		%
Commercial	$	4,676,416	$	281,001	$	145,761	$	798	$	5,912	$	5,109,888	43%
Residential	$	5,410,141	$	669,320	$	638,455	$	14,175	$	10,150	$	6,742,241	57%
Total	**$**	**10,086,557**	**$**	**950,321**	**$**	**784,216**	**$**	**14,973**	**$**	**16,062**	**$**	**11,852,129**	**100%**
%		85%		8%		7%		0%		0%		100%	

	Oahu		Hawaii		Maui		Lanai		Molokai		Total
Commercial	$	4,676,416	$	281,001	$	145,761	$	798	$	5,912	$ 5,109,888
%		92%		5%		3%		0%		0%	100%
Residential	$	5,410,141	$	669,320	$	638,455	$	14,175	$	10,150	$ 6,742,241
%		80%		10%		9%		0%		0%	100%

	Oahu	Hawaii	Maui	Lanai	Molokai	Total
Commercial	46%	30%	19%	5%	37%	43%
Residential	54%	70%	81%	95%	63%	57%
	100%	100%	100%	100%	100%	100%

Chart 6 – Distribution of Incentives by Island



	Oahu	Hawaii	Maui	Lanai	Molokai	Total
Residential	$5,410,141	$669,320	$638,455	$14,175	$10,150	$6,742,241
Commercial	$4,676,416	$281,001	$145,761	$798	$5,912	$5,109,888

Table 36 - Island Equity by Program

PY2009 Island Equity Net Energy Impact by Program Breakout							
	Oahu	**Hawaii**	**Maui**	**Lanai**	**Molokai**	**Total**	**%**
CIEE	23,895,673	2,474,746	763,289	23,939	44,185	27,201,830	24%
CINC	16,551,744	601,268	145,469	-	-	17,298,481	15%
CICR	1,877,690	996	251,909	-	5,195	2,135,790	2%
NEW	36,358	-	-	-	-	36,358	0%
REWH	4,358,016	715,740	670,823	23,973	-	5,768,552	5%
RNC	1,387,735	189,902	200,476	1,806	18,061	1,797,980	2%
ESH	44,426,760	6,211,136	5,223,298	-	1,256	55,862,450	49%
RLI	2,404,498	35,327	618,106	-	-	3,057,932	3%
Total	**94,938,474**	**10,229,115**	**7,873,370**	**49,718**	**68,697**	**113,159,373**	**100%**
%	84%	9%	7%	0%	0%	100%	
Commercial	42,361,465	3,077,010	1,160,666	23,939	49,380	46,672,459	41%
Residential	52,577,010	7,152,105	6,712,703	25,779	19,317	66,486,914	59%
Total	**94,938,474**	**10,229,115**	**7,873,370**	**49,718**	**68,697**	**113,159,373**	
%	84%	9%	7%	0%	0%	100%	

MARKET TRANSFORMATION - EMERGING TECHNOLOGIES

For the PY2009 , Hawaii Energy was able to provide rebate incentives to 16 participants for 21 projects achieving a total of Annual Energy Savings of 1,107,951 kWh.

For these projects, five (5) unique Emerging Technologies were utilized and each individual project provided a minimum annual gross energy savings of 25,000 kWh.

Hawaii Energy reached out to vendors and customers to educate and promote the various emerging technologies. Also, Hawaii Energy developed new LED Lighting standards with input from vendors to identify acceptable LED specifications.

Table 37 – PY2009 Emerging Technologies Impact

PY2009 Emerging Technology Qualified Project by Technology		
Technology	**Number of Projects**	**Annual Energy Savings (kWh)**
LED Refrigeration Case Lighting	5	367,227
LED Interior Lights	9	468,761
LED Traffic Lights/Exterior Lighting	5	217,279
Variable Volume Refrigerant A/C	1	29,478
Bi-Level Stairwell/Parking Garage Lighting	1	25,206
Total	**21**	**1,107,951**

Determination of Savings
The following criteria were used to determine energy savings:

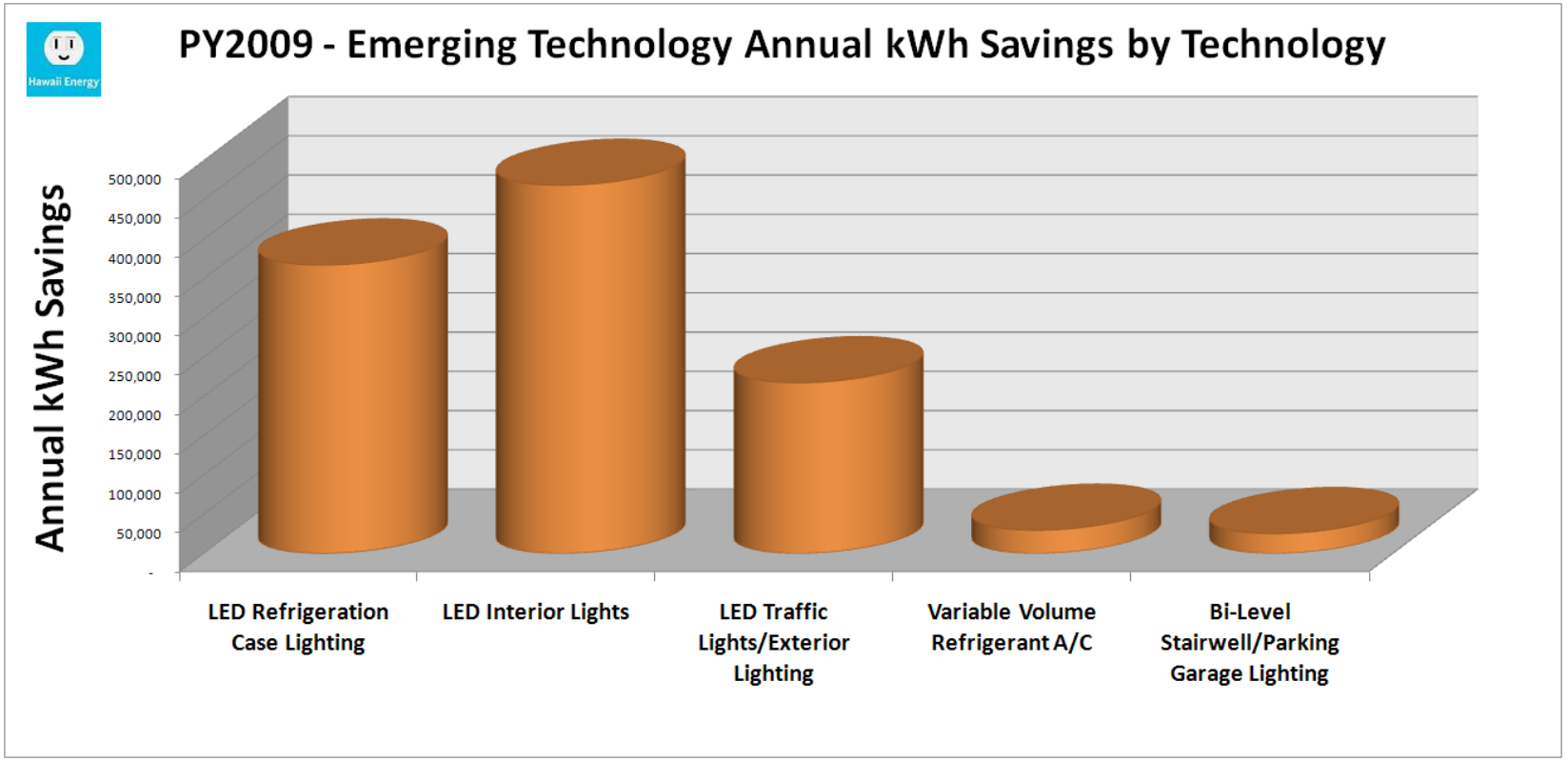
- **LED Refrigeration Case Lighting** – The savings were based on the energy savings from the wattage reduction from switching fromT12HO or T8 to LED. Savings from the heat reduction to the compressor were also included.

- **LED Interior Lights, Traffic Lights, Exterior Lighting** – In order to provide consumer and program protection, a set of minimum standards for LED products were created that required: 1) the submission of Department of Energy Tests LM79 and LM 80 to show the products are pursuing demonstrated product performance towards Energy Star certification; 2) providing manufacturer three year product warranties; and 3) confirmation from the customer that the equipment must remain in place and operating for a period of five years (a prorated amount of the incentive may have to be returned if the products failed or were not kept in place for any reason).

- **Variable Volume Refrigerant A/C** – Energy savings were determined from equipment performance submittals by vendors and building model simulations (E Quest) based on the customer site conditions. The new IEER data provided by some manufacturers allows load curves to be used for product comparison.

- **Bi-Level Stairwell/Parking Garage Lighting** – The savings were determined by the dimming capability of the new light fixtures and occupancy information provided by Seattle City Lights Energy Efficiency Program.

Chart 7 – Emerging Technologies Savings by Technology



Emerging Technology Projects Missing Cutoff

There were six (6) additional emerging technologies projects that were engaged in discussion with the program. However, these did not meet the minimum annual gross energy savings of 25,000 kWh. The combined annual energy savings for these projects was 60,435 kWh.

Table 38 –PY2009 Emerging Technologies Missing Cutoff

PY2009 Emerging Technology Net Energy below 25,000 kWh/Yr.		
Technology	**Number of Projects**	**Annual Energy Savings (kWh)**
Bi-Level Stairwell Lighting	1	18,669
LED Exterior	1	8,462
LED Interior	1	6,859
LED Interior	1	1,971
LED Interior & LED Exterior	1	18,002
LED Interior & LED Exterior	1	6,472
Total	**6**	**60,435**

Table 39 – Emerging Technologies

Approved Emerging Technologies:

A. Fresh Water Pumping
B. Waste Water Pumping
C. Data Centers - Airflow Optimization
D. Data Centers - Server Virtualization and Related Technologies
E. Parking Garages - Perimeter Dimming
F. Parking Ventilation Control
G. Non Residential Demand Control Ventilation
H. LED Refrigeration Case Lighting
I. LED Interior Lights
J. LED Traffic Lights and Exterior Lighting
K. District Sea Water Cooling Projects
L. Integrated Building Design and Construction Standards
M. Advanced Energy Management Controls
N. Variable Volume Refrigerant Air Conditioning
O. High Performance Commercial Lighting
P. Bi-Level Stairwell and Parking Garage Lighting

MARKET TRANSFORMATION – TRADE ALLY REFERRALS

Accomplishment
Hawaii Energy has processed 343 commercial applications referred by trade allies, well exceeding the target of 40.

Background
Trade allies include product manufacturers, wholesale and retail suppliers, equipment contractors, architects, engineers, and electricians. These individuals and companies are the people on the front lines that are directly responsible for energy efficiency measures being sold, designed, financed, installed, tuned and maintained. Through working with these individuals and organizations, the Program is successful through uncovering opportunities for partnerships with trade allies that leverage resources to promote energy conservation and efficiency.

Trade ally Program Feedback
Hawaii Energy incorporates trade ally perspectives and concerns in the program planning process to establish well supported, effective strategies. Developing a successful relationship with these industry leaders attracts other groups over time. Industry groups are one way Hawaii Energy incorporates the views of representatives of key trade groups. By sharing insights and experiences on different technology and equipment performance with the trade allies, the program's knowledge and awareness of different market segments are enhanced, thus helping to influence customer's energy saving decisions.

Ongoing Training - To be on the cutting edge of the conservation and efficiency field, Hawaii Energy provides ongoing training and support for the trade allies. Hawaii Energy has developed a strong training program for lighting and HVAC contractors, mechanical contractors, architects and engineers participating in its commercial rebate program. Educational and promotional workshops are conducted to influence commercial purchase decisions.

Table 40 – Trade Ally Referrals

PY2009 Trade Allies with Number of Referred Applications	
Trade Allies	**Applications**
Energy Industries	139
Lighting Services Inc.	54
21st Century Lighting	41
Airextreme LLC	26
RMI Mechanical	13
EMCC	11
ABM Family of Services	8
Carrier Hawaii	7
Paradise Lighting	7
Air Conditioning of Maui, Inc.	5
Grainger - Hawaii	4
Sturdevant	4
Sturdevant Refrigeration & Air	4
Green Building LLC	3
T & T Tinting Specialists	2
Alex Construction	1
All Around Lighting Inc. dba The Light Bulb Source	1
Aloha State Refrigeration & AC	1
AMCO Glass Tinting & Designer Glass	1
Amel Technology	1
AMV Air Conditioning Inc.	1
Chelsea Group	1
General Dynamics - HSI	1
Hawaii Eco-Lights LLC	1
Hawaiian Island Solar, Inc	1
Johnson Controls	1
Norman Wright	1
Progressive Air Conditioning, Inc.	1
S&M Sakamoto Inc.	1
Wesco Distribution	1
Total	**343**

IV. PROGRAM ADMINISTRATOR'S PERFORMANCE VS. PERFORMANCE METRICS

The Program is claiming a performance payment of $654,792 for the actual performance delivered against the target metrics for PY2009

Table 41 provides the summary of claim results by performance indicator and the tables on the subsequent pages provide the detailed calculation methods for each metric following the guidelines in Attachment C of the PBFA Contract provided in this document as Attachment C.

Table 41 – PY2009 Performance Award Claim

PY2009 Performance Award Claim Summary	Target	PY09 Results	% of Target	Award Claim
Residential Energy	68,722,000 kWh	66,486,914 kWh	97%	$ 135,486
Commercial Energy	57,301,000 kWh	46,672,459 kWh	81%	$ 114,018
Peak Demand	20,097 kW	22,767 kW	113%	$ 142,194
TRB	$ 140,079,739	$ 126,547,369	90%	$ 193,094
Market Transformation				
Emerging Technologies	20	21	105%	$ 35,000
Trade Ally Referrals	40	423	1058%	$ 35,000
Island Equity				
C&C Honolulu	$ 8,825,328	$ 10,086,557	+14%	
County of Hawaii	$ 1,482,005	$ 950,321	-36%	$ -
County of Maui	$ 1,544,796	$ 815,251	-47%	
PY2009 Performance Award Claim				**$ 654,792**

Residential Energy Reduction Energy Award Calculation - $135,486

The residential energy reduction achievement of 66,486 MWh was between the minimum and target level of savings. The award calculation of $135,486 is made up of $105,000 for meeting the minimum of 51,542 MWh and $30,486 for the remaining savings amount of 14,944 MWh at an award rate of $2.04/MWh. See calculations in table 42 below for details.

Table 42 – Residential Energy Reduction Award Calculation

RESIDENTIAL ENERGY REDUCTION - PY2009 Administrators Performance vs. Performance Metrics Calculations										
Cumulative Annual Electric Energy Savings		**Min.**			**Target**			**Max.**		
Residential Energy Award Potential	$	105,000		$	140,000	$	175,000			
Residential Energy Reduction Goals		51,542			68,722		75,594	MWh		
Incentive Calculations		**Meet Min.**			**Min-Target**		**Target-Max**			**Total**
Pool Award Potential	$	105,000		$	35,000	$	35,000		$	175,000
Residential Energy Goal Pools		51,542	÷		17,180		6,872			75,594 MWh
Award Amount / Rate	$	105,000		$	2.04	$	5.09	/MWh		
Residential Energy Achievement		51,542			14,944		n/a			66,486 MWh
Award Amount / Rate		105,000	x	$	2.04	$	5.09	/MWh		
Residential Energy Achievement Award Claim	$	105,000		$	30,486				$	**135,486** Claim

Business Energy Reduction Energy Award Calculation - $114,018

The business energy reduction achievement of 46,672 MWh was between the minimum and target level of savings. The award calculation of $114,018 is made up of $105,000 for meeting the minimum of 42,976 MWh and $9,018 for the remaining savings amount of 3,696 MWh at an award rate of $2.44/MWh. See calculations in Table 43 below for details.

Table 43 – Business Energy Reduction Award Calculation

BUSINESS ENERGY REDUCTION - PY2009 Administrators Performance vs. Performance Metrics Calculations									
Cumulative Annual Electric Energy Savings		**Min.**			**Target**		**Max.**		
Business Energy Award Potential	$	105,000		$	140,000	$	175,000		
Business Energy Reduction Goals		42,976			57,301		63,031	MWh	
Incentive Calculations		**Meet Min.**			**Min-Target**		**Target-Max**		**Total**
Pool Award Potential	$	105,000		$	35,000	$	35,000	$	175,000
Business Energy Goal Pools		42,976	÷		14,325		5,730		63,031 MWh
Award Amount / Rate	$	105,000		$	2.44	$	6.11	/MWh	
Business Energy Achievement		42,976			3,696		n/a		46,672 MWh
Award Amount / Rate		105,000	x	$	2.44	$	6.11	/MWh	
Business Energy Achievement Award Claim	$	105,000		$	9,018			$	**114,018** Claim

Demand Reduction Energy Award Calculation - $142,194

The combined peak demand reduction achievement of 22,767 kW was between the target and maximum level of savings. The award calculation of $142,194 is made up of $77,000 for meeting the minimum of 15,073 kW, $28,000 for the 5,024 kW between Minimum and Target goals at an award rate of $5.57/kW and $37,194 for the remaining savings amount of 2,670 kW at an award rate of $13.93/kW. See calculations in Table 44 below for details.

Table 44 – Demand Reduction Award Calculation

DEMAND REDUCTION - PY2009 Administrators Performance vs. Performance Metrics Calculations										
Combined Annual Electric Demand Savings		**Min.**			**Target**		**Max.**			
Demand Reduction Award Potential	$	77,000		$	105,000	$	133,000			
Demand Reduction Goals		15,073			20,097		22,107	kW		
Incentive Calculations		**Meet Min.**			**Min-Target**		**Target-Max**			**Total**
Pool Award Potential	$	77,000		$	28,000	$	28,000		$	133,000
Demand Goal Pools		15,073	÷		5,024		2,010			22,107 kW
Award Amount / Rate	$	77,000		$	5.57	$	13.93	/kW		
Demand Savings Achievement		15,073			5,024		2,670			22,767 kW
Award Amount / Rate		77,000	x	$	5.57	$	13.93	/kW		
Demand Savings Achievement Award Claim	$	77,000		$	28,000	$	37,194		$	**142,194** Claim

Total Resource Benefit Award Calculation - $193,094

The Total Resource Benefit achievement of $126,547,369 NPV was 90% of the target amount and between the minimum and target level. The award calculation of $193,094 is made up of $175,000 for meeting the minimum 80% and $18,094 for the remaining savings amount of 10% at an award rate of $1,750/% Target achieved. See calculations in Table 45 below for details.

Table 45 – TRB Award Calculation

TOTAL RESOURCE BENEFIT - PY2009 Administrators Performance vs. Performance Metrics Calculations											
TRB Target Metrics		**Min.**			**Target**			**Max.**			
TRB Award Potential	$	175,000		$	210,000		$	245,000			
TRB Goal Pools in Metrics %		80%			100%			120%			
TRB Goals in $	$	112,063,791		$	140,079,739		$	168,095,687	NPV of Utility Benefits		
Incentive Calculations		**Meet Min.**			**Min-Target**			**Target-Max**			**Total**
Pool Award Potential	$	175,000		$	35,000		$	35,000		$	245,000
TRB Goal Pools in Metrics %		80%	÷		20%			20%			120%
Award Amount / Rate	$	175,000		$	1,750		$	1,750	/ %		
TRB Achievement in $										$	126,547,369
TRB Goals in $										÷ $	140,079,739
TRB Achievement in Metrics %		80%			10%						90%
Award Amount / Rate		175,000	x	$	1,750.00		$	1,750.00	/ %		
TRB Energy Achievement Award Claim	$	175,000		$	18,094					$	**193,094** Claim

Market Transformation Award Calculation - $70,000

The market transformation award is made up of two components, the number of projects supporting Emerging Technologies and the number of Trade Ally Referrals. Both metrics were achieved with 21 emerging technologies and 423 Trade Ally Referrals resulting in an award of $70,000 made up of a $35,000 award for each component. See calculations in Table 46 below for details.

Table 46 – Market Transformation Award Calculation

MARKET TRANSFORMATION - PY2009 Adm. Perf. vs. Perf. Metrics Calcs						
	Award Potential		Target	Achievement	Target Met	Claim
Emerging Technologies	$	35,000	20	21	Yes	$ 35,000
Trade Ally Referrals	$	35,000	40	423	Yes	+ $ 35,000
						$ 70,000

Solar Vendor Informational Meeting

Broad Participation - Island Equity Award Calculation - $ none.

The Program did not achieve the Island Equity requirement of plus or minus 20% of the target incentive distribution based on each Counties contribution to the PBF in PY2009. The award calculation is thus zero. See calculations in Table 47 below for details.

Table 47 –Island Equity Award Calculation

ISLAND EQUITY - PY2009 Adm. Perf. vs. Perf. Metrics Calcs										
	Target Range	PY2009 PBF Contribution	% PBF	Target Incentives	Incentive Achievement		+/- % of Target	Target Met	Award Potential	Claim
HECO Customers	+/- 20%	$ 18,024,928	74%	$ 8,825,328	$ 10,086,557	85%	14%	no		
HELCO Customers	+/- 20%	$ 3,026,861	13%	$ 1,482,005	$ 950,321	8%	-36%	no		
MECO Customers	+/- 20%	$ 3,155,105	13%	$ 1,544,796	$ 815,251	7%	-47%	no		
Total		$ 24,206,894		$ 11,852,129	$ 11,852,129			no	$ 35,000	$ -

V. COMMERCIAL AND INDUSTRIAL PROGRAMS

Commercial and Industrial Program Impacts

The C&I Programs provided 41% of the energy and 39% of the demand first year savings for PY2009. Table 48 and 48a provide the detail C&I breakout by program with a closer look at each Program to follow.

Table 48 –Commercial and Industrial Impacts

PY2009 C&I - Commercial and Industrial Program Impacts											
	Applications	%	Net Demand Impact (kW)	%	Net Energy 1st yr. Impact (kWh - 1st yr.)	%	Net Energy Life Impact (kWh - Life)	%	Net TRB	TRC	Net TRC/TRB
CIEE - C&I Energy Efficiency	978	34%	5,129	57%	27,201,830	58%	279,292,620	52%	$35,003,969	$ 3,883,378	9.0
CINC - C&I New Construction	1,633	57%	3,459	39%	17,298,481	37%	240,199,333	45%	$26,823,349	$ 9,437,687	2.8
CICR - C&I Custom Rebates	269	9%	342	4%	2,135,790	5%	18,629,669	3%	$ 2,166,533	$ 2,176,851	1.0
NEW	2	0%	2	0%	36,358	0%	545,368	0%	$ 46,582	$ 46,548	1.0
Total	**2,882**		**8,932**		**46,672,459**		**538,666,990**		**$64,040,433**	**$15,544,465**	4.1

Commercial and Industrial Program Expenditures

Table 48a – Business Program Expenditures Summary

	Allocations No PI Tax	PY09 Budget R4 Authorization	% Spent	Unspent	% Unspent
Business (C&I) Programs					
Business Non-Incentive					
Business Programs Ops and Management					
CIEE	$ 422,427.47	$ 547,784.00	77.1%	$ 125,356.53	22.9%
CINC	$ 335,005.01	$ 484,372.00	69.2%	$ 149,366.99	30.8%
CICR	$ 434,676.63	$ 662,646.00	65.6%	$ 227,969.37	34.4%
PV	$ 14,305.96	$ 36,183.00	39.5%	$ 21,877.04	60.5%
Subtotal Business Programs	$ 1,206,415.06	$ 1,730,985.00	69.7%	$ 524,569.94	30.3%
Less Contractor Contribution*	$ (50,000.00)	$ (50,000.00)	100.0%	$ -	
Total Business Programs	$ 1,156,415.06	$ 1,680,985.00	68.8%	$ 524,569.94	31.2%
Education & Training (E&T)	$ 56,248.74	$ 77,550.00	72.5%	$ 21,301.26	27.5%
Market Evaluation	$ 52,845.22	$ 64,625.00	81.8%	$ 11,779.78	18.2%
Advertising/Marketing	$ 205,763.32	$ 417,669.00	49.3%	$ 211,905.68	50.7%
Total Business Non-Incentive	$ 1,471,272.34	$ 2,240,829.00	*65.7%*	$ 769,556.66	*34.3%*
Business Incentives					
CIEE	$ 2,209,265.00	$ 2,274,589.00	97.1%	$ 65,324.00	2.9%
CINC	$ 2,640,893.00	$ 2,641,803.00	100.0%	$ 910.00	0.0%
CICR	$ 235,665.10	$ 235,806.00	99.9%	$ 140.90	0.1%
PV	$ -	$ -		$ -	
New	$ 5,235.00	$ 168,117.00	3.1%	$ 162,882.00	96.9%
Total Business Incentives	$ 5,091,058.10	$ 5,320,315.00	*95.7%*	$ 229,256.90	*4.3%*
Total Business Programs (No PI)	**$ 6,562,330.44**	**$ 7,561,144.00**	**86.8%**	**$ 998,813.56**	**13.2%**

*Deduction for the contractor contribution. This was a cost to the *Contractor* to benefit the program, therefore, deducted from the expenses of the program.

**8,246.05 was subtracted proportionally from the line items of business non-incentives to account for the excess tax that was added with the deduction of the performance measures. Next year, tax and performance measures will be at the bottom of the budget to avoid such calculations.

Commercial and Industrial Energy Efficiency (CIEE) Program

CIEE Program Objective

The objective of this program is to acquire electric energy and demand savings through customer installation of standard, known energy efficiency technologies by applying prescriptive incentives in a streamlined application and grant award process.

Measures under CIEE include:

- High efficiency interior and exterior lighting
- Automatic Lighting Controls
- Premium Efficiency Motors
- Variable Frequency Drives connecting to chilled water pumps, condenser water pumps, and air handling units
- HVAC systems such as water-cooled chillers, packaged & Split Systems, and Energy star window A/Cs
- Window Tinting

Program Accomplishments

Unified Program Processes Across Islands

In PY 2009, the program transitioned from the three utilities (HECO, MECO, & HELCO) with minimal disruption to program participants & contractors. There was an initial need to standardize the incentive levels, rules and applications processes to bring the three separate DSM programs in to one.

To enhance operational efficiencies, the HECO, MECO and HELCO programs were brought online in a single computer system. This allowed for a common rebate processing platform, consisting of rebate application authorization numbers, one state wide toll free number for assistance, and application paperwork.

Island Equity

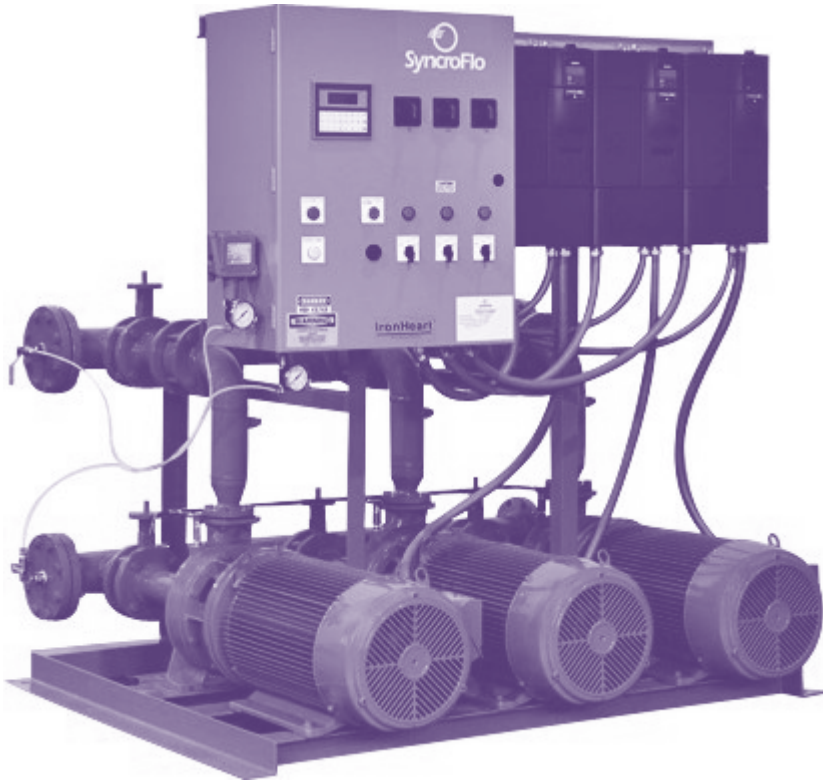
It was recognized by the third quarter that the slow construction and retrofit economic activity on Maui, Hawaii, Lanai and Molokai required additional market stimulation. For a limited time, Hawaii Energy offered a 50% bonus in Lighting Measure Incentives was on Maui, Hawaii, Lanai and Molokai to stimulate activity. The promotion was successful in bringing in over $100,000 in projects. This is especially significant considering the lighting vendors reported that for many on these islands, unless the incentive is 100% of project cost, the customers are not going to make the capital investment.

Addressing Measure Effectiveness

Rebates are no longer available for the High Output T8 as the participants of this prescriptive measure were not achieving energy savings. Participants were choosing the High Output T8 due to the lower cost versus the Low Wattage T8 products.

Simplifying Common Measures

Variable Frequency Drives (VFDs) for chilled water pumps, condenser water pumps and air handling units are no longer custom, but prescriptive (CIEE) rebate.



CIEE Program Impacts

Commercial Lighting (69%)
A single base-wide T8/T5 lighting retrofit project contributed 30% towards this measure. The second largest contributor at 13% was a complete hotel renovation project with T5, T8 and CFLs.

CFL (15%)
Hawaii Energy purchased and provided lamps to Public Housing on Oahu, Hawaii, Maui and Lanai.

HVAC - Chiller (6%)
Large tonnage high efficiency chillers that were installed in College (34%), Condominium (27%), and Office Buildings (13%) with the remainder installed in Federal Government, State Government, and a Hotel.

Table 49 – CIEE Program Impacts

PY2009 CIEE - Commercial Industrial Energy Efficiency Program Impacts by Measure in order of First Year Energy Impact

Measures	Apps.	%	Net Demand Impact (kW)	%	Net Energy 1st yr. Impact (kWh - 1st yr.)	%	Net Energy Life Impact (kWh - Life)	%	Net TRB	%	TRC	%	Net TRB/TRC
Commercial Lighting	514	53%	3,322	65%	18,856,451	69%	180,884,173	65%	$ 22,728,926	65%	$ 2,166,053	56%	10.5
CFL	12	1%	745	15%	4,061,259	15%	20,306,293	7%	$ 2,675,112	8%	$ 462,600	12%	5.8
HVAC - Chiller	8	1%	499	10%	1,579,251	6%	31,585,013	11%	$ 4,289,405	12%	$ 597,882	15%	7.2
Envelope - Window Film	17	2%	96	2%	843,668	3%	16,873,361	6%	$ 1,477,239	4%	$ 229,355	6%	6.4
HVAC - Package / Split	202	21%	196	4%	686,002	3%	10,290,030	4%	$ 1,458,671	4%	$ 102,718	3%	14.2
HVAC - VFD Fan	19	2%	142	3%	539,591	2%	10,791,813	4%	$ 1,331,804	4%	$ 146,873	4%	9.1
Domestic Water Booster Pumps	4	0%	19	0%	175,078	1%	2,626,167	1%	$ 262,999	1%	$ 47,591	1%	5.5
Lighting - Sensors	67	7%	26	0%	118,308	0%	946,464	0%	$ 132,059	0%	$ 9,318	0%	14.2
HVAC - VFD Water Pumping	5	1%	31	1%	112,835	0%	2,256,692	1%	$ 285,698	1%	$ 30,866	1%	9.3
High Efficiency Motors	61	6%	15	0%	86,532	0%	1,297,973	0%	$ 150,414	0%	$ 17,011	0%	8.8
HVAC - Window AC	34	3%	19	0%	58,879	0%	706,552	0%	$ 113,794	0%	$ 2,800	0%	40.6
Smart Power Strip	1	0%	9	0%	43,133	0%	215,667	0%	$ 29,912	0%	$ 4,750	0%	6.3
Solar Water Heater	16	2%	7	0%	29,215	0%	438,232	0%	$ 56,323	0%	$ 64,320	2%	0.9
Low Flow Showerheads	1	0%	2	0%	9,972	0%	49,861	0%	$ 7,035	0%		0%	
Clothes Washer	4	0%	0	0%	1,016	0%	12,193	0%	$ 2,098	0%	$ 692	0%	3.0
Refrigerator	5	1%	0	0%	762	0%	9,144	0%	$ 1,666	0%	$ 519	0%	3.2
Dishwasher	6	1%	0	0%	514	0%	6,163	0%	$ 1,109	0%	$ 346	0%	3.2
Ceiling Fans	2	0%	(0)	0%	(634)	0%	(3,171)	0%	$ (297)	0%	$ (316)	0%	0.9
Total	**978**		**5,129**		**27,201,830**		**279,292,620**		**$ 35,003,969**		**$ 3,883,378**		**9.0**

CIEE Program Expenditures

CIEE only required one budget change to meet the year-end demand with the leftover funding from our New programs. $450,000 was added with Budget Revision four (4). CIEE is one of the more cost effective of business programs. Not all operations funding was utilized due to the need to spend conservatively with the PY10 budget decrease.

Table 50 – CIEE Program Expenditure

	Allocations No PI Tax	PY09 Budget R4 Authorization	% Spent	Unspent	% Unspent
CIEE Operations	$ 422,427.47	$ 547,784.00	77.1%	$ 125,356.53	22.9%
CIEE Incentives	$ 2,209,265.00	$ 2,274,589.00	97.1%	$ 65,324.00	2.9%
CIEE Total	$ 2,631,692.47	$ 2,822,373.00	93.2%	$ 190,680.53	6.8%

Commercial and Industrial New Construction (CINC) Program

CINC Objective
The program objective is to provide the building development community with the information and analytic tools that will support long term, above code compliance design decisions and provide financial incentives that reduce initial cost barriers.

Customers are awarded incentives based on exceeding a baseline energy use threshold related to code requirements for many standard technologies (generally, prescriptive-eligible technologies) and for incremental savings on best practice technologies that replace initial design technologies.

CINC Program Accomplishments

Unified Programs Across Islands
In PY2009, the program transitioned from the three utilities (HECO, MECO, & HELCO) with minimal disruption to program participants & contractors. By reaching out and providing a uniform program, existing HECO programs were consolidated into the new Hawaii Energy CINC program that standardized rebate levels for all tariff codes.

To enhance operational efficiencies, the HECO, MECO and HELCO programs were brought online in a single computer system. This allowed for a common rebate processing platform, consisting of rebate application authorization numbers, one state wide toll free number for assistance, and application paperwork.

By working with the design and construction community since the inception of the program, Hawaii Energy has been able to encourage developers and owners of new facilities to install energy efficient equipment.

CINC Program Impacts

Commercial Lighting (38%)
Commercial lighting provided the greatest contribution to first year net energy savings with 6,563,040 kWh (38%). The commercial lighting was driven by pin-mounted CFLs 4,353,602 kWh (66%), these were put in military base homes with commercial master meters. The next highest contributor to commercial lighting was also the most common type of commercial lighting and is the low-wattage four foot linear T8s with 1,119,922 kWh (17%) net energy savings.

Custom Envelope Improvements (30%)
This measure is for low-e and insulation improvements above code made to new military homes. It is 5,179,447 kWh represents 30% of the CINC program.

HVAC – Package / Split (17%)
The new military homes were 83% of this category with the remainder of the participants being Retail, State Government and Schools.

Table 51 – CINC Program Impacts

PY2009 CINC - Commercial Industrial New Construction Program Impacts by Measure in order of First Year Energy Impact															
Measures	Apps.	%	Net Demand Impact (kW)	%	Net Energy 1st yr. Impact (kWh - 1st yr.)	%	Net Energy Life Impact (kWh - Life)	%		Net TRB	%		TRC	%	Net TRB/TRC
Commercial Lighting	124	8%	1,282	37%	6,563,040	38%	43,375,247	18%	$	5,971,045	22%	$	444,622	5%	13.4
Custom - Envelope	13	1%	742	21%	5,179,447	30%	113,946,881	47%	$	9,601,219	36%	$	4,382,502	46%	2.2
HVAC - Package / Split	88	5%	844	24%	2,998,113	17%	44,971,688	19%	$	6,324,677	24%	$	448,776	5%	14.1
Solar Water Heater	982	60%	402	12%	1,770,119	10%	26,551,784	11%	$	3,415,817	13%	$	3,899,400	41%	0.9
Custom	4	0%	20	1%	235,561	1%	1,417,033	1%	$	159,960	1%	$	123,946	1%	1.3
HVAC - Chiller	2	0%	77	2%	223,693	1%	4,473,863	2%	$	633,401	2%	$	41,015	0%	15.4
HVAC - VFD Fan	17	1%	40	1%	152,214	1%	3,044,283	1%	$	378,016	1%	$	41,376	0%	9.1
HVAC - VFD Water Pumping	3	0%	17	0%	62,269	0%	1,245,383	1%	$	156,673	1%	$	16,927	0%	9.3
High Efficiency Water Heater	352	22%	10	0%	45,706	0%	411,354	0%	$	61,349	0%	$	27,808	0%	2.2
Lighting - Sensors	18	1%	20	1%	37,566	0%	300,529	0%	$	67,216	0%	$	5,260	0%	12.8
High Efficiency Motors	30	2%	5	0%	30,753	0%	461,288	0%	$	53,976	0%	$	6,055	0%	8.9
Total	**1,633**		**3,459**		**17,298,481**		**240,199,333**		**$**	**26,823,349**		**$**	**9,437,687**		**2.8**

CINC Program Expenditures

CINC required the least operational costs for the largest distribution of incentives when compared to the other existing Business Programs. There was a need to add funding to incentives with Budget Revision 2 and 4 (a total of $966,000 transferred). With Budget Revision 3, there was a decrease of $239 to supplement the Residential rebate budgets that were in great need of additional funds to meet demand. Not all operations funding was expended due to the need to spend conservatively with the PY10 budget decrease.

Table 52 – CINC Program Expenditures

	Allocations No PI Tax	PY09 Budget R4 Authorization	% Spent	Unspent	% Unspent
CINC Operations	$ 335,005.01	$ 484,372.00	69.2%	$ 149,366.99	30.8%
CINC Incentives	$ 2,640,893.00	$ 2,641,803.00	100.0%	$ 910.00	0.0%
CINC Total	$ 2,975,898.01	$ 3,126,175.00	95.2%	$ 150,276.99	4.8%

Commercial and Industrial Customized Rebate (CICR) Program

CICR Program Objectives
The program objective is to provide a custom application and granting process for participants to receive incentives for installing non-standard energy efficiency technologies. The commercial and industrial custom incentives will enable customers to invest in energy efficiency opportunities related to manufacturing processes and other technology measures that may require calculations of energy savings for specific, unique applications.

Custom incentives will be available for all energy-savings opportunities that are not already covered by the prescribed incentives. Custom incentives will not be limited to a certain list of measures. Common custom technologies include, but are not limited to, VFDs for HVAC pumps and fans; air conditioning system upgrades, such as controls and change-outs; process heat recovery, booster pumps, and heat pump water heaters.

CICR Program Accomplishments
The custom program relies on evaluation processes to determine and verify the savings claims of energy efficiency measures. The following processes were developed to address projects in PY2009.

Cooling Tower Variable Frequency Drives (VFDs)
A process was developed with the Cooling Tower Manufacturers to obtain a part-load performance data in calculating the demand and energy savings more accurately.

Variable Refrigerant Volume (VRV) AC
Energy savings were determined from equipment performance submittals by vendors and building model simulations (E Quest) based on the customer site conditions. The new IEER data provided by some manufacturers allows load curves to be used for product comparison.

Commercial Solar Water Heating
The commercial solar water heating rebate was previously available only for Maui County. Hawaii Energy modeled the MECO worksheet and made adjustment on the derated factor to a more realistic incentive amount. The current incentive amount is $50/5,000 BTU derated installed capacity.

LED Refrigeration Case Lighting
The savings were based on the energy savings from the wattage reduction from switching fromT12HO or T8 to LED. Also, savings from the heat reduction to the compressor were included.

Successful CICR Projects

School Campus Energy Study Example
The CICR program funded an Energy Assessment Report for a school campus. The studies made various recommendations on lighting (both interior and exterior), HVAC controls, chill water pumping, demand and exhaust ventilation.

As a result of the studies the school instituted many of the recommended energy conservation measures. Most notable were the lighting retrofits that were done to all the studied buildings on campus and the exterior and parking structure. Currently there is an ongoing dialogue with vendors regarding the exhaust ventilation of the two buildings.

Super Market Refrigeration Modernization Example
The original application was a carryover from the prior program. This application was denied based on inaccurate data collected at the time. The supermarket requested that Hawaii Energy revisit the application and verify the negative findings. As a result of our investigation, the Program uncovered that the data logging did not take into consideration the extra amount of refrigeration devices installed and the consolidation of some electrical circuits. In order to calculate a reasonable representation of the energy usage, both pre and post project, the Program obtained actual billing history data for a period of one year prior to and after the project. To validate the billing data, a weatherization scenario in which cooling degree days and energy usage was compared in actual and predicted terms. The weatherized data verified the energy usage on the billing data and Hawaii Energy was able to pay a rebate to the supermarket. The meter showed a 20% reduction with the analysis showing the changes contributed 423,301 kWh and 50 kW for the period analyzed.

CICR Program Impacts

Custom (83%)
The largest contributor at 26% was a military parking lot lighting conversion of 1000W Metal Halide to 400W Pulse Start Metal Halide lamps. The second largest contributor at 16% was a hotel redesign of the guest room spa water heating with heat recovery heat pumps utilizing heat from the return chilled water.

Custom – LED (14%)
LED projects are increasing and were the second largest contributor to the Custom projects. The largest was a refrigerated case retrofit for a single supermarket at 18% of the Customer LED projects.

Table 53 – CICR Program Impacts

PY2009 CICR - Commercial Industrial Custom Rebate Program Impacts by Measure in order of First Year Energy Impact															
Measures	Apps.	%	Net Demand Impact (kW)	%	Net Energy 1st yr. Impact (kWh - 1st yr.)	%	Net Energy Life Impact (kWh - Life)	%		Net TRB	%		TRC	%	Net TRB/TRC
Custom	25	9%	277	81%	1,781,128	83%	16,366,069	88%	$	1,834,387	85%	$	1,962,628	90%	0.9
Custom - LED	11	4%	42	12%	288,963	14%	1,513,489	8%	$	206,160	10%	$	178,309	8%	1.2
Dishwasher	66	25%	6	2%	16,754	1%	204,093	1%	$	34,621	2%	$	11,418	1%	3.0
Refrigerator	62	23%	6	2%	15,726	1%	188,714	1%	$	34,423	2%	$	10,726	0%	3.2
Clothes Washer	59	22%	6	2%	14,984	1%	181,332	1%	$	29,180	1%	$	10,207	0%	2.9
Window AC	29	11%	4	1%	8,778	0%	105,341	1%	$	20,524	1%	$	1,450	0%	14.2
Ceiling Fans	10	4%	0	0%	4,787	0%	23,937	0%	$	2,358	0%	$	1,580	0%	1.5
CFL	1	0%	0	0%	4,669	0%	46,694	0%	$	4,881	0%	$	534	0%	9.1
Energy Study	6	2%	-	0%	-	0%	-	0%	$	-	0%	$	-	0%	
Total	**269**		**342**		**2,135,790**		**18,629,669**		**$**	**2,166,533**		**$**	**2,176,851**		**1.0**

CICR Program Expenditures

CICR was the least subscribed program compared to its existing business programs counterparts. Although least subscribed, it still required comparable level of effort of operations to the other business programs. At budget Revisions 2 and 3, funds were transferred from CICR to cover the needs of the two other existing business programs (CINC and CIEE, but mostly to CINC). A total of $2,273,518 was transferred from CICR for the revisions. For Revision 4 $78,000 was added to meet unexpected year end demand with the unspent funds of the New Programs. Not all operations funding was expended due to the need to spend conservatively with the PY10 budget decrease.

Table 54 – CICR Program Expenditures

	FINAL PY09 Allocations	PY09 Budget R4 Authorization	% Spent	Unspent	% Unspent
CICR Operations	$ 434,676.63	$ 662,646.00	65.6%	$ 227,969.37	34.4%
CICR Incentives	$ 235,665.10	$ 235,806.00	99.9%	$ 140.90	0.1%
CICR Total	$ 670,341.73	$ 898,452.00	74.6%	$ 228,110.27	25.4%

New Commercial and Industrial Programs

NEW Program Objectives
There was limited activity on the New Programs during PY2009 and they will be an important element of PY2010.

NEW Program Accomplishments

Commercial Solar Water Heating
Hawaii Energy adopted the methodology of the MECO DSM programs to address commercial solar water heating projects. The measure incentive is $50 per 5,000 BTU derated panel capacity installed. The incentive value was lowered from $80 to put more in line with other measure cost effectiveness and the derating methods used were changed to match the residential solar program across all islands.

Condo Submetering Trial
The Program has recently introduced a pilot program to offer rebates to centrally metered condominiums to install submeters on each unit. Preliminary results from submetering efforts are promising and suggest that the Program should continue to offer and track the results of this program into next year.

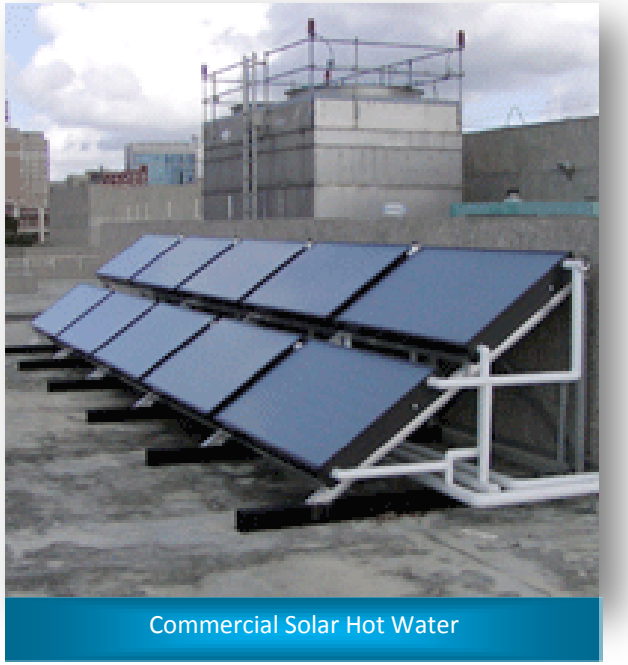
Direct Install Small Business Lighting
Small business customers are underrepresented in the programs. To address this, a NEW direct retrofit program was designed and five (5) lighting contractors qualified to perform the work. The program will provide simple lighting audits through grass roots organizations or self audits, selected proven measures, fixed pricing, four (4) month financing by the contractors and a 25% incentive bonus in addition to standard incentives.

NEW Program Impacts

The New Program impacts included two (2) residential condominiums solar water heating projects.

Table 55 – NEW Program Impacts

PY2009 NEW - New Program Impacts by Measure in order of First Year Energy Impact															
Measures	Apps.	%	Net Demand Impact (kW)	%	Net Energy 1st yr. Impact (kWh - 1st yr.)	%	Net Energy Life Impact (kWh - Life)	%		Net TRB	%		TRC	%	Net TRB/TRC
Solar Water Heating - Commercial	2	100%	2	100%	36,358	100%	545,368	100%	$	46,582	100%	$	46,548	100%	1.0
Total	**2**		**2**		**36,358**		**545,368**		**$**	**46,582**		**$**	**46,548**		**1.0**



Commercial Solar Hot Water

NEW Program Expenditures

For PY2009, Hawaii Energy was focused on continuing operations rather than launching our new programs. With Budget Revision 4, $914,000 in incentives was transferred from New Programs to the other business programs to meet the year end demand of these existing programs.

Table 55a – NEW Program Expenditures

	FINAL PY09 Allocations	PY09 Budget R4 Authorization	% Spent	Unspent	% Unspent
New Operations	$ -	$ -	0.0%	$ -	0.0%
New Incentives	$ 5,235.00	$ 168,117.00	3.1%	$ 162,882.00	96.9%
New Total	$ 5,235.00	$ 168,117.00	3.1%	$ 162,882.00	96.9%

Talk About Energy Savings. . .

PV

Photovoltaic (PV) Incentive Program Objective
Pursuant to a Legislative initiative and at the PUC's direction, the Program was to develop a small PV Incentive Program for consideration by the PUC. The plan was to help the PUC evaluate the feasibility of a PV program.

PV Program Accomplishments
The Program developed a small PV Incentive Program for consideration by the PUC. The Program is prepared to move forward to implement the program when direction and funding are determined.

PV Program Expenditures
There was limited activity necessary for the PV program due to the limited requirements. The expenses were from WECC subconsultant support as well as Hawaii Energy internal support. There were no incentives for this program since it was for research purposes only.

Table 56 – PV Program Expenditures

	FINAL PY09 Allocations	PY09 Budget R4 Authorization	% Spent	Unspent	% Unspent
PV Operations	$ 14,305.96	$ 36,183.00	39.5%	$ 21,877.04	60.5%
PV Incentives	$ -	$ -	0.0%	$ -	0.0%
PV Total	$ 14,305.96	$ 36,183.00	39.5%	$ 21,877.04	60.5%

VI. RESIDENTIAL PROGRAMS

During Hawaii Energy's inaugural year, numerous accomplishments were made across the various residential energy efficiency programs.

Residential Program Summary Impacts
The Residential Programs provided 59% of the energy and 61% of the demand first year savings for PY2009. See Table 57 for the breakout of summary impacts by residential program with a closer look at each Program on the following pages.

Table 57 –Residential Program Summary Impacts

PY2009 Residential Program Impacts														
	Applications	%	Net Demand Impact (kW)	%	Net Energy 1st yr. Impact (kWh - 1st yr.)	%	Net Energy Life Impact (kWh - Life)	%		Net TRB		TRC	Net TRC/TRB
REWH	3,829	10%	1,311	9%	5,768,552	9%	85,881,831	19%	$	10,892,787	$	12,584,811	0.9
ESH	32,313	86%	11,546	83%	55,862,450	84%	321,903,980	71%	$	45,980,943	$	9,273,578	5.0
RNC	1,041	3%	408	3%	1,797,980	3%	26,968,939	6%	$	3,502,405	$	3,971,839	0.9
RLI	177	0%	569	4%	3,057,932	5%	16,283,654	4%	$	2,130,801	$	351,666	6.1
Total	**37,360**		**13,835**		**66,486,914**		**451,038,404**		**$**	**62,506,936**	**$**	**26,181,894**	2.4

Residential Program Summary Expenditures

The Residential Programs required a significant amount of our program funding both for operations and incentives due to their popularity as well as having an experienced subcontractor, Honeywell, to manage the programs. Residential programs did not seem affected by the economic conditions as seen in the commercial and industrial programs. Therefore, there were times when the Program needed to request a transfer of business funding to residential funding. We transferred approximately $400 thousand in operations funding with Budget Revision 1 to cover the cost of the Honeywell subcontract. We transferred approximately $1.7 million in incentive funding with Budget Revision 3. These adjustments enabled us to continue to offer rebates to interested parties. The majority of the Residential budgets (except Education & Training, Advertising & Marketing and RLI incentives) were over 80% spent; many being close to 100% spent for PY2009.

Table 57a –Residential Program Expenditures

	Allocations No PI Tax	PY09 Budget R4 Authorization	% Spent	Unspent	% Unspent
Residential Programs					
Residential Non-Incentive					
Residential Program Ops and Management					
REWH	$ 1,202,513.76	$ 1,207,347.00	99.6%	$ 4,833.24	0.4%
RNC	$ 82,008.58	$ 84,912.00	96.6%	$ 2,903.42	3.4%
ESH	$ 743,370.02	$ 889,125.00	83.6%	$ 145,754.98	16.4%
RLI	$ 31,681.03	$ 33,344.00	95.0%	$ 1,662.97	5.0%
Total Residential Programs	$ 2,059,573.39	$ 2,214,728.00	93.0%	$ 155,154.61	7.0%
Education & Training (E&T)	$ 38,673.02	$ 63,450.00	61.0%	$ 24,776.98	39.0%
Market Evaluation	$ -	$ -	0.0%	$ -	0.0%
Advertising/Marketing	$ 175,952.46	$ 341,729.00	51.5%	$ 165,776.54	48.5%
Total Residential Non-Incentive	*$ 2,274,198.88*	*$ 2,619,907.00*	86.8%	*$ 345,708.12*	13.2%
Residential Incentives	$ -		0.0%	$ -	0.0%
REWH	$ 3,013,645.00	$ 3,093,610.00	97.4%	$ 79,965.00	2.6%
RNC	$ 959,330.00	$ 1,001,080.00	95.8%	$ 41,750.00	4.2%
ESH	$ 2,665,798.55	$ 3,228,943.00	82.6%	$ 563,144.45	17.4%
RLI	$ 122,297.21	$ 237,775.00	51.4%	$ 115,477.79	48.6%
Total Residential Incentives	*$ 6,761,070.76*	*$ 7,561,408.00*	89.4%	*$ 800,337.24*	10.6%
Total Residential Programs (No PI)	**$ 9,035,269.64**	**$ 10,181,315.00**	**88.7%**	**$ 1,146,045.36**	**11.3%**

**8,246.06 was subtracted proportionally from the line items of residential non-incentive to account for the excess tax that was added with the deduction of the performance measures. Next year, tax and performance measures will be at the bottom of the budget to avoid such calculations.

Residential Efficient Water Heating (REWH) Program

REWH Program Accomplishments

Unified Solar Program Across Islands

In July 2009, the Solar Water Heating program transitioned from the three utilities (HECO, MECO, & HELCO) with minimal disruption to program participants & contractors. By reaching out and providing a uniform Hawaii Energy Solar Water Heating (SWH) program contract, over 85 solar contractors previously enrolled into 3 different utility SWH programs were consolidated into the new Hawaii Energy SWH program.

To enhance operational efficiencies, the MECO and HELCO programs were brought online in a single computer system. This allowed for a common rebate processing platform, consisting of rebate application authorization numbers, one state wide toll free number for assistance, and application paperwork.

Hawaii Energy Checks Mailed Quickly

With the transition coming shortly after the publicized HECO contractor rebate payment issue, there was tremendous angst regarding the Hawaii Energy contractor rebate payment process. Much to the contractors' satisfaction, the first contractor REWH rebate checks were mailed within 30 days from transition. Additionally, several key improvements were implemented that shortened the contractor rebate payment timeframe. The "Fast Track" program was extended to contractors in the MECO and HELCO territories.

For qualifying contractors, this program decouples the REWH rebate payment from the REWH inspection. This results in a short 20 day average from when the REWH application is received to the contractor's rebate check being mailed. Over 90% of the participating solar contractors qualify for the "Fast Track" program. Several contractors also participate in a direct deposit program where rebate funds are electronically provided along with a detailed email providing payment details.

Solar Installation Site Inspectors Hired and Trained

The REWH post-inspection by a program inspector is a key program paradigm. Throughout the years, customer feedback has consistently highlighted the value of this independent inspection.

To ensure program continuity for both customers and solar contractors, Hawaii Energy maintained the existing inspectors located on Oahu and Big Island. For Maui, an onsite inspector was hired and trained. Hawaii Energy spent considerable time with these inspectors so to provide inspection methodology consistency across all service territories (whereas previously, the inspection methodologies were solely within their insular territories.

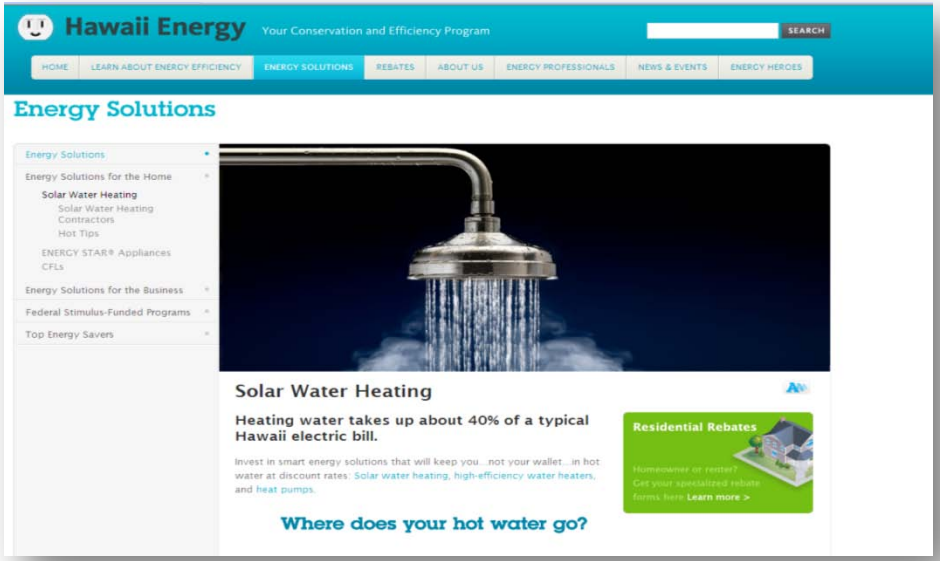
Reduction in Solar Water Heating Incentives

Utilizing trending analysis, the forecasted program year solar rebates were determined to exceed the program budget. A difficult decision was made in September 2009 to reduce the REWH rebate from $1000 to $750. This $250 reduction in the Solar Water Heating System Incentive results in the customer reduction in-after tax cost of $88 as 65% ($162) of the $250 incentive reduction is covered by State and Federal Tax incentives.

The decision involved valuable collaboration with the Hawaii Solar Energy Association (HSEA), who was brought on early in the process. The decision and reasoning was provided to the participating solar contractors, who understandably weren't pleased with the change but understood the underlying reasons. Subsequently, Hawaii Energy hosted solar contractor meetings in Oahu, Maui, and the Big Island that provided a forum for energetic REWH program discussion. Through this active budget management, the REWH program was delivered within budget for Program Year 2009.

High Efficiency Water Heaters

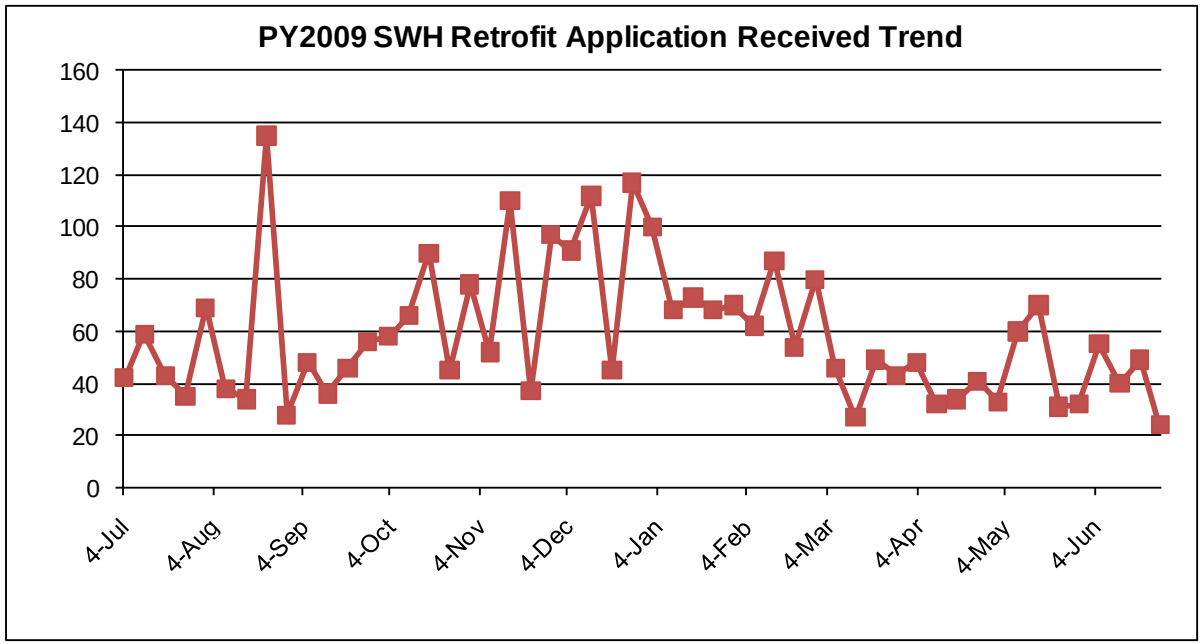
The three (3) utilities each also had long standing rebate programs for Highly Efficient Electric Water Heaters, which also transitioned to Hawaii Energy. Hawaii Energy aggregated these programs into one program with a common rebate application form. Across all islands, Hawaii Energy visited stores selling water heaters to both explain the program and reinforce the importance of selling energy efficient water heaters. These visits were very productive, providing important 'face to face' interaction with sales folks and ensuring program literature was prominently displayed.



REWH Solar Program Application Activity

The REWH program has the annual increase in activity between October and January as customers purchase systems before the tax year closes. Chart 8 shows the activity trend.

Chart 8 – Solar Water Heater Applications Received Trend



REWH Solar System Installation by Island

Oahu had the greatest amount of Retrofit Solar Systems incentivized with 2,451units (75%).

Table 58 – Retrofit Solar Water Heater Applications Received by County

PY2009 Retrofit Solar Water Heater Applications Received				
Territory	**Applications**		**Incentives**	**App %**
Oahu County	2,451	$	2,307,100	75%
Maui County	392	$	367,150	12%
Hawaii County	411	$	395,150	13%
Grand Total	**3,254**	**$**	**3,069,400**	**100%**

REWH Solar System Installations by Contractor

Hawaiian Island Solar leads the installations of program retrofits with 658 applications in PY2009. See Table 59.

Table 59 – Retrofit Solar Water Heater Applications Received by Contractor

PY2009 Retrofit Solar Water Heater Applications Received					
Retrofit SWH Contractor	**Applications**		**Incentives**	**App %**	**Cumulative %**
Hawaiian Island Solar, Inc.	658	$	616,550	20%	20%
Poncho's Solar Service- Oahu	471	$	445,350	14%	35%
Alternate Energy - Oahu	207	$	196,050	6%	41%
Solar Help Hawaii	183	$	172,700	6%	47%
C&J Solar Solutions	136	$	127,750	4%	51%
Haleakala Solar, Inc.	135	$	123,250	4%	55%
Drainpipe Plumbing & Solar	100	$	95,900	3%	58%
Sonshine Solar Corp.	91	$	86,000	3%	61%
Solar Services Hawaii	80	$	73,750	2%	63%
Hawaiian Solar & Plumbing	78	$	73,350	2%	66%
Giant Solar, Llc	78	$	75,750	2%	68%
Poncho's Solar Service - Big Island	72	$	68,500	2%	70%
Maui Pacific Solar, Inc.	56	$	37,150	2%	72%
Pacific Energy Strategies, Llc.	54	$	53,400	2%	74%
Royal Flush Plumbing	47	$	52,750	1%	75%
Others	808	$	771,200	25%	100%
Grand Total	**3,254**	**$**	**3,069,400**	**100%**	

REWH Program Impacts

Solar Water Heaters provided 5,660,811 kWh first year savings and more importantly 84,912,161 kWh of lifetime savings. See Table 60. In PY2009 the program saw 51 applications for residential heat pump water heaters. The prior program had few residential heat pump applications; they were retrofit items from mechanical contractors. This year's introduction to the market of mainstream "hybrid" water heaters (a heat pump packaged with the water heater/storage tank) sold at major retailers has resulted in increased sales and participation.

HYBRID HEAT PUMP HOT WATER HEATER

Table 60 – REWH Program Impacts by Measure

PY2009 REWH - Residential Efficient Water Heating Program Impacts by Measure in order of First Year Energy Impact													
Measures	Apps.	%	Net Demand Impact (kW)	%	Net Energy 1st yr. Impact (kWh - 1st yr.)	%	Net Energy Life Impact (kWh - Life)	%	Net TRB	%	TRC	%	Net TRB/TRC
Solar Water Heater	3,140	82%	1,286	98%	5,660,811	98%	84,912,161	99%	$ 10,753,948	99%	$ 12,510,240	99%	0.9
High Efficiency Water Heater	638	17%	18	1%	82,364	1%	741,277	1%	$ 103,129	1%	$ 50,244	0%	2.1
Heat Pump - Residential	51	1%	8	1%	25,377	0%	228,393	0%	$ 35,710	0%	$ 24,327	0%	1.5
Total	**3,829**		**1,311**		**5,768,552**		**85,881,831**		**$ 10,892,787**		**$ 12,584,811**		**0.9**

REWH Program Expenditures

REWH is the most popular program of all Hawaii Energy's offerings. It requires the most in operations costs as well as incentives. The Program faced a tough decision in the second quarter as to the budget restraints of REWH. The Program determined in coordination with Solar contractors, to decrease the rebate from $1,000 to $750 in order to keep to budget restraints, and avoid denying qualified applicants towards the end of the year due to lack of funding. With Budget Revision 3, the Program added approximately $100 thousand in incentives from Business Incentives. No changes were necessary to the operations budgets.

Table 61 – REWH Program Expenditures

	Allocations No PI Tax	PY09 Budget R4 Authorization	% Spent	Unspent	% Unspent
REWH Operations	$ 1,202,513.76	$ 1,207,347.00	99.6%	$ 4,833.24	0.4%
REWH Incentives	$ 3,013,645.00	$ 3,093,610.00	97.4%	$ 79,965.00	2.6%
REWH Total	$ 4,216,158.76	$ 4,300,957.00	98.0%	$ 84,798.24	2.0%

Residential New Construction (RNC) Program

RNC Program Accomplishments

Unified Solar Program Across Islands

The Residential New Construction (RNC) SWH program transition involved Hawaii Energy identifying all the outstanding new construction projects across the 3 service territories. With all the projects across all service territories identified, a common Hawaii Energy RNC SWH program was created and enacted.

End of Residential New Construction Solar System Incentives

Due to the Residential New Construction Solar mandate requiring solar water heating installations on new construction homes after January 1st 2010, the Hawaii Energy RNC SWH program ended on December 31, 2009.

Budget Integrity

Like with the retrofit SWH rebate program, RNC SWH rebate budget issues were identified in September and swift actions were taken to preserve program longevity through the year's end. One action was new RNC rebate authorizations received after October 1st qualified for a $600 rebate while contractors were protected on all the previously issued $1000 rebate authorizations. Through constant communication with participating solar contractors, the program transition, rebate reduction and subsequent program wind down was conducted with minimal market disturbance.

Correct Classification of Participant Rate Class

Hawaii Energy adopted the process of classifying all commercial master metered applications into the Commercial & Industrial New Construction (CINC) budget (whereas prior, the utilities paid these from the residential rebate budget). Primarily affected by this were the military new home projects built through Forest City and Actus. These reclassification actions were invisible to the rebate recipient.

RNC Solar System Installation by Island

Oahu had the greatest number of new construction Solar Water Heater retrofits at 758 units, See Table 62.

Table 62 – New Construction SWH Applications Received by County

PY2009 New Construction Solar Water Heater Applications Received				
Territory	**Applications**		**Incentives**	**App %**
Oahu County	758	$	743,900	75%
Maui County	134	$	129,200	13%
Hawaii County	120	$	116,800	12%
Grand Total	**1,012**	**$**	**989,900**	**100%**

RNC Solar System Installations by Contractor

Grand Solar leads the Residential New Construction installation list with 296 units incentivized in PY2009.

Table 63 – New Construction Solar Water Heater Applications Received by ContractorPY2009 RNC Top Contractors by Received RNC SWH Applications (no military)

PY2009 New Construction Solar Water Heater Applications Received					
RNC SWH Contractor	**Applications**		**Incentives**	**App %**	**Cumulative %**
Grand Solar	296	$	295,200	29%	29%
Hansen Solar	185	$	184,600	18%	48%
C&J Solar Solutions	74	$	73,200	7%	55%
Ponchos Solar Service- Oahu	68	$	66,800	7%	62%
Haleakala Solar, Inc.	52	$	51,200	5%	67%
Drainpipe Plumbing & Solar	42	$	40,800	4%	71%
Castle And Cooke Homes	40	$	36,300	4%	75%
Ced's Plumbing	32	$	32,000	3%	78%
Maui Pacific Solar, Inc.	30	$	29,200	3%	81%
Keith Shigehara Plumbing, Inc.	26	$	24,800	3%	83%
Others	167	$	155,800	17%	100%
Grand Total	**1,012**	**$**	**989,900**	**100%**	

RNC Program Impacts

Solar water heaters provided 1,797,853 kWh first year and 26,967,794 kWh life time savings for the RNC program

Table 64 – RNC Program Impacts by Measure

PY2009 RNC - Residential New Construction Program Impacts by Measure in order of First Year Energy Impact															
Measures	Apps.	%	Net Demand Impact (kW)	%	Net Energy 1st yr. Impact (kWh - 1st yr.)	%	Net Energy Life Impact (kWh - Life)	%		Net TRB	%		TRC	%	Net TRB/TRC
Solar Water Heater	1,040	100%	408	100%	1,797,853	100%	26,967,794	100%	$	3,502,240	100%	$	3,971,760	100%	0.9
High Efficiency Water Heater	1	0%	0	0%	127	0%	1,146	0%	$	166	0%	$	79	0%	2.1
Total	**1,041**		**408**		**1,797,980**		**26,968,939**		**$**	**3,502,405**		**$**	**3,971,839**		**0.9**

RNC Program Expenditures

The RNC Program was discontinued on December 31, 2009 due to new regulations making an incentive unnecessary. Therefore, these costs were for approximately the period of the other programs but processing continued to the end of the Program Year due to the time necessary to finalize. For Budget R2, Hawaii Energy requested a move of approximately $400 thousand to the RNC budget from the ESH budget to meet unexpected demand. There we no changes necessary to the operations budget. Both incentives and operations were approximately 95% spent for the year. RNC takes the least operations cost compared to its residential counterparts when considering incentive distribution.

Table 64a – RNC Program Expenditures

	Allocations No PI Tax	PY09 Budget R4 Authorization	% Spent	Unspent	% Unspent
RNC Operations	$ 82,008.58	$ 84,912.00	96.6%	$ 2,903.42	3.4%
RNC Incentives	$ 959,330.00	$ 1,001,080.00	95.8%	$ 41,750.00	4.2%
RNC Total	$ 1,041,338.58	$ 1,085,992.00	95.9%	$ 44,653.42	4.1%

Hawaii Energy Education and Outreach

Energy Solutions for the Home (ESH) Program

Program Accomplishments

The Energy Solutions for the Home (ESH) program transition to Hawaii Energy consisted primarily of the ENERGY STAR and CFL rebate programs.

Roll Out of ESH to All Islands

The ESH programs were solely from the City and County of Honolulu on Oahu as they were not yet implemented with the other utilities. In February, the ENERGY STAR appliance program was extended to the MECO and HELCO service territories. This program received a warm welcome from retailers and customers, who were well aware that rebates were long available on Oahu but not their county. One of the immediate actions was establishing these programs on a common processing system to improve customer service and rebate processing throughput.

Quick Check Processing

As with the REWH rebate program, a robust rebate check payment process with quality assurance mechanisms was established. With an average check mailing time of 5 weeks from application receipt, the stated 6 to 8 week processing time was met.

Growth in Participation

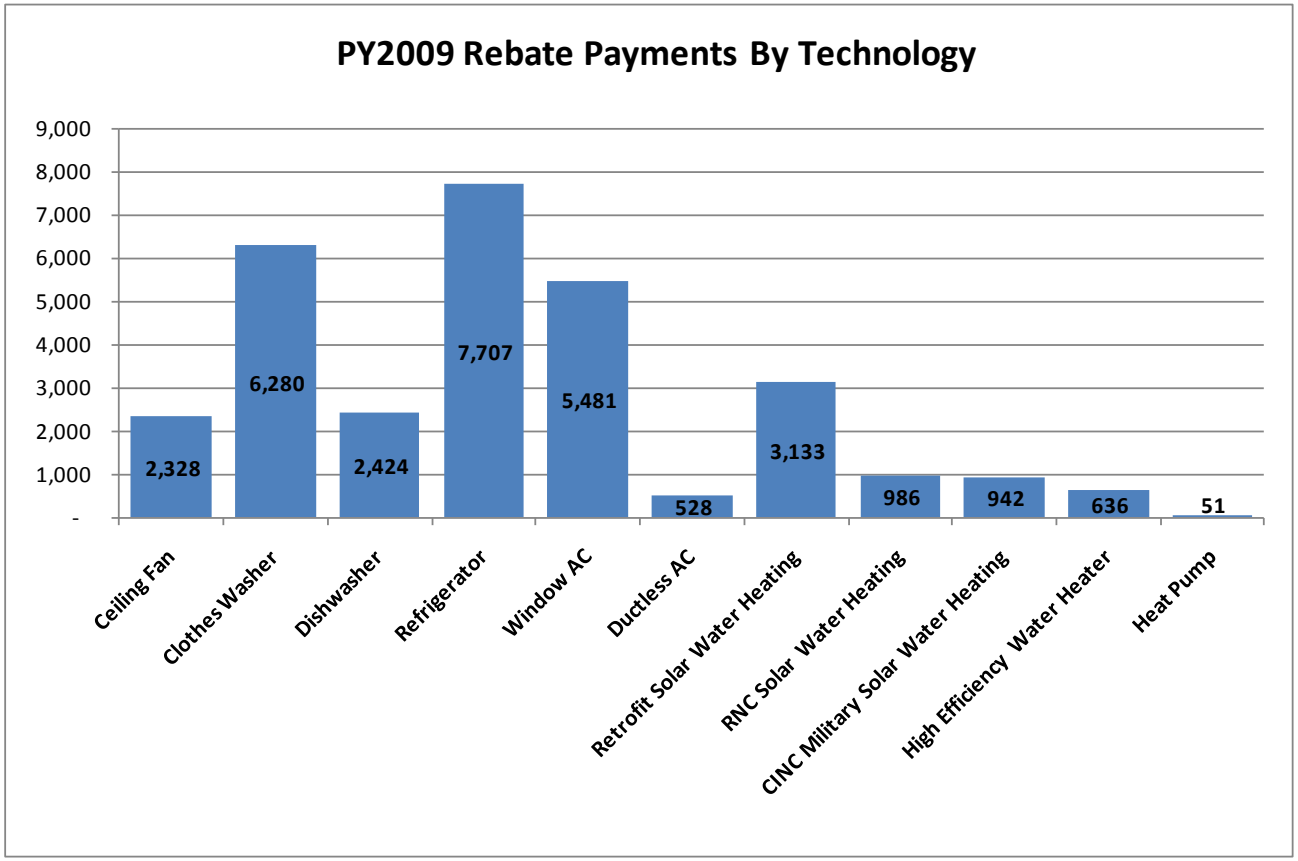
As the general public becomes more and more aware of energy conservation issues, Hawaii Energy saw 25% growth in year over year appliance rebate applications. This growth was also achieved via active appliance retailer support involving frequent telephone check-ins, onsite store visits, and providing various educational / promotional materials. For PY2009, over 30,000 appliance rebates were received.

Like with ENERGY STAR appliances, Hawaii Energy drove the CFL program to new levels. Many challenges were encountered with a geographically diverse manufacturer, distributor, and retailer network.

Much effort was spent to driving program participation (via signed Memorandum of Understanding), common rebate submittal forms, sales forecasting templates, and timely submission of these forms. Hawaii Energy conducted frequent store visits to ensure correct program participation and signage utilization.

This resulted in dramatically increased participation in the February to June timeframe, and ensured that program goals were met.

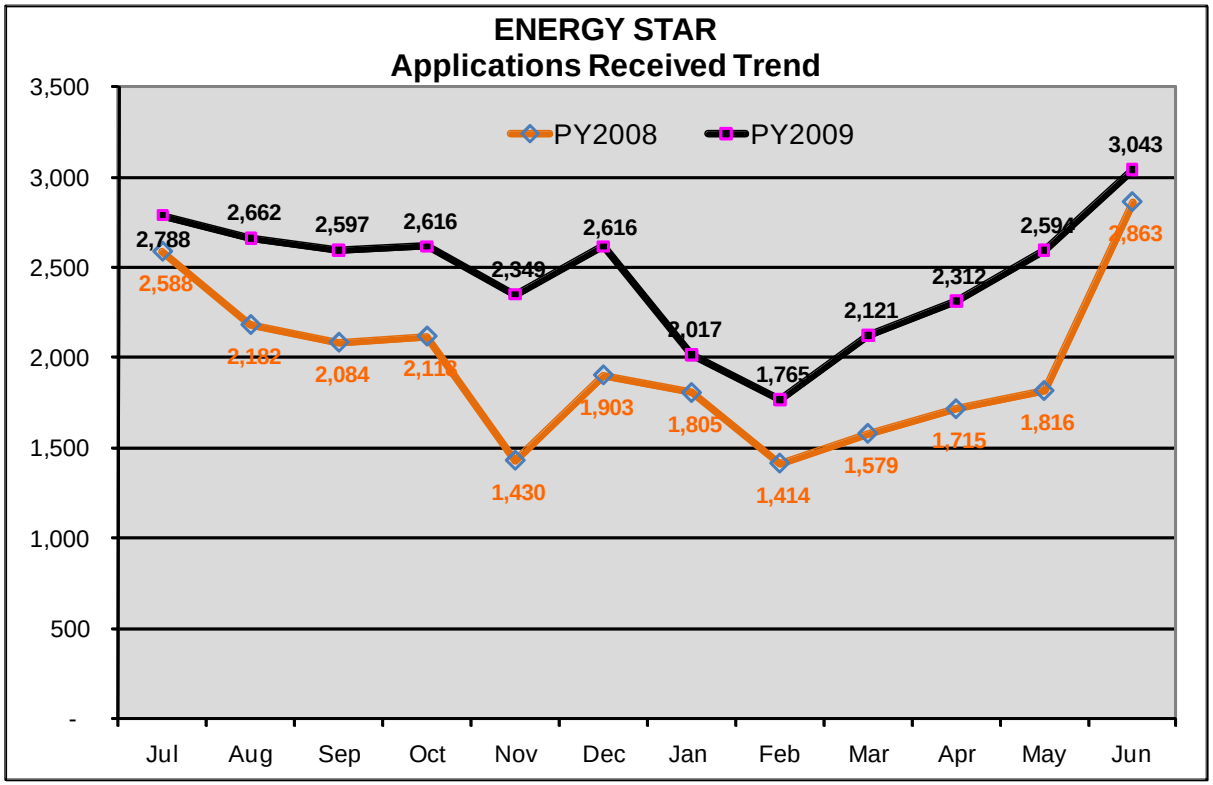
Chart 9 – Energy Star Appliance Breakout



ESH Program Application Activity

ESH activity has been strong with a steady level of activity spread out across the year; see Chart 10 for the monthly application trend.

Chart 10 – PY2009 versus PY2008 ENERGY STAR Appliance Applications



ESH Program Impacts

Residential CFLs provided 49,056,018 kWh (88%) of the savings for the ESH program, see Table 66.

Table 66 – ESH Program Impacts

PY2009 ESH - Energy Star Home Program Impacts by Measure in order of First Year Energy Impact														
Measures	Apps.	%	Net Demand Impact (kW)	%	Net Energy 1st yr. Impact (kWh - 1st yr.)	%	Net Energy Life Impact (kWh - Life)	%	Net TRB	%	TRC	%	Net TRB/TRC
CFL	8,735	27%	9,001	78%	49,056,018	88%	245,280,089	76%	$ 32,185,730	70%	$ 5,565,792	60%	5.8
Refrigerator	7,730	24%	725	6%	1,956,887	4%	23,482,645	7%	$ 4,279,541	9%	$ 1,333,484	14%	3.2
Window AC	5,093	16%	845	7%	1,658,008	3%	19,896,102	6%	$ 4,071,930	9%	$ 274,000	3%	14.9
Clothes Washer	6,301	19%	590	5%	1,593,134	3%	19,217,655	6%	$ 3,218,302	7%	$ 1,085,748	12%	3.0
Ceiling Fans	1,581	5%	19	0%	745,031	1%	3,725,157	1%	$ 359,616	1%	$ 367,508	4%	1.0
Dishwasher	2,434	8%	228	2%	615,314	1%	7,495,455	2%	$ 1,244,328	3%	$ 419,352	5%	3.0
AC - Ductless Split	430	1%	135	1%	233,529	0%	2,802,348	1%	$ 620,507	1%	$ 225,984	2%	2.7
Maintenance - AC	9	0%	3	0%	4,528	0%	4,528	0%	$ 991	0%	$ 1,710	0%	0.6
Total	**32,313**		**11,546**		**55,862,450**		**321,903,980**		**$ 45,980,943**		**$ 9,273,578**		**5.0**

ESH Program Expenditures

The ESH Program showed less percentage of spend potentially due to the overlap of offering the ARRA EnergyStar rebates. With Budget R3, the Program added approximately $1.6 million in ESH rebates. With this change, $40 thousand was also added to the ESH operations budget. In retrospect, these were larger transfers than necessary.

Table 67 – ESH Program Expenditures

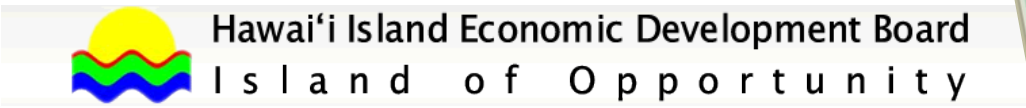
	Allocations No PI Tax	PY09 Budget R4 Authorization	% Spent	Unspent	% Unspent
ESH Operations	$ 743,370.02	$ 889,125.00	83.6%	$ 145,754.98	16.4%
ESH Incentives	$ 2,665,798.55	$ 3,228,943.00	82.6%	$ 563,144.45	17.4%
ESH Total	$ 3,409,168.57	$ 4,118,068.00	82.8%	$ 708,899.43	17.2%

Residential Low Income (RLI) Program

Relationships with Existing Residential Low Income Service Providers

Hawaii Energy's low income program was introduced to government, non-profit and local community agencies such as Housing and Urban Development (HUD), Honolulu Community Action Program (HCAP), Maui Economic Opportunities (MEO), Hawaii County Economic Opportunity Council (HCEOC), Hawaii Public Housing Authority (HPHA), Department of Hawaiian Homeland, the Council of Native Hawaiian Advancement and the Blue Planet Foundation. Hawaii Energy established rapports with these local community action agencies and non-profit organizations to promote energy conservation via low income housing projects.

Hawaii Energy offered home audit trainings and complimentary energy efficiency devices to these organizations to leverage their resources to ensure proper education and delivery to this customer segment. These measures helped create greater self-sufficiency in these households. The organizations were instrumental in facilitating the delivery of conservation products to their community. In addition, Hawaii Energy joined with the Blue Planet Foundation and EAH Housing Corporation for CFL distribution efforts at two large affordable housing communities: Kuhio Park Terrace and Kukui Garden.



The RLI Program is to enable qualified low-income residents, defined by 150% of Federal Poverty Guidelines for low income residents, to receive energy saving devices, such as CFLs, power strips and showerheads, at no cost.

Since program inception, more than 146 low income housing buildings have been identified and 94,080 CFL bulbs distributed to Oahu, Big Island, Lanai and Maui. In addition, 1,000 pieces of energy saving Smart Strips and 1,000 pieces of 2.0 Gallons Per Minute (GPM) Showerheads were distributed.

Hawaii Energy coordinated CFL exchange efforts with the Blue Planet Foundation, exchanging 36,600 CFL bulbs to 32 additional low income housing areas and non-profit organizations.

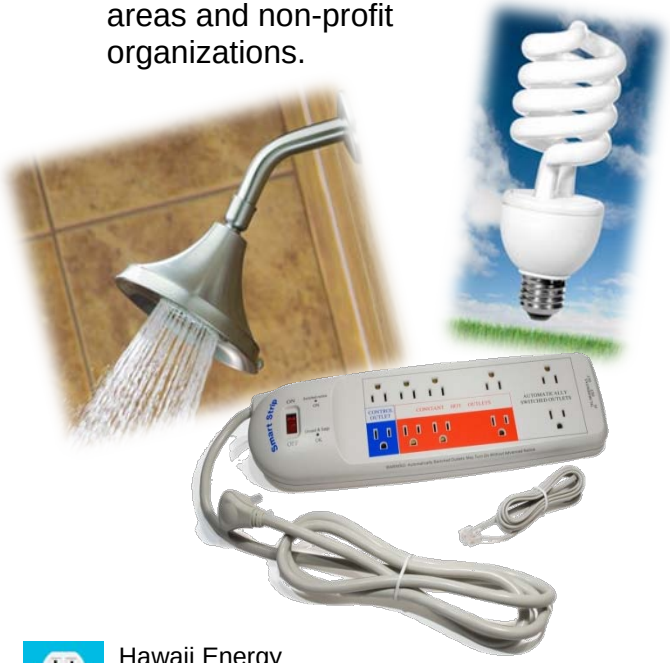


Table 68 – Residential Low Income Program Measure Counts

PY 2009 Residential Low Income Measure Counts					
Measure	**Oahu**	**Hawaii**	**Maui**	**Lanai**	**Total**
RLI Solar Inspection	44	79	44		167
RLI CFLs	87,700	27,408	15,116	456	130,680
Showerheads	1,000				1,000
Smart Strips	1,000				1,000
Total	**89,744**	**27,487**	**15,160**	**456**	**132,847**

Table 69 – Residential Low Income Customer Level Impacts (including measures locates at sites under the CIEE Program)

PY 2009 Residential Low Income Customer Energy Impact Counts					
Measure	**Oahu**	**Hawaii**	**Maui**	**Lanai**	**Total**
RLI Solar Inspection	24,728	44,398	24,728		93,854
RLI CFLs	5,735,580	1,792,483	988,586	29,822	8,546,472
Showerheads	42,786				42,786
Smart Strips	201,970				201,970
Total	**6,005,064**	**1,836,881**	**1,013,314**	**29,822**	**8,885,082**

RLI Program Impacts

The RLI program impacts that fall under individual residential meters provided 3,057,932 kWh savings, See Table 70. CFLs provided 93% of the savings under the RLI program.

Table 70 – RLI Program Impacts

PY2009 RLI - Residential Low Income Program Impacts by Measure in order of First Year Energy Impact															
Measures	Apps.	%	Net Demand Impact (kW)	%	Net Energy 1st yr. Impact (kWh - 1st yr.)	%	Net Energy Life Impact (kWh - Life)	%		Net TRB	%		TRC	%	Net TRB/TRC
CFL	4	2%	521	91%	2,837,164	93%	14,185,818	87%	$	1,859,047	87%	$	321,480	91%	5.8
Smart Power Strip	3	2%	26	5%	120,774	4%	845,415	5%	$	115,465	5%	$	13,300	4%	8.7
RLI - Solar Water Heater	167	94%	17	3%	75,245	2%	1,128,670	7%	$	139,439	7%	$	14,195	4%	9.8
Low Flow Showerheads	3	2%	5	1%	24,750	1%	123,752	1%	$	16,850	1%	$	2,691	1%	6.3
Total	**177**		**569**		**3,057,932**		**16,283,654**		**$**	**2,130,801**		**$**	**351,666**		**6.1**

More Hawaii Energy Outreach

RLI Program Expenditures

The RLI program operations budget was small but used effectively to meet this important market. RLI incentives are all Direct Install, which are incentives in the form of goods or services rather than cash incentives. Due to some incentives being determined to be CIEE incentives rather than RLI incentives near program year- end, the RLI incentive budget was not exhausted as planned.

Table 71 – RLI Program Expenditures

	Allocations No PI Tax	PY09 Budget R4 Authorization	% Spent	Unspent	% Unspent
RLI Operations	$ 31,681.03	$ 33,344.00	95.0%	$ 1,662.97	5.0%
RLI Incentives	$ 122,297.21	$ 237,775.00	51.4%	$ 115,477.79	48.6%
RLI Total	$ 153,978.24	$ 271,119.00	56.8%	$ 117,140.76	43.2%

Proposed Changes

Hawaii Energy will continue to look for ways to make the program more cost effective by working with more non-profit organization or educational systems.

ARRA / WAP (aka RLI Solar Inspections)

The federal government's ARRA / Weatherization Assistance Program (WAP) provided Hawaii with funding for 650 SWH installations statewide (90 on Kauai). The Office of Community Services (OCS) was selected to administer the program targeted to Hawaii's low income housing, for families with 4 or more in the household & "high" energy usage.

While Hawaii Energy could not provide a SWH rebate for these federally funded installations, Hawaii Energy is conducting complimentary installation inspections that ensure high quality (to the same degree as rebate program installations). In fact, these inspections have a high priority and results are discussed in a weekly WAP teleconference.

Additionally, a weekly status report was provided to appropriate county organizations detailing all inspection details.

Table 72 – PY2009 ARRA/WAP Inspection Applications

ARRA WAP - Low Income Solar Inspections		
Territory	**Received App's**	**App %**
Oahu County	74	44%
Maui County	44	26%
Hawaii County	50	30%
Grand Total	**168**	**100%**

Table 73 –PY2009 Top Contractors by Received ARRA/WAP SWH Applications

ARRA / WAP - Low Income Solar Water Heater Contractors			
ARRA / WAP SWH Contractor	**Received App's**	**App %**	**Cumulative %**
Alternate Energy - Maui	49	29%	29%
Drainpipe Plumbing & Solar	35	21%	50%
Royal Flush Plumbing	26	15%	65%
Grand Solar	22	13%	79%
Saving Oahus Solar, Llc.	14	8%	87%
Built To Last Plumbing	13	8%	95%
Commercial Plumbing, Inc.	5	3%	98%
Solar Eng & Contracting-Oahu	2	1%	99%
21st Century Technologies Hi - Oahu	1	1%	99%
Allen's Plumbing - Maui	1	1%	100%
Grand Total	**168**	**100%**	

VII. Other Program Activity

During its first operational year, the Program experienced a number of successes and lessons learned that have enabled us to plan for future program expansion and improvement from a firm foundation. Some of the key successes and lessons learned from PY2009 are as follows:

Energy Programs Management Information System (EPMIS)
The Program and its SAIC software design colleagues developed, tested and commissioned an energy program management and information system that is unique in the industry. EPMIS has been critical to Hawaii Energy's process streamlining, quality control and access to real-time customer and program data. It also automates the process of rebate tracking, processing and accounting, giving Program Specialists, Managers and Program Evaluators a robust platform from which to operate our Program, manage data and derive useful trends and other information.

Technical Reference Manual (TRM)
The Program further developed a comprehensive technical reference manual for the Program that provides methods, formulas and default assumptions for estimating "deemed energy savings" and peak impacts from measures and projects that receive incentives from the Program. The TRM will be continuously updated as new information, data and efficiency measures are developed.

Residential Low Income (RLI) and Hard to Reach Customers
To satisfy the PUC's high interest in reaching underserved markets, the Program utilized community-based outreach and marketing allies to deliver direct install measures such as smart strips, CFLs and low flow water showerheads to RLI and hard to reach customers. This strategy resulted in greater RLI and hard to reach penetration than that of all previous years of the predecessor program. In addition, it generated strong supportive feedback from our RLI outreach allies and customers.

Educating Participating Customers
The Program has designed an expansion of its Solar Water Heater (SWH) inspection program to incorporate a short energy conservation and efficiency education component during each homeowner's new SWH inspection by Program inspectors. Besides a brief overview of the care, maintenance and proper operation of the new SWH heater, the inspector briefs the customer on general energy savings tips and distributes CFLs and low flow water faucets. Full implementation is planned for early PY2010.

Reduction of REWH Incentives

During PY2009 Hawaii Energy had to eliminate SWH incentives for residential new construction and lower incentives from $1,000 to $750 for existing home SWH heaters. This was done to accommodate statutory changes affecting new residential construction and to maintain the budget integrity of the REWH program. During this difficult process, Hawaii Energy was in close consultation with our SWH vendor and trade group allies which resulted in an understanding acceptance of these unpopular actions.

Point of Purchase CFL Rebate Program

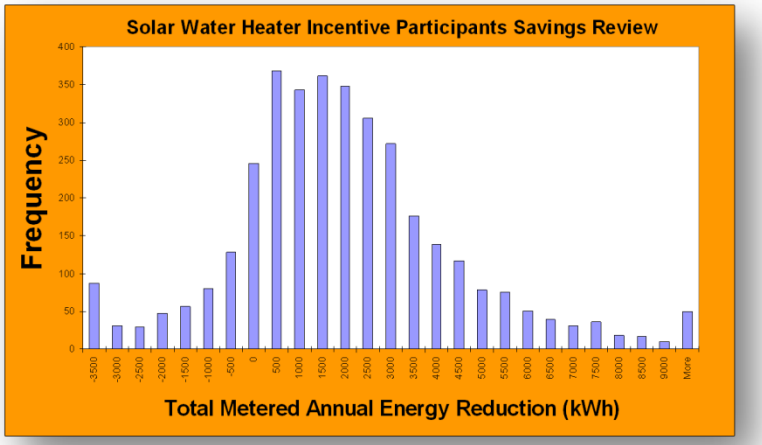
With our last quarter CFL push, Hawaii Energy used exceptional retail, wholesale and distributor ally relations to establish in-store processes that allow Point of Purchase (POP) rebates for qualifying CFL purchases at participating outlets. The POP rebate appears to significantly increase participation and will likely be continued into PY2010 for CFLs and possibly expand to include other Energy Star purchases.

Energy Star Appliances Expanded to Neighbor Islands

Beginning in March 2010, the Program initiated a soft start to delivery of the ESH program on the neighbor islands. Since March, the neighbor islands have begun to take advantage of the same incentive benefits that have been available to Oahu for years. The expanded program will continue into PY2010.

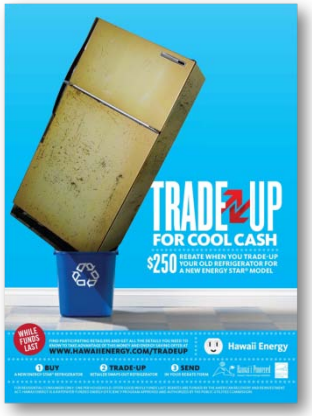
Data Mining of Existing Data

Since the Program began receiving customer usage data from the HECO companies, Hawaii Energy has been able to combine this data with other-sourced information to extrapolate valuable trends and conclusions about energy use, conservation and efficiency. We will further explore the applications of the data in PY2010.



Complementary Administration of ARRA Stimulus Programs

At the request of the State Energy Office and the PUC, the Program negotiated and signed supplemental contracts with the PUC to administer an additional $7M in stimulus funds from the American Recovery and Reinvestment Act (ARRA) which the State Energy Office designated for specific energy efficiency programs. Considerable workforce time and effort was spent modifying our programs to accommodate the integration of new ARRA programs with our existing programs. The initial results of the first executed program, Trade-Up for Cool Cash (clunker refrigerator turn-in and Energy Star purchase), were spectacular and far exceeded expectations. The ARRA-funded programs will continue in PY2010 with their own dedicated resources as well as some matrixed resources to leverage program experience.



- *ARRA (SEEARP / SEP)*
  A very visible and publicized program was the federal government's "Cash for Clunker Appliance" program. The nationwide program typically involved replacing an appliance with a new ENERGY STAR qualified appliance. Here in Hawaii, Hawaii Energy was selected to operate the rebate program. After analyzing the various ENERGY STAR appliance energy impacts, the refrigerator was determined to have the highest 'bang for the buck' here in Hawaii. For example, other states included clothes washers and most of a clothes washer's energy savings come from reduced hot water usage and the energy required heating that water. In Hawaii, there are many households with solar water heating and a comparatively high ground water temperature; thus the actual energy savings in Hawaii are dramatically lower than the listed clothes washer energy savings). The "Trade Up for Cool Cash" program was initiated with a $250 rebate on ENERGY STAR refrigerators, allowing for approximately 4,000 rebates.

  For program implementation, Hawaii Energy spent significant effort researching and analyzing what other states were doing (done). Several states had such demand that their programs ran out of money on the very first program day and created very low consumer satisfaction. Hawaii Energy decided to use numbered rebate forms that could easily be tracked and provide consumer assurance (e.g. if consumer has an original form, the rebate money is reserved for you). To ensure timely rebate tracking and budget management, our residential partner Honeywell created a new rebate mechanism for tracking and processing the "Trade Up" applications.

  A key component to the "Trade Up" program was requiring an operating clunker refrigerator be turned in (i.e. removed from the electrical grid) and properly recycled. Hawaii Energy spent significant energy to understand the status quo recycling process (differed by each island) and when gaps were found, worked out solutions. A 'Memorandum of Understanding' document articulating "Trade Up" responsibilities was presented to and signed by all participating participants (retailers, delivery firms, recycling firms). Especially with appliance retailers, this whole communication process refreshed and expanded participants into the program as well as the conventional ENERGY STAR appliance rebate program.

Marketing With Social Media, Twitter and Facebook

Recognizing the emerging value of using new social media tools as a component of our marketing and outreach effort, the Program recently hired a communications specialist to establish the Program on Twitter, Facebook and other social media. In the first month, the Program has an on-line following which should significantly increase in the coming Program Year.

Hawaii's Critical Energy Needs Suggest Additional Program Success Metrics

The Program's first Program Year experience suggests that the use of "deemed savings" alone to determine success may be insufficient to meet the bigger critical energy consumption reduction needs of the Hawaii Clean Energy Initiative. Because of Hawaii's severe energy situation, there is a clear need to know with some certainty what real progress is being made in reaching the state's energy savings goals on a macro basis. This issue needs to be explored further to determine what is required and how best to meet the requirements. As an initial step towards acquiring more actual measured data, PY2010 will introduce programs such as the Central Plant Performance Competition that will include pre, post and on-going metering.

CFL Contribution to Savings

Due to relative costs of available savings measures and the deemed energy savings allowed for various efficiency measures by the TRM, CFLs have become a major component of energy savings available to the Program. This reality suggests that it will be extremely difficult to meet future Program incentive goals at current levels without continuing use of CFLs and/or significantly higher rebate and operating budgets. Further exploration of this issue is needed going forward.

Program Branding

During PY2009, working with our marketing design subcontractor, the Program rolled out "Hawaii Energy Conservation and Efficiency Programs" or "Hawaii Energy") as a new program name and brand, complete with a memorable logo.

Trade Allies and Community-Based Outreach
A substantial outreach and ally development effort was initiated to improve our education and marketing of energy efficiency and conservation efforts to our customers. Besides vendor allies who directly marketed our incentive programs, a number of influential outreach partner relationships were established, including:

> *American Society of Heating, Refrigerating, Air Conditioning Engineers (ASHRAE), Building Owners and Managers Association Hawaii (BOMA Hawaii), University of Hawaii, Blue Planet Foundation, Native Hawaiian Council, KANU Hawaii, State and County Energy Offices, Hawaiian Electric Companies (HECO, MECO, HELCO), Kauai Island Utility Cooperative (KIUC), Office of Community Services (OCS), Maui Economic Opportunity (MEO), Department of Energy (DOE), Department of Business Economic Development and Tourism (DBEDT), Department of Defense (DOD), Hawaii Building Engineers Association (HBEA), Board of Water Supply (BWS) and Department of Hawaiian Homelands (DHHL).*

These outreach partners assisted our Program with shared advertising, marketing, sponsorships, education, strategies, networking, reciprocal website-pointers, residential low income customer contacts, direct install efforts and compact fluorescent lamp (CFL) distributions.

Leadership Roles in the Bigger Clean Energy Effort
The Program also took a leadership role in development and implementation of the Hawaii Clean Energy Initiative (HCEI), serving on the HCEI Steering Committee and the End Use Efficiency Working Group (EUEWG). Further, the Program is a standing member of the Hawaii Energy Policy Forum (HEPF), a UH-sponsored think-tank on state energy policy issues and the Consortium for Energy Efficiency (CEE), an international trade group for Programs such as Hawaii Energy.

At the PUC's direction, Hawaii Energy, in its role as the Public Benefits Fee Administrator (PBFA) joined as a participant/party in two pending dockets before the PUC, the Energy Efficiency Portfolio Standard (EEPS) docket and the Integrated Resource Planning Framework (IRP/CESP) docket. These dockets, and possibly others, need input from and collaboration with the PBFA in order to ensure that energy conservation and efficiency interests are adequately represented and reach maximum potential as part of the overall state energy strategy.

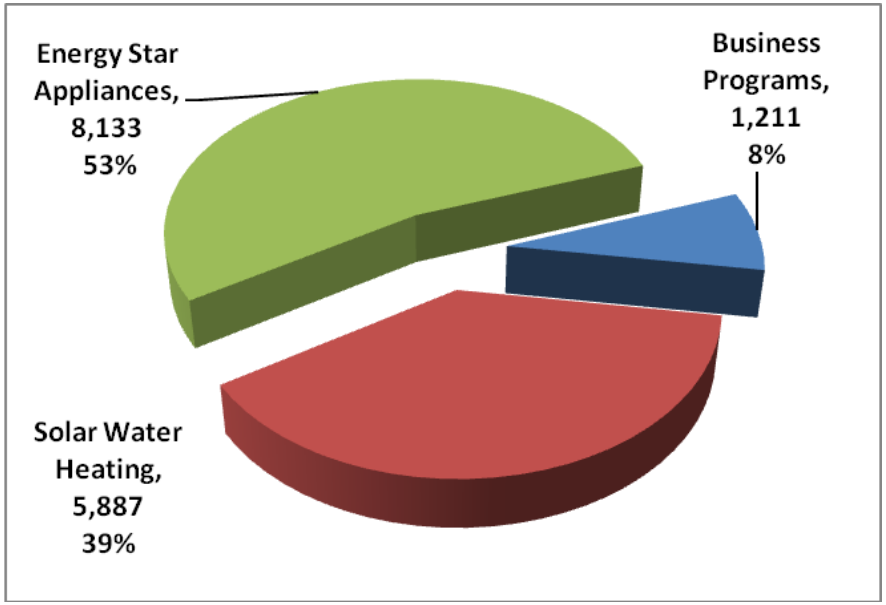
Program Support
In PY2009, the call center fielded over 15,000 calls with 53% regarding Energy Star Appliance Program, 39% Residential Solar Water Heating and the remaining 8% for Business Program inquires, See Chart 11.

The team prepared and developed coverage strategies for supporting all islands, along with their respective participating solar contractors. A toll-free phone number was enabled and incoming call topics covered the spectrum from generic energy usage questions to specific rebate program details.

In order to provide optimal customer support, the call system software was updated with customer data from all three utilities. Updated information included neighbor island account details, along with extensive data on a customer's past participation in each utility's rebate programs.

In PY2009, over 29,000 residential and business customer rebate checks were processed. To ensure timely and accurate processing, a robust rebate program Quality Control (QC) system is systematically utilized and continuously improved upon. To ensure budget conformance, weekly reports detailing progress against budget dollars and program unit targets were published for management review.

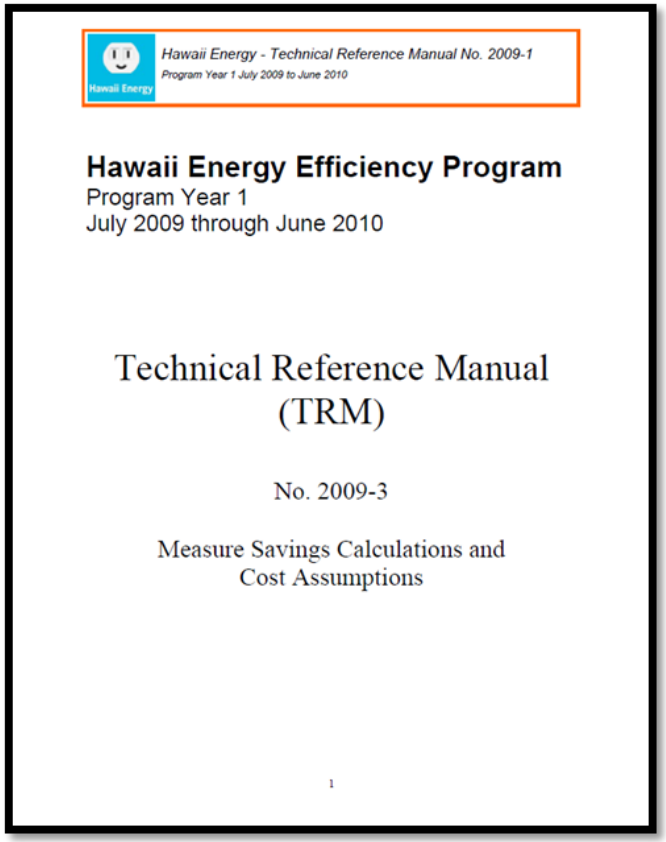
Chart 11 – Hawaii Energy Incoming Calls Breakdown



VIII. KEY REPORTING ASSUMPTIONS

Technical Resource Manual (TRM)

All energy efficiency and conservation programs need to estimate the average amount of energy and demand that is saved for installations of standard measures. This allows a program to promote these standard measures across the markets with an incentive amount that is appropriate for the amount of energy that is typically saved. Therefore, during this first program year a necessary task was to develop a Technical Resource Manual (TRM) that describes the amount of energy saved that the program will claim for each type of standard energy efficiency measure. This section describes how the TRM was developed and the key assumptions that were used to estimate the kWh savings and kW demand reduction impacts claimed by the program.


Hawaii Energy - Technical Reference Manual No. 2009-1
Program Year 1 July 2009 to June 2010

Hawaii Energy Efficiency Program
Program Year 1
July 2009 through June 2010

Technical Reference Manual
(TRM)

No. 2009-3

Measure Savings Calculations and
Cost Assumptions

1

Description of TRM

The TRM manual contains the description of how the program estimates the energy saved from standard residential and business efficiency measures. Table 74 lists the standard measures included in the 2010 TRM manual. These eighteen measures represent over 90% of the energy saved by the program for standard measures in 2010.

In the TRM, each measure includes a description of the typical baseline energy use and the high efficiency energy use for that type of technology. The energy saved is usually simply the difference between these two. The energy use of the baseline technology may include some estimation of market status related to various types of older, less efficient equipment. The final savings values were compared against the previous evaluation studies performed for the HECO programs as described in the next section.

Hawaii Energy – Just Getting Started

Table 74 – Measures in TRM

Residential Measures

- ... Water Heating
- ... Solar Water Heating
- ... Compact Fluorescent Lighting
- ... Standard Compact Fluorescent Lamp (CFL)
- ... Energy Star Appliances
- ... Energy Star Clothes Washer, Refrigerator, & Dishwasher
- ... Energy Star Room AC
- ... Energy Star Room Air Conditioner

Business Measures

- ... CFL Lamps
- ... LED Exit Signs
- ... Pulse Start Metal Halide
- ... Fluorescent T12 Replaced by T8 with Electronic Ballast
- ... Super T8 w/ HEEB
- ... T5 Fixtures with Electronic Ballasts
- ... Delamping with Reflectors
- ... Package Unit AC
- ... Efficient Chiller
- ... HVAC - Fan Variable Frequency Drive

Overview of how values in TRM were derived
The TRM reference manual provides methods, formulas and default assumptions for estimating energy and peak impacts from measures and projects that receive cash incentives from Hawaii Energy.

The reference manual is organized by program, end use and measure. Each section provides mathematical equations for determining savings as well as default assumptions for all equation parameters that are not based on site-specific information.

Data Sources
Data assumptions are based on Hawaii specific data, where available. Where Hawaii data was not available, data from neighboring regions is used where available and in some cases, engineering judgment is used. Data sources used, in the general order of preference, included, but were not necessarily limited to the following:

- Energy and Peak Demand Impact Evaluation Report of the 2005-2007 Demand Management Programs – KEMA
- HECO IRP-4: Energy Efficiency Potential Study (HECO DSM Docket)
- 2004-2005 Database for Energy Efficiency Resources (CA DEER database)
- 2007-2008 Database for Energy Efficiency Resources (CA DEER database) Update
- Other EE Program Design Information (e.g. Efficiency Maine, Focus on Energy, etc.)
- RW Beck Staff expertise

The savings estimates for each measure were first drawn from the KEMA Evaluation Report 2005-2007 since this report was the most recent information available on specific Hawaiian markets. The values in this report also were developed from building on previous evaluation reports and in field measurements. Therefore, whenever possible this information was used to estimate energy savings for the 2010 program.

Since there was no documentation on how the estimated savings from the HECO program were originally calculated, the calculation approach in the TRM then attempted to develop these savings calculations. The primary use of the KEMA report values was to guide market assumptions, especially for the baseline energy use, to more accurately estimate the typical savings.

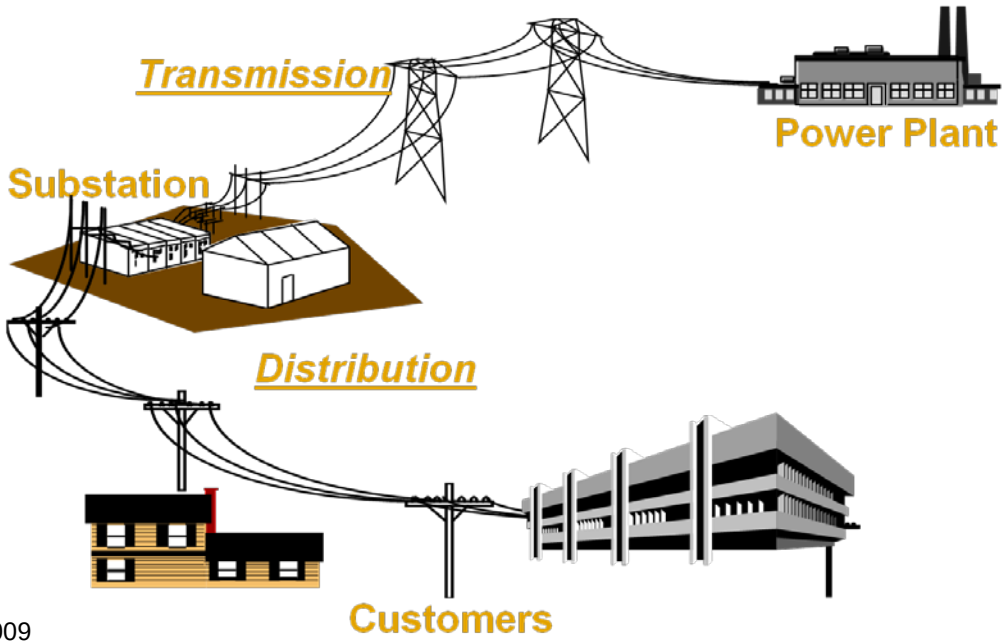
Application of System Loss Factors

Energy savings at a customer site is not the same as the energy that is saved at the electric utility plant supplying the energy to that site. There are system losses in the transmission and distribution of the energy to the site. This results in a larger savings at the power plant than at the customer site. To account for this larger impact on the system the "system loss factor" needs to be estimated. The system loss factors were provided by HECO, MECO and HELCO. They do not vary by measure, but by island, and are listed in Table 75.

These system loss factors were applied to the estimated customer savings for each measure to calculate the impact on the system of a particular measure. This "system savings" was used to estimate the overall impact to the reduced cost of not producing the saved energy. This "avoided cost" is the overall economic benefit used within one of the primary cost benefit for the program called a Total Resource Cost (TRC) test.

Table 75 – System Loss Factors

County Customer to System Loss Factor		
Oahu	Maui	Hawaii
11.17%	9.96%	9.00%



Net-to-Gross Ratio

The energy saved by the impact of the Hawaii Energy program for the installation of measure needs to take into account the number of installations that would have happened even without the program's existence. These measures are called "free-riders." There are free-riders in all efficiency programs. Part of the challenge for a program administrator is to limit the number of free-riders as part of having the greatest real impact with the rate-payer funds. To measure the true impact of the program, the savings due to free-riders needs to be subtracted from the overall savings the program has paid an incentive. The overall total savings is called the Gross savings. Once the free-rider savings is subtracted this savings is called the Net savings. With most programs there is a Net-to-Gross Ratio (NGR) that is used to account for the free-riders and to make some adjustments for evaluation adjustments to calculated energy saving estimates.

For the first year of the Hawaii Energy program the NGR was estimated using previous evaluation reports for HECO's programs. The NGR used for the 2010 Hawaii Energy program was estimated using the following information from the HECO 2008 A&S report. The total Net Energy Savings divided by the total Gross Energy Savings for 2008 is 73%. Therefore, the overall NGR for HECO in 2008 was 0.73. This NGR was applied to the entire Gross energy saved for all islands within the program.

Table 76 – Net-to-Gross Values HECO PY2008

Program	Net to Gross Ratio			
	Energy	Demand	Net Energy Savings 2008	Gross Energy Savings 2008
1. CIEE	0.6530	0.6640	45,798,527	70,135,569
2. CINC	0.5960	0.6100	17,469,147	29,310,648
3. CICR	0.7590	0.7550	28,749,233	37,877,777
4. ESH	0.8500	0.8500	32,203,749	37,886,763
5. REWH	0.7290	0.7310	8,237,872	11,300,236
6. RNC	0.8410	0.8850	8,267,217	9,830,222
7. RLI	1.0000	1.0000	7,899,869	7,899,869
TOTAL			148,625,614	204,241,087

Development of Avoided Costs

As described above the primary overall economic benefit for the State is the avoided cost for the energy that is saved. The total avoided cost of all the energy that is saved is called the Total Resource Benefits (TRB). To estimate the TRB for individual measures or for the total savings for the program, the cost per MWh supplied and the system capacity cost per kW need to be estimated out into the future.

HECO Avoided Costs Not Appropriate

HECO provided avoided energy and capacity costs for future years shown in Table 77. The avoided cost values in the table above for energy and capacity were deemed inappropriate to use for reasons that included a negative avoided cost value for energy in the year 2015 to 2023 and no capacity costs for years 2010 to 2014.

Table 77 – HECO IRP 4 Avoided Costs

HECO / IRP4 Avoided Costs		
Year	**$/MWh**	**$/kW**
2006	$109.62	$180.20
2007	$107.16	$181.14
2008	$102.19	$181.14
2009	$106.89	$181.14
2010	$98.90	$0.00
2011	$100.41	$0.00
2012	$104.04	$0.00
2013	$103.69	$0.00
2014	$108.86	$0.00
2015	($139.65)	$1,530.33
2016	($132.67)	$1,704.00
2017	($118.95)	$1,537.80
2018	($115.35)	$1,412.69
2019	($109.01)	$1,304.38
2020	($104.57)	$1,207.27
2021	($100.02)	$1,149.38
2022	($109.30)	$1,112.04
2023	($111.41)	$1,076.56
2024	$137.80	($411.76)
2025	$144.46	($744.16)

Proxy Avoided Cost Developed

The avoided cost used for the program was estimated using an extrapolation of the HECO provided avoided energy in the first few years of data for energy and the capacity costs leveled over 20 years. The Table 78 was developed from this extrapolation. This table was deemed a good estimate of actual avoided energy and capacity costs as it was more in line with the avoided costs used in many other programs. Therefore, these avoided costs were used to calculate the Total Resource Benefits.

Education and Outreach Can Be FUN

Table 78 – Program Avoided Cost Table

PY2009 Program Avoided Cost		
Year	**$/MWh**	**$/kW**
2006	109.62	180.20
2007	107.16	181.14
2008	102.19	181.14
2009	106.89	181.14
2010	98.90	279.79
2011	100.41	305.64
2012	104.04	338.65
2013	103.69	353.19
2014	108.86	370.59
2015	112.36	382.51
2016	113.45	386.22
2017	113.90	387.74
2018	114.30	389.12
2019	115.13	391.92
2020	114.76	390.68
2021	115.92	394.63
2022	117.01	398.34
2023	116.75	397.44
2024	117.91	401.41
2025	119.18	405.71

Updating the TRM

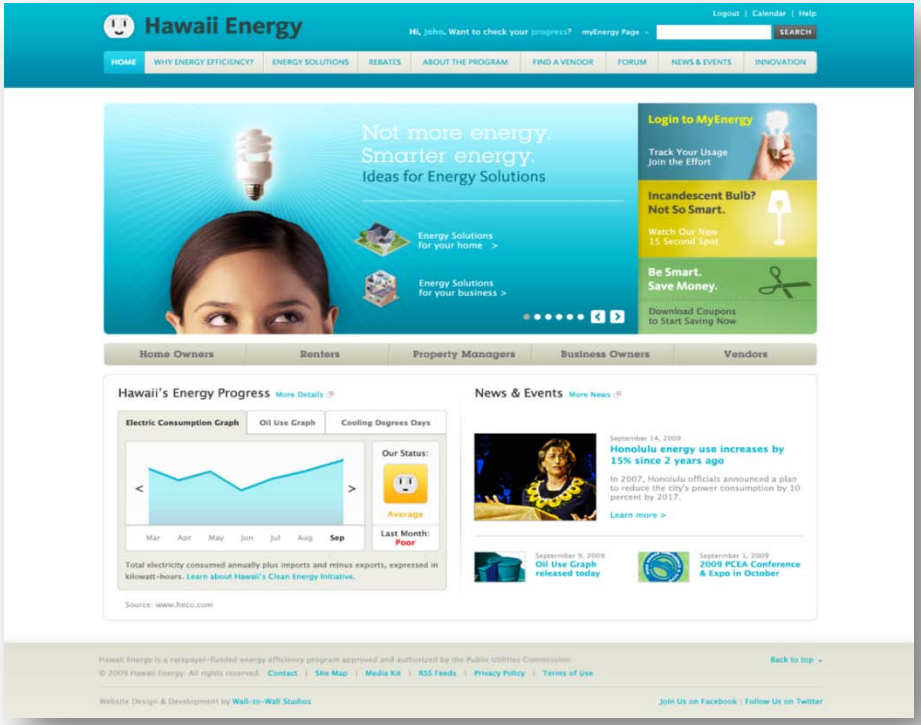
Each year the TRM manual will be reviewed by the program and the program evaluators to determine any additions or changes needed. These changes may result from new more accurate information from field tests, changes to the general market penetration for measures, and to changes in codes or regulations that impact the need for customers to install an efficiency measure.

CONCLUSION

In drafting this PY2009 Annual Report, the Hawaii Energy Team was reminded of the exciting progress we have made over the past year of transition, despite our share of typical start-up challenges. We are proud to have this opportunity to administer a new energy conservation and efficiency Program that will move the state towards a fresh, more aggressive paradigm aimed at reducing Hawaii's dependence on imported fuels. The experience of our first year has set the stage for even greater contributions to Hawaii's energy future in PY2010.

Appreciation to the Hawaii Energy Ohana

We want to thank everyone who helped us this year in getting the Hawaii Energy Efficiency Program from an idea to a new operational force that is making a real impact on solving Hawaii's energy problems.



Looking forward to PY2010

The 2010 Annual Plan details the changes and directions for PY2010. Below are a few highlights of the lessons we learned in PY2009 that form the basis of our efforts to reach untapped markets moving forward. The following activities and concepts will be executed next year:

- Personal Behavior and Group Cultural Change The first step in this process will be the OPOWER peer comparison initiative scheduled to be tested on 15,000 residential households in PY2010 using ARRA stimulus funds made available by the State Energy Office.
- Energy Data Mining and Extrapolation – Building on our first Program Year success at locating and mining raw energy data available (from HECO and DBEDT) and extrapolating useful trends and conclusions for use in the Program, we plan to expand this effort for PY2010.
- Complete and Expand New Interactive Website – Some key features of the website will be current report cards for HCEI and Program goals, general energy usage graphs for each island, energy savings tips, FAQs, energy forums, qualified vendor lists, rebates available and the latest energy news.
- Vendors, Associations and Allies for Marketing and Outreach – During the first Program Year, we have been impressed with the significant positive response received from our efforts to engage trade vendors and associations, community organizations and diverse allies to assist with marketing, education and outreach for our Program. We will strive to reach those that have not been able to participate in the past through new channels that co-opt the support of those who perform energy efficiency work for a livelihood and have the technical expertise and drive to make real change.
- Exciting New Programs

  The following new programs are the direct result of lessons learned in PY2009:

  1. Condominium Submetering Pilot
  2. Central Plant Optimization Competition
  3. Day Peak Demand Reduction Incentive
  4. Package & Split System Annual Tune-up
  5. Small Business Lighting Retrofit

Mahalo to all,

The Hawaii Energy Team

IX. Description of Attachments

Attachment A: System Level Savings by Equipment Type
An analysis of the program impacts by system leavel savings by equipment and includes the number of applications, gross "system" kW and gross "system" kWh.

Attachment B: PY2009 Participation List
A report of program impacts by program, measure, end use, customer class, by island, and total with percent of total portfolio, gross and net, annualized and lifecycle.

Attachment C: PY2009 Monthly & Quarterly Reports
All Monthly and Quarterly Reports of the first program year. The reports summarize program activities and provide detailed program budgets.

Attachment D: Contractor Budget (Attachment F from Contract)
The detailed contractor budget as defined in the HEEP contract between the Hawaii Public Utilities Commission and SAIC / R. W. Beck.

Attachment E: Performance Incentive Mechanism (Attachment C from Contract)
The Performance Incentive Mechanism as defined in the HEEP contract between the Hawaii Public Utilities Commission and SAIC/R. W. Beck. The attachment includes an overview, description of performance indicators and documentation and verification details.

Attachment F: PY2009 Annual Plan
The first Annual Plan which provides SAIC's strategies and plans for administration and delivery of the HEEP portfolio for Program Year 2009 (July 1, 2009 to June 30, 2010). Through this plan Hawaii Energy set forth overall strategies to increase program participation, maximize energy savings from projects, and encourage the development of energy efficiency and renewable solar energy markets.

Attachment G: Technical Reference Manual
The program reference manual which provides methods, formulas, and default assumptions for estimating energy and peak impacts of incentivized projects and measures. The reference manual is organized by program, end use and measure.

Attachment H: PY2009 Outreach Report
A report of Hawaii Energy's participation in events and trade ally meetings including action, results and categorizes by industry.

Attachment I: Individual Program Incentive Record Variances
An itemized list of the individual incentive records which differ from the financial tables. In order to tie the savings calculations to incentive dollars, these adjustments are necessary.

Attachment J: Program Organization Transition Plan
An excerpt from the PY2010 Annual Plan which shows the proposed program organization transition from the PY2009 program organization though PY2011.

Attachment K: PY2009 Program Feedback
An excerpt from the PY2010 Annual Plan that is a summary of actions taken, feedback, and proposed changes for PY2010 by program.

Attachment L: Acronym List
A list of the commonly used Hawaii Energy acronyms with acronym extensions.