

Attachment A

System Level Savings by Equipment Type

PY2009 Final Summary - System Level Savings by Equipment Type

Row Labels	Applications	Gross "System" kW	Gross "System" kWh
CIEE - C&I Energy Efficiency	978	7,026	37,262,781
Ceiling Fans	2	(0)	(869)
CFL	12	1,021	5,563,368
Clothes Washer	4	1	1,392
Commercial Lighting	514	4,551	25,830,754
Dishwasher	6	0	703
Domestic Water Booster Pumps	4	26	239,833
Envelope - Window Film	17	131	1,155,710
High Efficiency Motors	61	21	118,536
HVAC - Chiller	8	684	2,163,357
HVAC - Package / Split	202	269	939,729
HVAC - VFD Fan	19	194	739,165
HVAC - VFD Water Pumping	5	42	154,568
HVAC - Window AC	34	26	80,657
Lighting - Sensors	67	35	162,066
Low Flow Showerheads	1	3	13,660
Refrigerator	5	0	1,044
Smart Power Strip	1	13	59,087
Solar Water Heater	16	9	40,021
CINC - C&I New Construction	1,633	4,739	23,696,549
Commercial Lighting	124	1,757	8,990,465
Custom	4	27	322,687
Custom - Envelope	13	1,016	7,095,133
High Efficiency Motors	30	7	42,127
High Efficiency Water Heater	352	14	62,611
HVAC - Chiller	2	106	306,429
HVAC - Package / Split	88	1,157	4,107,003
HVAC - VFD Fan	17	55	208,513
HVAC - VFD Water Pumping	3	23	85,300
Lighting - Sensors	18	27	51,460
Solar Water Heater	982	551	2,424,821
CICR - C&I Custom Rebates	269	469	2,925,740
Ceiling Fans	10	0	6,558
CFL	1	1	6,396
Clothes Washer	59	8	20,526
Custom	25	380	2,439,901
Custom - LED	11	58	395,840
Dishwasher	66	9	22,950
Energy Study	6	-	-
Refrigerator	62	8	21,543
Window AC	29	6	12,025
NEW - Commercial Measures	2	2	49,805
Solar Water Heating - Commercial	2	2	49,805
REWH - Residential Water Heating	3,829	1,797	7,902,126
Heat Pump - Residential	51	11	34,763
High Efficiency Water Heater	638	25	112,828
Solar Water Heater	3,140	1,761	7,754,535
RNC - Residential New Construction	1,041	559	2,462,987
High Efficiency Water Heater	1	0	174
Solar Water Heater	1,040	559	2,462,812
ESH - Energy Start Home	32,313	15,817	76,523,904
AC - Ductless Split	430	185	319,903
Ceiling Fans	1,581	26	1,020,591
CFL	8,735	12,330	67,200,024
Clothes Washer	6,301	809	2,182,375
Dishwasher	2,434	312	842,896
Maintenance - AC	9	4	6,203
Refrigerator	7,730	993	2,680,667
Window AC	5,093	1,157	2,271,244
RLI - Residential Low Income	177	780	4,188,948
CFL	4	713	3,886,525
Low Flow Showerheads	3	7	33,905
RLI - Solar Water Heater	167	24	103,075
Smart Power Strip	3	36	165,443
Grand Total	40,242	31,188	155,012,840

Attachment B

PY2009 Participation List

Island (All)

Row Labels	Values												
	Units	Sum of Number of Projects with Measure	Sum of Customer kW	Sum of Customer kWh	Sum of Gross kW	Sum of Gross KWh	Sum of Net kW	Sum of Net kWh	Average of Useful Life	Sum of Net TRB	Sum of TRC	Average kW per Unit	Average kWh per Unit
CIEE - C&I Energy Efficiency	286,192	978	6,335	33,590,721	7,026	37,262,781	5,129	27,201,830	12.2	\$ 35,003,969	\$ 3,883,378	0.81	3,677
Ceiling Fans	2	2	(0)	(790)	(0)	(869)	(0)	(634)	5.0	\$ (297)	\$ (316)	(0.01)	(395)
CFL	77,100	12	925	5,042,340	1,021	5,563,368	745	4,061,259	5.0	\$ 2,675,112	\$ 462,600	0.01	65
Clothes Washer	4	4	0	1,252	1	1,392	0	1,016	12.0	\$ 2,098	\$ 692	0.12	313
Commercial Lighting	204,864	514	4,098	23,259,025	4,551	25,830,754	3,322	18,856,451	10.7	\$ 22,728,926	\$ 2,166,053	0.03	168
Dishwasher	6	6	0	626	0	703	0	514	12.0	\$ 1,109	\$ 346	0.04	104
Domestic Water Booster Pumps	4	4	24	215,735	26	239,833	19	175,078	15.0	\$ 262,999	\$ 47,591	5.93	53,934
Envelope - Window Film	79	17	118	1,039,687	131	1,155,710	96	843,668	20.0	\$ 1,477,239	\$ 229,355	6.91	60,841
High Efficiency Motors	134	61	19	107,187	21	118,536	15	86,532	15.0	\$ 150,414	\$ 17,011	0.19	1,082
HVAC - Chiller	12	8	617	1,952,228	684	2,163,357	499	1,579,251	20.0	\$ 4,289,405	\$ 597,882	47.17	159,718
HVAC - Package / Split	327	202	242	846,811	269	939,729	196	686,002	15.0	\$ 1,458,671	\$ 102,718	0.77	2,780
HVAC - VFD Fan	73	19	175	665,788	194	739,165	142	539,591	20.0	\$ 1,331,804	\$ 146,873	2.73	10,372
HVAC - VFD Water Pumping	11	5	38	139,919	42	154,568	31	112,835	20.0	\$ 285,698	\$ 30,866	3.55	13,089
HVAC - Window AC	56	34	24	72,585	26	80,657	19	58,879	12.0	\$ 113,794	\$ 2,800	0.41	1,259
Lighting - Sensors	3,146	67	32	145,952	35	162,066	26	118,308	8.0	\$ 132,059	\$ 9,318	0.01	48
Low Flow Showerheads	103	1	3	12,288	3	13,660	2	9,972	5.0	\$ 7,035			
Refrigerator	5	5	0	939	0	1,044	0	762	12.0	\$ 1,666	\$ 519	0.07	188
Smart Power Strip	250	1	12	53,150	13	59,087	9	43,133	5.0	\$ 29,912	\$ 4,750		213
Solar Water Heater	16	16	8	36,000	9	40,021	7	29,215	15.0	\$ 56,323	\$ 64,320	0.51	2,250
CINC - C&I New Construction	84,678	1,633	4,266	21,332,319	4,739	23,696,549	3,459	17,298,481	13.2	\$ 26,823,349	\$ 9,437,687	1.05	6,019
Commercial Lighting	79,779	124	1,582	8,094,969	1,757	8,990,465	1,282	6,563,040	8.3	\$ 5,971,045	\$ 444,622	0.04	189
Custom	4	4	25	291,990	27	322,687	20	235,561	7.5	\$ 159,960	\$ 123,946	6.15	72,998
Custom - Envelope	13	13	914	6,382,237	1,016	7,095,133	742	5,179,447	18.5	\$ 9,601,219	\$ 4,382,502	70.29	490,941
High Efficiency Motors	69	30	7	38,155	7	42,127	5	30,753	15.0	\$ 53,976	\$ 6,055	0.10	595
High Efficiency Water Heater	352	352	12	56,320	14	62,611	10	45,706	9.0	\$ 61,349	\$ 27,808	0.04	160
HVAC - Chiller	3	2	95	275,640	106	306,429	77	223,693	20.0	\$ 633,401	\$ 41,015	41.00	108,210
HVAC - Package / Split	1,679	88	1,042	3,699,717	1,157	4,107,003	844	2,998,113	15.0	\$ 6,324,677	\$ 448,776	1.04	3,675
HVAC - VFD Fan	18	17	49	187,562	55	208,513	40	152,214	20.0	\$ 378,016	\$ 41,376	2.86	10,899
HVAC - VFD Water Pumping	3	3	21	76,730	23	85,300	17	62,269	20.0	\$ 156,673	\$ 16,927	6.94	25,577
Lighting - Sensors	1,776	18	24	46,500	27	51,460	20	37,566	8.0	\$ 67,216	\$ 5,260	0.01	27
Solar Water Heater	982	982	496	2,182,500	551	2,424,821	402	1,770,119	15.0	\$ 3,415,817	\$ 3,899,400	0.50	2,222
CICR - C&I Custom Rebates	3,073	269	422	2,635,282	469	2,925,740	342	2,135,790	11.0	\$ 2,166,533	\$ 2,176,851	1.53	9,673
Ceiling Fans	15	10	0	5,925	0	6,558	0	4,787	5.0	\$ 2,358	\$ 1,580	0.01	395
CFL	1	1	1	5,817	1	6,396	0	4,669	10.0	\$ 4,881	\$ 534	0.60	5,817
Clothes Washer	59	59	7	18,467	8	20,526	6	14,984	12.1	\$ 29,180	\$ 10,207	0.12	313
Custom	2,824	25	342	2,196,816	380	2,439,901	277	1,781,128	9.3	\$ 1,834,387	\$ 1,962,628	13.27	86,626
Custom - LED	11	11	52	357,376	58	395,840	42	288,963	5.9	\$ 206,160	\$ 178,309	4.74	32,489
Dishwasher	66	66	8	20,658	9	22,950	6	16,754	12.2	\$ 34,621	\$ 11,418	0.12	313
Energy Study	6	6	-	-	-	-	-	-	-	\$ -	\$ -	-	-

Island (All)

Values													
Row Labels	Units	Sum of Number of Projects with Measure	Sum of Customer kW	Sum of Customer kWh	Sum of Gross kW	Sum of Gross KWh	Sum of Net kW	Sum of Net kWh	Average of Useful Life	Sum of Net TRB	Sum of TRC	Average kW per Unit	Average kWh per Unit
Refrigerator	62	62	7	19,406	8	21,543	6	15,726	12.0	\$ 34,423	\$ 10,726	0.12	313
Window AC	29	29	6	10,817	6	12,025	4	8,778	12.0	\$ 20,524	\$ 1,450	0.19	373
NEW - New Programs	2	2	2	44,801	2	49,805	2	36,358	15.0	\$ 46,582	\$ 46,548	1.00	22,401
Solar Water Heating - Commercial	2	2	2	44,801	2	49,805	2	36,358	15.0	\$ 46,582	\$ 46,548	1.00	22,401
REWH - Residential Water Heating	3,829	3,829	1,622	7,135,125	1,797	7,902,126	1,311	5,768,552	13.9	\$ 10,892,787	\$ 12,584,811	0.43	1,876
Heat Pump - Residential	51	51	10	31,365	11	34,763	8	25,377	9.0	\$ 35,710	\$ 24,327	0.19	615
High Efficiency Water Heater	638	638	22	101,760	25	112,828	18	82,364	9.0	\$ 103,129	\$ 50,244	0.03	159
Solar Water Heater	3,140	3,140	1,590	7,002,000	1,761	7,754,535	1,286	5,660,811	15.0	\$ 10,753,948	\$ 12,510,240	0.51	2,232
RNC	1,041	1,041	505	2,223,160	559	2,462,987	408	1,797,980	15.0	\$ 3,502,405	\$ 3,971,839	0.48	2,134
High Efficiency Water Heater	1	1	0	160	0	174	0	127	9.0	\$ 166	\$ 79	0.04	160
Solar Water Heater	1,040	1,040	505	2,223,000	559	2,462,812	408	1,797,853	15.0	\$ 3,502,240	\$ 3,971,760	0.49	2,136
ESH	976,087	32,313	14,269	69,058,241	15,817	76,523,904	11,546	55,862,450	9.8	\$ 45,980,943	\$ 9,273,578	0.09	228
AC - Ductless Split	528	430	166	287,760	185	319,903	135	233,529	12.0	\$ 620,507	\$ 225,984	0.31	545
Ceiling Fans	2,332	1,581	23	918,770	26	1,020,591	19	745,031	5.0	\$ 359,616	\$ 367,508	0.01	394
CFL	951,250	8,735	11,132	60,667,133	12,330	67,200,024	9,001	49,056,018	5.0	\$ 32,185,730	\$ 5,565,792	(0.02)	(99)
Clothes Washer	6,302	6,301	728	1,964,388	809	2,182,375	590	1,593,134	12.1	\$ 3,218,302	\$ 1,085,748	0.12	312
Dishwasher	2,434	2,434	281	758,712	312	842,896	228	615,314	12.2	\$ 1,244,328	\$ 419,352	0.12	312
Maintenance - AC	9	9	4	5,580	4	6,203	3	4,528	1.0	\$ 991	\$ 1,710	0.39	620
Refrigerator	7,730	7,730	894	2,412,604	993	2,680,667	725	1,956,887	12.0	\$ 4,279,541	\$ 1,333,484	0.12	312
Window AC	5,502	5,093	1,041	2,043,294	1,157	2,271,244	845	1,658,008	12.0	\$ 4,071,930	\$ 274,000	0.19	371
RLI	55,344	177	703	3,777,304	780	4,188,948	569	3,057,932	14.5	\$ 2,130,801	\$ 351,666	0.13	538
CFL	53,580	4	643	3,504,132	713	3,886,525	521	2,837,164	5.0	\$ 1,859,047	\$ 321,480		
Low Flow Showerheads	897	3	6	30,498	7	33,905	5	24,750	5.0	\$ 16,850	\$ 2,691		34
RLI - Solar Water Heater	167	167	22	93,854	24	103,075	17	75,245	15.0	\$ 139,439	\$ 14,195	0.13	562
Smart Power Strip	700	3	32	148,820	36	165,443	26	120,774	7.0	\$ 115,465	\$ 13,300		213
Grand Total	1,410,246	40,242	28,123	139,796,953	31,188	155,012,840	22,767	113,159,373	10.5	\$ 126,547,369	\$ 41,726,359	0.20	829

Island	Oahu

Row Labels	Values												
	Units	Sum of Number of Projects with Measure	Sum of Customer kW	Sum of Customer kWh	Sum of Gross kW	Sum of Gross KWh	Sum of Net kW	Sum of Net kWh	Average of Useful Life	Sum of Net TRB	Sum of TRC	Average kW per Unit	Average kWh per Unit
CIEE - C&I Energy Efficiency	240,744	866	5,513	29,444,813	6,129	32,733,799	4,474	23,895,673	12.3	\$ 31,677,231	\$ 3,519,473	0.82	3,698
CFL	45,516	4	546	2,976,746	607	3,309,249	443	2,415,752	5.0	\$ 1,579,253	\$ 273,096	0.01	65
Clothes Washer	4	4	0	1,252	1	1,392	0	1,016	12.0	\$ 2,098	\$ 692	0.12	313
Commercial Lighting	191,315	468	3,798	21,773,274	4,223	24,205,349	3,082	17,669,905	10.7	\$ 21,575,258	\$ 2,081,922	0.03	167
Dishwasher	4	4	0	1,252	1	1,392	0	1,016	12.0	\$ 2,098	\$ 692	0.12	313
Domestic Water Booster Pumps	4	4	24	215,735	26	239,833	19	175,078	15.0	\$ 262,999	\$ 47,591	5.93	53,934
Envelope - Window Film	78	16	118	1,034,621	131	1,150,189	95	839,638	20.0	\$ 1,470,128	\$ 228,237	7.31	64,327
High Efficiency Motors	116	49	11	65,183	13	72,463	9	52,898	15.0	\$ 91,184	\$ 10,345	0.13	740
HVAC - Chiller	9	6	547	1,632,670	608	1,815,039	444	1,324,979	20.0	\$ 3,695,814	\$ 550,332	54.42	173,844
HVAC - Package / Split	277	176	205	724,970	228	805,949	166	588,343	15.0	\$ 1,240,797	\$ 87,939	0.78	2,804
HVAC - VFD Fan	71	18	163	620,134	181	689,402	132	503,264	20.0	\$ 1,239,950	\$ 136,801	2.54	9,680
HVAC - VFD Water Pumping	9	4	26	94,784	29	105,371	21	76,921	20.0	\$ 193,538	\$ 20,909	2.91	10,720
HVAC - Window AC	54	32	23	69,585	25	77,358	18	56,471	12.0	\$ 109,085	\$ 2,700	0.41	1,244
Lighting - Sensors	2,913	58	29	132,231	32	147,001	23	107,311	8.0	\$ 120,092	\$ 8,628	0.01	46
Low Flow Showerheads	103	1	3	12,288	3	13,660	2	9,972	5.0	\$ 7,035			
Refrigerator	5	5	0	939	0	1,044	0	762	12.0	\$ 1,666	\$ 519	0.07	188
Smart Power Strip	250	1	12	53,150	13	59,087	9	43,133	5.0	\$ 29,912	\$ 4,750		213
Solar Water Heater	16	16	8	36,000	9	40,021	7	29,215	15.0	\$ 56,323	\$ 64,320	0.51	2,250
CINC - C&I New Construction	76,738	1,534	4,080	20,395,450	4,536	22,673,622	3,311	16,551,744	13.2	\$ 25,698,937	\$ 9,211,652	1.08	6,241
Commercial Lighting	72,591	98	1,502	7,632,767	1,670	8,485,347	1,219	6,194,303	8.3	\$ 5,512,583	\$ 410,951	0.04	187
Custom	3	3	18	203,586	20	226,327	14	165,218	8.3	\$ 117,875	\$ 91,289	5.87	67,862
Custom - Envelope	13	13	914	6,382,237	1,016	7,095,133	742	5,179,447	18.5	\$ 9,601,219	\$ 4,382,502	70.29	490,941
High Efficiency Motors	39	20	3	19,408	4	21,576	3	15,751	15.0	\$ 27,456	\$ 3,080	0.10	557
High Efficiency Water Heater	352	352	12	56,320	14	62,611	10	45,706	9.0	\$ 61,349	\$ 27,808	0.04	160
HVAC - Chiller	3	2	95	275,640	106	306,429	77	223,693	20.0	\$ 633,401	\$ 41,015	41.00	108,210
HVAC - Package / Split	1,472	61	969	3,413,670	1,077	3,794,977	786	2,770,333	15.0	\$ 5,852,798	\$ 414,078	1.10	3,809
HVAC - VFD Fan	18	17	49	187,562	55	208,513	40	152,214	20.0	\$ 378,016	\$ 41,376	2.86	10,899
HVAC - VFD Water Pumping	3	3	21	76,730	23	85,300	17	62,269	20.0	\$ 156,673	\$ 16,927	6.94	25,577
Lighting - Sensors	1,292	13	17	32,531	19	36,165	14	26,400	8.0	\$ 47,356	\$ 3,827	0.01	25
Solar Water Heater	952	952	480	2,115,000	534	2,351,245	390	1,716,409	15.0	\$ 3,310,211	\$ 3,778,800	0.50	2,221
CICR - C&I Custom Rebates	3,048	245	385	2,313,734	428	2,572,178	313	1,877,690	11.3	\$ 1,998,579	\$ 2,056,671	1.53	9,310
Ceiling Fans	9	5	0	3,555	0	3,952	0	2,885	5.0	\$ 1,415	\$ 790	0.01	395
Clothes Washer	58	58	7	18,154	7	20,182	5	14,733	12.1	\$ 28,685	\$ 10,034	0.12	313
Custom	2,822	23	322	2,006,820	358	2,230,982	261	1,628,617	9.3	\$ 1,734,390	\$ 1,911,573	13.57	85,898
Custom - LED	7	7	37	237,141	41	263,630	30	192,450	6.4	\$ 149,395	\$ 112,237	5.31	33,877
Dishwasher	62	62	7	19,406	8	21,574	6	15,749	12.2	\$ 32,522	\$ 10,726	0.12	313
Energy Study	4	4	-	-	-	-	-	-	-	\$ -	\$ -	-	-
Refrigerator	57	57	7	17,841	7	19,834	5	14,479	12.0	\$ 31,647	\$ 9,861	0.12	313

Island	Oahu

Row Labels	Values												
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Window AC	29	29	6	10,817	6	12,025	4	8,778	12.0	\$ 20,524	\$ 1,450	0.19	373
NEW - New Programs	2	2	2	44,801	2	49,805	2	36,358	15.0	\$ 46,582	\$ 46,548	1.00	22,401
Solar Water Heating - Commercial	2	2	2	44,801	2	49,805	2	36,358	15.0	\$ 46,582	\$ 46,548	1.00	22,401
REWH - Residential Water Heating	2,934	2,934	1,221	5,370,050	1,357	5,969,885	991	4,358,016	13.8	\$ 8,186,593	\$ 9,456,875	0.42	1,838
Heat Pump - Residential	40	40	8	24,600	8	27,348	6	19,964	9.0	\$ 28,026	\$ 19,080	0.19	615
High Efficiency Water Heater	545	545	19	87,200	21	96,940	15	70,766	9.0	\$ 88,457	\$ 43,055	0.04	160
Solar Water Heater	2,349	2,349	1,194	5,258,250	1,328	5,845,597	969	4,267,285	15.0	\$ 8,070,110	\$ 9,394,740	0.51	2,240
RNC	800	800	388	1,710,000	432	1,901,007	315	1,387,735	15.0	\$ 2,701,062	\$ 3,055,200	0.49	2,137
Solar Water Heater	800	800	388	1,710,000	432	1,901,007	315	1,387,735	15.0	\$ 2,701,062	\$ 3,055,200	0.49	2,137
ESH	752,564	28,917	11,610	54,743,704	12,907	60,858,576	9,422	44,426,760	10.2	\$ 38,158,315	\$ 7,855,269	0.10	252
AC - Ductless Split	528	430	166	287,760	185	319,903	135	233,529	12.0	\$ 620,507	\$ 225,984	0.31	545
Ceiling Fans	2,192	1,476	22	863,470	24	959,920	18	700,741	5.0	\$ 338,856	\$ 345,388	0.01	393
CFL	728,519	6,096	8,553	46,614,046	9,508	51,820,835	6,941	37,829,210	5.0	\$ 24,730,147	\$ 4,276,518	(0.02)	(102)
Clothes Washer	6,050	6,049	699	1,885,512	777	2,096,124	567	1,530,170	12.1	\$ 3,093,609	\$ 1,042,152	0.12	312
Dishwasher	2,331	2,331	269	726,473	299	807,620	218	589,563	12.2	\$ 1,193,387	\$ 401,533	0.12	312
Maintenance - AC	9	9	4	5,580	4	6,203	3	4,528	1.0	\$ 991	\$ 1,710	0.39	620
Refrigerator	7,478	7,478	865	2,334,354	962	2,595,101	702	1,894,424	12.0	\$ 4,140,739	\$ 1,290,234	0.12	312
Window AC	5,457	5,048	1,032	2,026,509	1,148	2,252,870	838	1,644,595	12.0	\$ 4,040,082	\$ 271,750	0.19	371
RLI	43,825	52	550	2,962,880	612	3,293,833	447	2,404,498	13.6	\$ 1,632,698	\$ 272,835	0.13	448
CFL	42,184	2	506	2,758,834	563	3,066,995	411	2,238,907	5.0	\$ 1,463,644	\$ 253,104		
Low Flow Showerheads	897	3	6	30,498	7	33,905	5	24,750	5.0	\$ 16,850	\$ 2,691		34
RLI - Solar Water Heater	44	44	6	24,728	6	27,490	5	20,068	15.0	\$ 36,738	\$ 3,740	0.13	562
Smart Power Strip	700	3	32	148,820	36	165,443	26	120,774	7.0	\$ 115,465	\$ 13,300		213
Grand Total	1,120,655	35,350	23,750	116,985,432	26,403	130,052,704	19,274	94,938,474	10.8	\$ 110,099,996	\$ 35,474,524	0.21	842

Island	Hawaii

Values													
Row Labels	Units	Sum of Number of Projects with Measure	Sum of Customer kW	Sum of Customer kWh	Sum of Gross kW	Sum of Gross KWh	Sum of Net kW	Sum of Net kWh	Average of Useful Life	Sum of Net TRB	Sum of TRC	Average kW per Unit	Average kWh per Unit
CIEE - C&I Energy Efficiency	37,479	46	618	3,110,149	673	3,390,062	491	2,474,746	11.7	\$ 2,516,867	\$ 278,334	1.50	6,757
CFL	27,408	4	329	1,792,483	358	1,953,807	262	1,426,279	5.0	\$ 950,966	\$ 164,448	0.01	65
Commercial Lighting	10,003	25	186	867,282	203	945,337	148	690,096	10.4	\$ 729,749	\$ 40,650	0.03	152
Envelope - Window Film	1	1	1	5,065	1	5,521	0	4,030	20.0	\$ 7,110	\$ 1,117	0.58	5,065
High Efficiency Motors	5	3	2	12,030	2	13,113	2	9,572	15.0	\$ 17,003	\$ 1,909	0.41	2,339
HVAC - Chiller	3	2	70	319,558	76	348,318	56	254,272	20.0	\$ 593,592	\$ 47,550	25.44	117,339
HVAC - Package / Split	8	6	5	20,545	5	22,394	4	16,348	15.0	\$ 32,409	\$ 2,492	0.61	2,405
HVAC - VFD Fan	2	1	12	45,654	13	49,763	10	36,327	20.0	\$ 91,854	\$ 10,071	6.00	22,827
HVAC - VFD Water Pumping	2	1	12	45,135	13	49,197	10	35,914	20.0	\$ 92,161	\$ 9,957	6.13	22,568
Lighting - Sensors	47	3	0	2,397	1	2,613	0	1,907	8.0	\$ 2,023	\$ 139	0.01	51
CINC - C&I New Construction	5,413	68	149	755,647	163	823,655	119	601,268	13.7	\$ 924,332	\$ 210,635	0.63	3,448
Commercial Lighting	4,986	12	56	324,908	61	354,150	45	258,529	9.2	\$ 328,468	\$ 24,060	0.04	184
Custom	1	1	7	88,404	8	96,360	6	70,343	5.0	\$ 42,085	\$ 32,657	7.00	88,404
High Efficiency Motors	14	3	1	6,617	1	7,212	1	5,265	15.0	\$ 9,352	\$ 1,050	0.07	401
HVAC - Package / Split	197	21	67	261,503	73	285,038	53	208,078	15.0	\$ 429,714	\$ 31,720	0.96	3,576
Lighting - Sensors	185	1	3	6,716	3	7,320	3	5,344	8.0	\$ 9,107	\$ 548	0.02	36
Solar Water Heater	30	30	15	67,500	17	73,575	12	53,710	15.0	\$ 105,606	\$ 120,600	0.51	2,250
CICR - C&I Custom Rebates	5	5	0	1,252	1	1,365	0	996	9.6	\$ 2,221	\$ 692	0.09	250
Energy Study	1	1	-	-	-	-	-	-	-	\$ -	\$ -	-	-
Refrigerator	4	4	0	1,252	1	1,365	0	996	12.0	\$ 2,221	\$ 692	0.12	313
REWH - Residential Water Heating	483	483	204	899,510	223	980,466	163	715,740	13.9	\$ 1,381,061	\$ 1,588,088	0.43	1,899
Heat Pump - Residential	4	4	1	2,460	1	2,681	1	1,957	9.0	\$ 2,794	\$ 1,908	0.19	615
High Efficiency Water Heater	82	82	3	12,800	3	13,952	2	10,185	9.0	\$ 12,898	\$ 6,320	0.03	155
Solar Water Heater	397	397	201	884,250	219	963,833	160	703,598	15.0	\$ 1,365,369	\$ 1,579,860	0.51	2,227
RNC	117	117	54	238,660	59	260,139	43	189,902	14.9	\$ 374,323	\$ 426,199	0.46	2,040
High Efficiency Water Heater	1	1	0	160	0	174	0	127	9.0	\$ 166	\$ 79	0.04	160
Solar Water Heater	116	116	54	238,500	59	259,965	43	189,774	15.0	\$ 374,157	\$ 426,120	0.47	2,056
ESH	123,305	2,048	1,455	7,805,876	1,586	8,508,405	1,158	6,211,136	6.4	\$ 4,284,324	\$ 775,277	0.01	0
Ceiling Fans	36	25	0	14,220	0	15,500	0	11,315	5.0	\$ 5,338	\$ 5,688	0.01	395
CFL	122,867	1,621	1,406	7,665,076	1,533	8,354,933	1,119	6,099,101	5.0	\$ 4,066,552	\$ 703,218	(0.02)	(90)
Clothes Washer	160	160	19	50,080	20	54,587	15	39,849	12.0	\$ 79,192	\$ 27,680	0.12	313
Dishwasher	58	58	7	18,154	7	19,788	5	14,445	12.2	\$ 28,685	\$ 10,034	0.12	313
Refrigerator	161	161	18	49,767	20	54,246	15	39,600	12.0	\$ 88,278	\$ 27,507	0.11	309
Window AC	23	23	4	8,579	5	9,351	3	6,826	12.0	\$ 16,278	\$ 1,150	0.19	373
RLI	79	79	10	44,398	11	48,394	8	35,327	15.0	\$ 65,962	\$ 6,715	0.13	562
RLI - Solar Water Heater	79	79	10	44,398	11	48,394	8	35,327	15.0	\$ 65,962	\$ 6,715	0.13	562
Grand Total	166,881	2,846	2,491	12,855,492	2,715	14,012,487	1,982	10,229,115	8.5	\$ 9,549,089	\$ 3,285,940	0.15	657

Island	Maui

Row Labels	Values													
	Units	Sum of Number of Projects with Measure	Sum of Customer kW	Sum of Customer kWh	Sum of Gross kW	Sum of Gross KWh	Sum of Net kW	Sum of Net kWh	Average of Useful Life	Sum of Net TRB	Sum of TRC	Average kW per Unit	Average kWh per Unit	
CIEE - C&I Energy Efficiency	7,307	59	189	950,892	207	1,045,601	151	763,289	11.7	\$ 722,810	\$ 76,877	0.24	954	
Ceiling Fans	2	2	(0)	(790)	(0)	(869)	(0)	(634)	5.0	\$ (297)	\$ (316)	(0.01)	(395)	
CFL	3,720	2	45	243,288	49	267,519	36	195,289	5.0	\$ 129,072	\$ 22,320	0.01	65	
Commercial Lighting	3,343	19	109	589,201	120	647,885	88	472,956	9.6	\$ 392,513	\$ 41,250	0.03	196	
Dishwasher	2	2	(0)	(626)	(0)	(688)	(0)	(502)	12.0	\$ (989)	\$ (346)	(0.12)	(313)	
High Efficiency Motors	11	7	2	13,935	3	15,323	2	11,186	15.0	\$ 19,556	\$ 2,211	0.17	960	
HVAC - Package / Split	41	19	30	91,560	33	100,680	24	73,496	15.0	\$ 168,302	\$ 11,106	0.62	2,306	
HVAC - Window AC	2	2	1	3,000	1	3,299	1	2,408	12.0	\$ 4,709	\$ 100	0.49	1,500	
Lighting - Sensors	186	6	2	11,324	2	12,452	2	9,090	8.0	\$ 9,944	\$ 551	0.01	58	
CINC - C&I New Construction	2,527	31	36	181,222	40	199,272	29	145,469	10.7	\$ 200,081	\$ 15,400	0.19	790	
Commercial Lighting	2,202	14	24	137,295	26	150,969	19	110,208	7.5	\$ 129,994	\$ 9,612	0.04	205	
High Efficiency Motors	16	7	2	12,130	2	13,338	2	9,737	15.0	\$ 17,169	\$ 1,925	0.14	788	
HVAC - Package / Split	10	6	7	24,544	7	26,988	5	19,702	15.0	\$ 42,164	\$ 2,977	0.73	2,662	
Lighting - Sensors	299	4	4	7,254	4	7,976	3	5,822	8.0	\$ 10,753	\$ 886	0.02	32	
CICR - C&I Custom Rebates	19	18	36	313,824	39	345,081	29	251,909	7.9	\$ 163,171	\$ 110,596	1.99	17,413	
Ceiling Fans	6	5	0	2,370	0	2,606	0	1,902	5.0	\$ 943	\$ 790	0.01	395	
CFL	1	1	1	5,817	1	6,396	0	4,669	10.0	\$ 4,881	\$ 534	0.60	5,817	
Clothes Washer	1	1	0	313	0	344	0	251	12.0	\$ 495	\$ 173	0.12	313	
Custom	2	2	20	189,996	22	208,920	16	152,511	10.0	\$ 99,996	\$ 51,055	9.90	94,998	
Custom - LED	3	3	15	113,763	16	125,094	12	91,318	5.0	\$ 54,202	\$ 57,180	4.87	37,921	
Dishwasher	4	4	0	1,252	1	1,377	0	1,005	12.0	\$ 2,098	\$ 692	0.12	313	
Energy Study	1	1	-	-	-	-	-	-	-	\$ -	\$ -	-	-	
Refrigerator	1	1	0	313	0	344	0	251	12.0	\$ 555	\$ 173	0.12	313	
REWH - Residential Water Heating	396	396	190	835,700	209	918,936	153	670,823	14.6	\$ 1,280,905	\$ 1,487,111	0.48	2,121	
Heat Pump - Residential	6	6	1	3,690	1	4,058	1	2,962	9.0	\$ 4,191	\$ 2,862	0.19	615	
High Efficiency Water Heater	11	11	0	1,760	0	1,935	0	1,413	9.0	\$ 1,773	\$ 869	0.04	160	
Solar Water Heater	379	379	189	830,250	207	912,943	151	666,448	14.8	\$ 1,274,941	\$ 1,483,380	0.50	2,186	
RNC	113	113	57	249,750	62	274,625	46	200,476	15.0	\$ 388,501	\$ 446,220	0.50	2,207	
Solar Water Heater	113	113	57	249,750	62	274,625	46	200,476	15.0	\$ 388,501	\$ 446,220	0.50	2,207	
ESH	100,213	1,343	1,203	6,507,095	1,323	7,155,202	966	5,223,298	6.3	\$ 3,535,709	\$ 642,167	0.01	17	
Ceiling Fans	104	80	1	41,080	1	45,172	1	32,975	5.0	\$ 15,422	\$ 16,432	0.01	395	
CFL	99,864	1,018	1,172	6,388,010	1,289	7,024,256	941	5,127,707	5.0	\$ 3,389,031	\$ 586,056	(0.02)	(95)	
Clothes Washer	90	90	10	28,170	11	30,976	8	22,612	12.0	\$ 44,512	\$ 15,570	0.12	313	
Dishwasher	44	44	5	13,772	6	15,144	4	11,055	12.2	\$ 21,761	\$ 7,612	0.12	313	
Refrigerator	89	89	10	27,857	11	30,632	8	22,361	12.0	\$ 49,413	\$ 15,397	0.12	313	
Window AC	22	22	4	8,206	5	9,023	3	6,587	12.0	\$ 15,570	\$ 1,100	0.19	373	
RLI	11,440	46	142	770,026	157	846,721	114	618,106	14.6	\$ 432,141	\$ 72,116	0.13	562	
CFL	11,396	2	137	745,298	150	819,530	110	598,257	5.0	\$ 395,403	\$ 68,376			
RLI - Solar Water Heater	44	44	6	24,728	6	27,191	5	19,849	15.0	\$ 36,738	\$ 3,740	0.13	562	
Grand Total	122,015	2,006	1,853	9,808,510	2,038	10,785,438	1,488	7,873,370	8.8	\$ 6,723,319	\$ 2,850,487	0.17	789	

Island	Lanai

Row Labels	Values												
	Units	Sum of Number of Projects with Measure	Sum of Customer kW	Sum of Customer kWh	Sum of Gross kW	Sum of Gross KWh	Sum of Net kW	Sum of Net kWh	Average of Useful Life	Sum of Net TRB	Sum of TRC	Average kW per Unit	Average kWh per Unit
CIEE - C&I Energy Efficiency	456	2	5	29,822	6	32,793	4	23,939	5.0	\$ 15,822	\$ 2,736	0.01	65
CFL	456	2	5	29,822	6	32,793	4	23,939	5.0	\$ 15,822	\$ 2,736	0.01	65
REWH - Residential Water Heating	14	14	7	29,865	8	32,840	5	23,973	14.6	\$ 44,228	\$ 52,737	0.51	2,250
Heat Pump - Residential	1	1	0	615	0	676	0	494	9.0	\$ 698	\$ 477		
Solar Water Heater	13	13	7	29,250	7	32,163	5	23,479	15.0	\$ 43,529	\$ 52,260	0.51	2,250
RNC	1	1	1	2,250	1	2,474	0	1,806	15.0	\$ 3,520	\$ 4,020	0.51	2,250
Solar Water Heater	1	1	1	2,250	1	2,474	0	1,806	15.0	\$ 3,520	\$ 4,020	0.51	2,250
Grand Total	471	17	13	61,937	14	68,106	10	49,718	13.5	\$ 63,569	\$ 59,493	0.45	1,977

Island	Molokai

Values													
	Units	Sum of Number of Projects with Measure	Sum of Customer kW	Sum of Customer kWh	Sum of Gross kW	Sum of Gross KWh	Sum of Net kW	Sum of Net kWh	Average of Useful Life	Sum of Net TRB	Sum of TRC	Average kW per Unit	Average kWh per Unit
Row Labels													
CIEE - C&I Energy Efficiency	206	5	10	55,044	11	60,527	8	44,185	16.0	\$ 71,240	\$ 5,958	1.15	5,244
Commercial Lighting	203	2	4	29,268	5	32,183	3	23,494	17.5	\$ 31,406	\$ 2,232	0.03	221
High Efficiency Motors	2	2	3	16,040	3	17,638	2	12,875	15.0	\$ 22,671	\$ 2,546	1.40	8,020
HVAC - Package / Split	1	1	3	9,736	3	10,706	2	7,815	15.0	\$ 17,163	\$ 1,181	2.88	9,736
CICR - C&I Custom Rebates	1	1	0	6,472	0	7,117	0	5,195	5.0	\$ 2,563	\$ 8,892	0.30	6,472
Custom - LED	1	1	0	6,472	0	7,117	0	5,195	5.0	\$ 2,563	\$ 8,892	0.30	6,472
REWH - Residential Water Heating	2	2	-	-	-	-	-	-	15.0	\$ -	\$ -	0.51	2,250
Solar Water Heater	2	2	-	-	-	-	-	-	15.0	\$ -	\$ -	0.51	2,250
RNC	10	10	5	22,500	6	24,741	4	18,061	15.0	\$ 34,999	\$ 40,200	0.51	2,250
Solar Water Heater	10	10	5	22,500	6	24,741	4	18,061	15.0	\$ 34,999	\$ 40,200	0.51	2,250
ESH	5	5	1	1,565	1	1,721	0	1,256	12.4	\$ 2,594	\$ 865	0.12	313
Clothes Washer	2	2	0	626	0	688	0	502	12.0	\$ 989	\$ 346	0.12	313
Dishwasher	1	1	0	313	0	344	0	251	14.0	\$ 495	\$ 173	0.12	313
Refrigerator	2	2	0	626	0	688	0	502	12.0	\$ 1,110	\$ 346	0.12	313
Grand Total	224	23	16	85,581	18	94,105	13	68,697	14.2	\$ 111,396	\$ 55,915	0.56	2,682

Hawaii Energy Efficiency Program

Monthly Performance Report – July 2009



Executive Summary

The July 1st Program transition went smoothly with the majority of the Program activity involving direct communication with major commercial customers and internal operational systems testing.

The Program's call center, email and P.O. Box information were in place on July 1st and were communicated by the HECO Companies to all Ratepayers via newspaper advertisements and bill stuffers.

The majority of Program communications came from interested parties emailing the Program with questions after visiting the Program transition website.

The majority of the first month's activity involved:

- Responding to email from existing and potential Program participants and trade allies.
- Physical and software transfers of Program documentation from the Utilities to SAIC.
- Finalizing and uploading the incentive applications to the transition website.
- Communication meetings with the Solar Contractors.
- Communication meetings with HECO, MECO, HELCO Commercial Customers.

Key Performance Metrics	July 09 Results	PYTD 09 Results	Year 1 PY2009 Targets	PYTD %
Annual Energy Savings Impacts (Gross Generation Level)				
Residential (MWh)	5	5	68,722	0.0%
Business (MWh)	0	0	57,301	0.0%
Peak Demand (kW)	0	0	20,097	0.0%
Total Resource Benefit	\$7,446	\$7,446	\$208,342,000	0.0%
Island Equity (% of Total Incentive Dollars)				
Oahu	100%	100%	69%	
Maui County	0%	0%	19%	
Hawaii County	0%	0%	11%	
Market Transformation (Applications Completed)				
Emerging Technologies	0	0	20	0.0%
Ally Referrals	0	0	40	0.0%
Financials ¹				
Incentives	\$930	\$930	\$12,881,723	0.0%
Other Program Costs	\$293,820	\$808,663	\$6,661,713	12.1%
Total Program Costs	\$294,750	\$809,593	\$19,576,936	4.1%

¹ Includes Ramp-Up to match Attachment F

Hawaii Energy Efficiency Program

Monthly Performance Report – July 2009



Overall program portfolio highlights

- **Key accomplishments and program innovations**

Residential

1. *Honeywell Subcontract* - An agreement was signed with Honeywell to process residential program applications in mid-July, after which a new checking account was opened to be used to pay incentives.
2. *First Check Sent Out* - The first incentive check was cut on July 31, 2009 to Mr. James Hale. It was a \$40.00 High Efficiency Water Heater incentive to meet a deliverable milestone.
3. *New Applications* - New residential applications were created and refined by the new staff members before being sent to the printers for the REWH program.

Business

1. *Transfer of Files* - Receiving of the HECO, HELCO and MECO of rebate applications that were "In-flight" at various stages of processing.
Team started review of all rebate applications and the assigning of applications to the new personnel for processing and follow-up.
2. *New Applications Review* - Review of all the new applications produced by an SAIC team on the east coast and refinements were done by the new staff members.
3. *Measure Review* - Reviews of all the ECMs offered for rebate dollars, estimation of participation levels and impacts.
4. *Avoided Cost* - Reviews for the avoided cost by islands.
5. *Tracking System*- Review of the new DSMIS replacement computer system for processing applications for the CIEE, CINC and CICR programs called TRACK ESP (Tracker of Energy Saving Programs)
Evaluation of the new TRACK ESP, was that the programmers needed more guidance and insight to the actual needs of the processors, the HECO data information and day to day operations to create a tool that would fit with the actual work needed to be performed.

Major Program features and functions were added based on the design work done while working on the HECO PEACE DSM replacement software. Even more functions were added with new feature of the base core product of Salesforce.

New design goals were added from input the new hires.

Hawaii Energy Efficiency Program

Monthly Performance Report – July 2009



Business Accomplishments Continued

6. *On Bill Incentive Credit* - Meeting was held with HECO's Keith Block and Elaine Wong of Energy Services to discuss being able to do Utility Bill Credits for the Military, State of Hawaii and the three Counties. HECO will be creating an MOU to accomplish this request.
7. *Website Traffic*- The new website has generated lots of emails from various sources the majority being from both local and off island vendors. An average about 10 – 40 emails each day with only a small amount coming from residential customers. These new emails are being handled by new staff.

• **Outstanding Issues**

1. *Payment of Rebates for Solar Installations before Transition* – During July, the PUC ordered the HECO companies to pay without further delay approximately \$2.4M in solar hot water rebates that were due and owing to solar hot water installers for installations that had been completed and inspected prior to the July 1 Program turn-over. This helped alleviate financial stress on the part of solar installers who had been complaining about the lack of payment. It also removed the extreme budget shortfall that SAIC would have faced had it been left with this liability.
2. *Office Location* – Visited about various different office spaces around downtown Honolulu ranging in size and functionally. Each location was within walking distance of the PUC office. The offices were then evaluated by the Program's managing staff for recommendation to SAIC Corporate Properties group.
3. *Maui On-Island Inspector* – Interviewed a prospect for doing inspection on Maui for Solar Water Heating and Commercial applications.
4. *On Utility Bill Credits* – MOU on Bill Credits from HECO, HELCO and MECO.
5. *HEEP Role in ARRA Implementation* – Meeting with OCS, HCAP, MEO, DBEDT and the PUC on the Low Income ARRA funds.
6. *Solar Contractor Agreements* – The receiving of signed Solar Contractor's working agreements.

• **Priorities for next month**

1. *ARRA* - Develop a Proposed Scope of Work for DBEDT for the Program to utilize the ARRA State Energy Program and Energy Star Funding.
2. *Budget Development* - Establish Revised Program Budget
3. *Tracking System Testing* - Continuing design work on TRACK ESP and then start testing on various functions.
4. *T&D Losses Review* - Establish the T&D loss factors by counties.

Hawaii Energy Efficiency Program

Monthly Performance Report – July 2009



5. *Measure Impact Development* - Continue to review the past Kema/Xenergy reports and IRP 4 documents for information in ECM impacts. Establish the impact levels for each ECM.
 6. *Data Transfer Testing* - Continue working with HECO IT personnel to incorporate customer data into the new TRACK ESP system.
 7. *Combine Process Differences between Islands* - Review the operational and incentive differences between HECO, HELCO and MECO for DSM application processing based on the phone calls from vendors on different islands.
 8. *Complete Maui Inspector Hiring* - Evaluate the new potential Maui Inspector and if viable make an offer.
 9. *Execute Solar Contractor Agreements* - Receiving all of the signed Solar Contractor agreements and execute the agreements.
- **Administration personnel changes**
 1. *Director of Operations* – Derrick Sonoda came on board from his last position as the Residential Program Manager for HECO's DSM program. Derrick brings the program valuable experience in developing the incentive processing and tracking systems for both residential and commercial, customer tools worksheet and internal processing spreadsheets, major commercial customer relationships, solar contractor, utilities account managers relationships for all companies, history of HECO DSM program since 2000. He was also the HECO trainer for the HECO Call Center, Field Services and Meter readers on the DSM activities and conservation. Functional designer for the PCEA, Business Engagement and Energy Expo events since 2000, HECO contact person to manufacturers, local distributors and retail stores.
 2. *Administrative Assistant* – Carin Iha came on board from her last position as the Office Manager for a large local landscaping company. Carin was also the administrative assistant at the Hawaii Pacific University for over a decade, and has been assigned to various professors. She brings to the Program strong organizational and administrative process background.
 3. *Solar Inspection Subcontractor* – Home-Tech was contracted to perform 100-point Solar Inspections and Commercial Equipment Installation inspections on the Island of Hawaii.

Hawaii Energy Efficiency Program

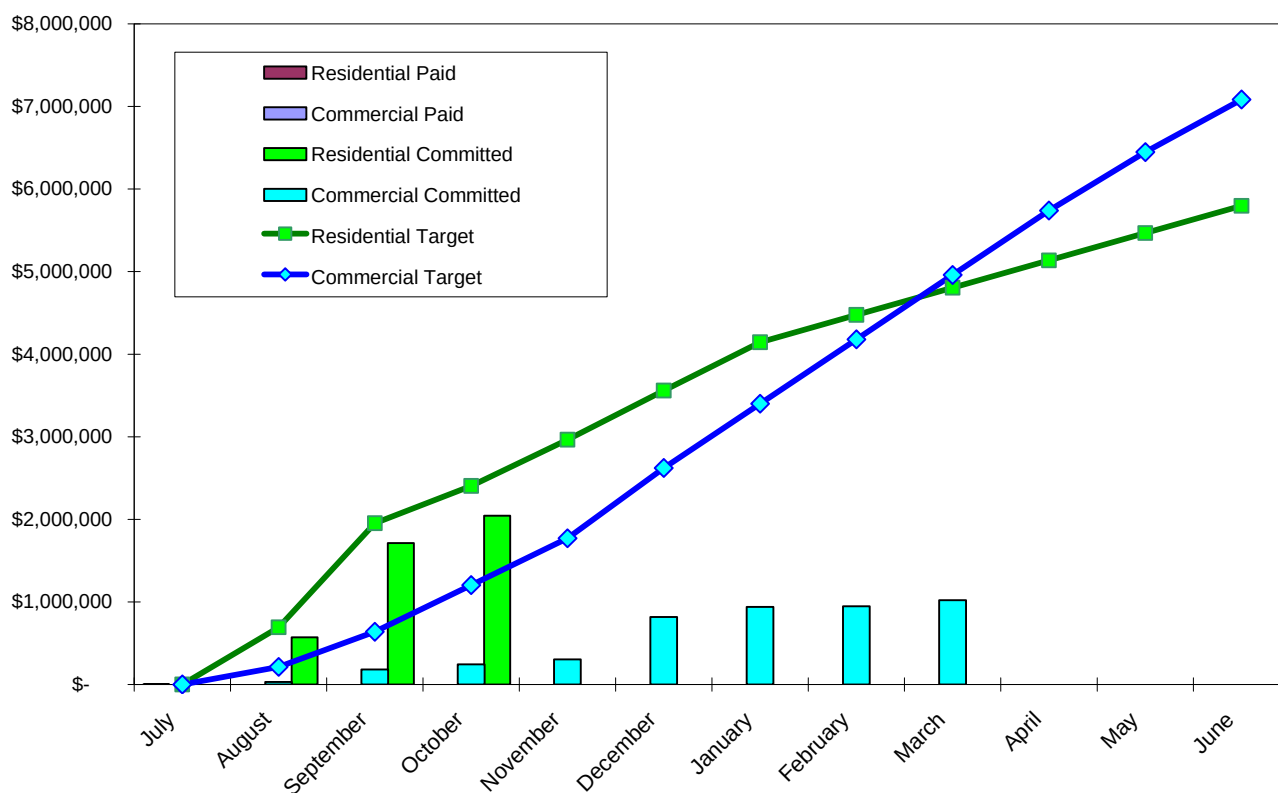
Monthly Performance Report – July 2009



Performance Chart

1. *First Year Incentive Payment Tracking* - This Chart shows the paid versus target and forecasted committed incentives for the PY2009.
2. *First Year Energy Impact Tracking* A table with energy and demand impacts will be developed for the next report.

Chart 1: PY2009 Incentive Tracking



Hawaii Energy Efficiency Program

Monthly Performance Report – July 2009



Budget Table

Program Area	07/01/09 to 06/30/10 Budget	July Budget	Actual Expenses ^{1,2}	Percent of Budget	Expected Percent
Residential Programs	\$7,553,007	\$436,191	\$12,276	0.2%	5.8%
- Incentives ³	\$5,796,775	\$289,839	\$930	0.0%	5.0%
- Non-incentive expenses	\$1,756,232	\$146,353	\$11,346	0.6%	8.3%
Business Programs	\$9,231,453	\$533,123	\$133,424	1.4%	5.8%
- Incentives ³	\$7,084,948	\$354,247	\$0	0.0%	5.0%
- Non-incentive expenses	\$2,146,505	\$178,875	\$133,424	6.2%	8.3%
Marketing	\$470,000	\$39,167	\$1,979	0.4%	8.3%
Education & Training	\$141,000	\$11,750	\$6,560	4.7%	8.3%
Market Evaluation	\$117,500	\$9,792	\$0	0.0%	8.3%
General Administration	\$1,245,222	\$103,769	\$62,248	5.0%	8.3%
IT ⁴	\$85,350	\$7,113	\$78,263	91.7%	90.0%
TOTAL	\$18,843,532	\$1,133,791	\$294,750	1.6%	6.0%

Note 1: Expenses may not match items on invoice due to contractor contribution and incentive fees of \$108,333 which were subtracted from expenses. In addition, tax is included in these items whereas on the invoice, tax is added after deductions. The tax rate applied here and on the invoice is 4.5%.

Note 2: We are currently in a transition period to meet the new reporting needs. A few categories of expenses are not on the invoices where they will be tracked once the new reporting process is set. These items are Advertising and Education and Training costs which were allocated 100% to the Business Sector on July's invoice, whereas in the future they will be invoiced to the Residential and Business Sectors to match our revised budget.

Note 3: Incentive expenses are counted on date when check is printed rather than by when they are invoiced.

Note 4: We are awaiting approval of a revised IT budget that will make the actual expenditures 29.3% of the proposed IT budget. We budgeted IT costs to decrease substantially with each month and be nominal after Dec 31, 2009 for the remainder of the Program Year.

Hawaii Energy Efficiency Program

Monthly Performance Report – July 2009



Program Highlights

- *Residential Efficient Water Heating (REWH)* – Review of KEMA 2008 Solar Water Heating savings with Mark Duda. Discussion around the 2,066 kWh per year figure and the process KEMA took during the evaluation. There is a general consensus that the Solar Contractors feel this savings number is lower than seen by the majority of their customers. We have requested feedback from their experiences and will be performing a review of the pre and post usage of Solar program participants.

Marketing Highlights

1. *Transfer Communication* - The HECO, MECO, HELCO Newspaper Ads and Bill Stuffers announcing the program transition were effective in communicating the new program contact information.
2. *Media* - Radio Show “The Solar Guy” Jeff Davis AM 690 spoke with Ray Starling about the efficiency program transition.
3. *Marketing Development* - The Management Team worked with the Wall-to-Wall marketing design firm to further develop their branding strategy that will include a new name and logo. Wall-to-Wall continues to refine the website content map for the official program website that is planned to launch in October.
4. *Trade Ally Development* - Attended a major WEBCO event with the other participants being major retailers (Longs, Wal-Mart, Best Buy), distributors (Servco Pacific), developers (Genry), credit unions in the State of Hawaii to promote the ESH Program.

Hawaii Energy Efficiency Program

Monthly Performance Report – July 2009



Education and Training Highlights

1. *Child Education* - A collaboration meeting was held with Partners in Development Foundation on July 17th to discuss mutual strategies and support for energy education of children in Hawaii.
2. *General Public* - The Program sponsored a booth at the Hawaii Powered! Event at Aloha Tower Marketplace on July 18th. All Team members assisted by working at the table and educating attendees of the Expo. Displays included bike and hand pedal generators that demonstrated the difference in effort to light LEDs, CFLs, and standard light bulbs. Green reusable bags and pens made of recycled material were distributed to interested attendees.
3. *Technical Education* - The Program promoted all the programs at a GE lighting Seminar called "NELA on the Road" attended by 100 Commercial and Federal Engineering and Facilities Operations personnel. GE introduced LED products as well as their lighting engineering services.
4. *Trade Ally Training* - Meeting with Energy Industries' Vice President and Utilities specialist to discuss outstanding issues on applications turned in to HECO in the past and the future expectation with our new team.
5. List of July Educational/Training Meetings

Event	Attendees	Subject	Count	Date
Hawaii Powered at Aloha Tower	Public	Energy Awareness	75	7/18/09
GE Lighting Seminar	Commercial and Federal Engineering and Facilities	Commercial Lighting Program	100	7/23/09

Hawaii Energy Efficiency Program

Monthly Performance Report – July 2009



Market Evaluation Highlights

Business Sector –

- *Commercial Office Buildings* - The BOMA members have been identified as a potential market cluster to evaluate for peer group comparisons. The BOMA BEEP program assists with providing feedback on members' buildings. The program will develop a comparison of the kWh/Sq. Ft., kW/Sq. Ft., Energy Star rating and, if possible, the Lighting Watts/Sq. ft. and Cooling Efficiency kW/Ton for the members to compare their buildings against one another.

Market Cluster –

- *Residential Home Monitoring* - Introduced Program to Kanu Hawaii and learned about about Kanu's testing of home energy monitoring devices to determine pros and cons of seven available products. Discussed Kanu's proposed large scale test group to verify savings potential.

IT Highlights

1. *Tracking System Development* - The development of the Track ESP Incentive Tracking program consisted mainly of a review of the HECO data, reading of the HECO A&S and M&E reports, plus the knowledge of other SAIC programs. With the hiring of the new staff members, major changes took place to refocus how the new program would functional operate and a structure change was need to match the workflow. A review of a how HECO's DSMIS and TRACK program was done with the software programmers, plus shared knowledge gained by the new personnel who had worked on the HECO PEACE DSMIS replacement software put the TRACK ESP tool back on track but also created a slight delay as the IT team had lots of valuable re-working to do.
2. *HECO Database Incorporation* - HECO provided the PEACE test scripts written by the new staff member to test the PEACE computer system, but now will be used to test and help the IT Staff create the new TRACK ESP.
3. *Process Flowcharts* - Flowcharts and other helpful information were created during this month to give needed guidance to the IT staff to building this Tracking system.
4. *Honeywell IT Enhancements* - The Honeywell computer systems which now process the all residential program applications were modified to the process the Energy Solutions for the Home (ESH) Program applications which were previously processed on the HECO computer systems. The ESH program is a highest participating program in the suite of programs currently offered. Enhancements to the processing to steps in order to handle the anticipated increase of applications once opened to the entire five islands were a major required. These enhancements included adding all participating appliance and CFL retailers, all qualifying appliances and CFLs models and manufactures, past and

Hawaii Energy Efficiency Program

Monthly Performance Report – July 2009



present. Modification were also done to the track the funding of the REWH, RNC and ESH program, and by counties, which were previously was done manually using excel spreadsheets or not at all by Honeywell, to manage the incentive funds. Modifications to the software started in May of 2009 in anticipation of a signed agreement with the Hawaii Energy Efficiency Program.

5. *Check Processing* - Honeywell also connected a check issuing computer system to it's application processing system to produce the physical checks. These checks are currently being mailed to participants from a check producing center on the west coast. The new rebate checks has more details on the check stub that the previous HECO rebate checks due to newer software. The information on the checks will be very helpful for the participants with multiple applications understand which check is for which application. In the past a supplement letter was needed and the lack of information on the check stub generated lots of calls about "where is my check or what is this for?" only to find the participant has already cashed the check and just didn't know what the check were for. Previous request for information about checks involved at least four people for each inquire due to not being able to add the needed information on the check stub.
6. *Energy Impact Tracking* - Honeywell's computer system does not contain kW and kWh information for any of the ECMs which it processes. That information will be handled by the new TRACK ESP system that was developed by SAIC for the Program in the near future.

ARRA Highlights

1. *ARRA Potential Scope* - DBEDT and PBFA meeting regarding available ARRA funding and SAIC potential role via the Hawaii Energy Efficiency Program. Determined that SAIC would pursue development of draft proposals per the general direction of DBEDT's idea of how the State would like the Hawaii Energy Efficiency Program to spend the ARRA funding. These are:
 - a. Low Income Energy Star Refrigerator program to augment Office of Community Services (OCS) Weatherization Assistance Program (WAP) program.
 - b. Expansion of Energy Star
2. *State Office of Community Services* – Meeting of all parties involved with executing and augmenting the WAP. OCS, WAP, HCAP and MEO were all in attendance to discuss their actions and the potential for the ARRA funding to be incorporated through the Hawaii Energy Efficiency Program.

Hawaii Energy Efficiency Program

Monthly Performance Report – July 2009

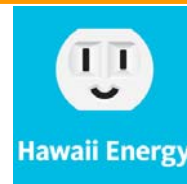


Transition Highlights

1. *Hard File Transfers* - Utility DSM physical application file folder records were successfully transferred to SAIC that matched the electronic information provided by HECO.
2. *Database Transfers* - Utility Customer Usage records successfully provided to SAIC server.
3. *Website* - The Transition website provided a resource for Hawaiian residents and businesses to find out more info and determine how to contact the program for additional information. Many chose to use the helpline or email contacts to reach the appropriate segment of the program.
4. *New Applications* - Program released new application forms for the rebate programs, but will continue to accept HECO, HELCO, and MECO's forms till the end of the year.

Hawaii Energy Efficiency Program

Monthly Performance Report – August 2009 (08/01/09 – 08/28/09)



Executive Summary

This month's activity involved outreach to the Public, Hawaii Energy Stakeholders and the Vendor Allies. Notable items this month were:

- *Branding Efforts* – The program name and logo were selected. The program name is “Hawaii Energy” and the logo is a smiley face outlet as seen above in the letter head. The main color of the program branding is the light blue as seen above.
- *Third-Party Leveraging* – The program has had ongoing interaction with the State Department of Economic Development and Tourism (DBEDT) and the Public Utilities Commission (PUC) staffs to develop American Recovery and Reinvestment Act of 2009 (ARRA) Energy Project Funding implementation proposals that would complement the existing programs. There is a potential of \$10M for specific ARRA programs.
- *Program Team Meeting* - The Hawaii Energy and Bank of Hawaii Commercial Managers met to describe each others programs and introduced their teams.

The following table is an overall summary of our performance in the month of August.

Key Performance Metrics	August Results	YTD Results	PY2009 Targets	YTD %of Target PY2009
Annual Energy Savings Impacts (Net Generation Level)				
Residential (MWh)	1,641	1,641	68,722	1.7%
Business (MWh)	0	0	57,301	0.0%
Peak Demand (kW)	437	437	20,097	0.0%
Total Resource Benefit			\$208,342,000	0.0%
Island Equity (% of Total Incentive Dollars)				
Oahu	86%	86%	69%	129%
Maui County	6%	6%	19%	20%
Hawaii County	8%	8%	11%	63%
Market Transformation (Applications Completed)				
Emerging Technologies	0	0	20	0%
Ally Referrals	0	0	40	0%
Financials ¹				
Total Incentives ²	\$734,630	\$734,630	\$12,881,723	5.7%
Total Program Expenses (Billed)	\$179,689	\$988,352	\$5,961,809	16.6%
Total Program Costs	\$914,319	\$1,722,982	\$18,843,532	9.1%
¹ Includes Ramp-Up to match Attachment F				
² Reflects the procedural change to acknowledge incentives the day they are recorded on the accounting system (08/01/09 – 8/28/09)				

Hawaii Energy Efficiency Program

Monthly Performance Report – August 2009 (08/01/09 – 08/28/09)



Overall Program Activities Timeline

Issues	July	August	September	October	November	December	January	...
Office Location	Site evaluations	Site evaluations	In Process	Sign Lease	Construction	Completion		
Maui On-Island Inspector		Interviews		Completion				
Utility Bill Incentive Credits		HECO MOU Proposal		Completion				
ARRA Funding - Office of Community Services (OCS), Assistance	Introduction meetings / Option Planning	ARRA funds going directly to OCS.						
CFL In-Store Coupons		Contact Retailers	Develop MOUs	Target Start				
Solar Contractor Agreements	Distributed	Processing	Completion					
Establish revised 2-year Program Budget		Start analysis for 2 year budget revision	Revise based on updated forecasts	Submit to JFA				
ARRA Energy Funding DBEDT MOU		Initial Scope Proposals	Negotiation	Final Proposals	Funding Approvals	Completion		
Total Resource Benefit	Develop Worksheet	Review Avoided Costs & T&D Losses	ww/ DBEDT to propose Avoided Costs	Completion				
Technical Resource Manual		A&E / KEMA / IRP Doc Reviews		Draft TRM		Completion		
Combine Solar Specifications for All Islands				Draft Compilation	Review with HSEA	Completion		
Photo-Voltaic Incentive Development		Proposal review w/PUC	PUC Review & Comment					

On Schedule	Done	Delay	Cancel	Next Month Priorities

Hawaii Energy Efficiency Program

Monthly Performance Report – August 2009 (08/01/09 – 08/28/09)

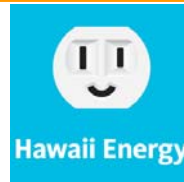


Transition Highlights

1. *Equipment Transfers* - Utility DSM equipment has been transferred to Hawaii Energy.
2. *Database Transfers* - Utility customer usage records successfully provided to SAIC server. There are some formatting issues to get billing period data to sync up to a monthly record as a single billing period can have 1 to 5 transactions that have to be netted out to get the usage in a particular month. This data cleaning/filtering is being reviewed for a solution.
3. *Media Information* - HECO/MECO/HELCO advertising has been providing the redirection of efficiency and incentives to our website or call center. There is some confusion regarding customers thinking the program is being run by the Utilities and Hawaii Energy is a HECO/MECO/HELCO subcontractor. This will be addressed over time in our contact with customers and the upcoming media to introduce Hawaii Energy.
4. *Transition Applications* – A few transition applications from the Island of Hawaii were paid at lower air conditioning unit base efficiency levels this will only happen on applications made on HELCO application forms.

Hawaii Energy Efficiency Program

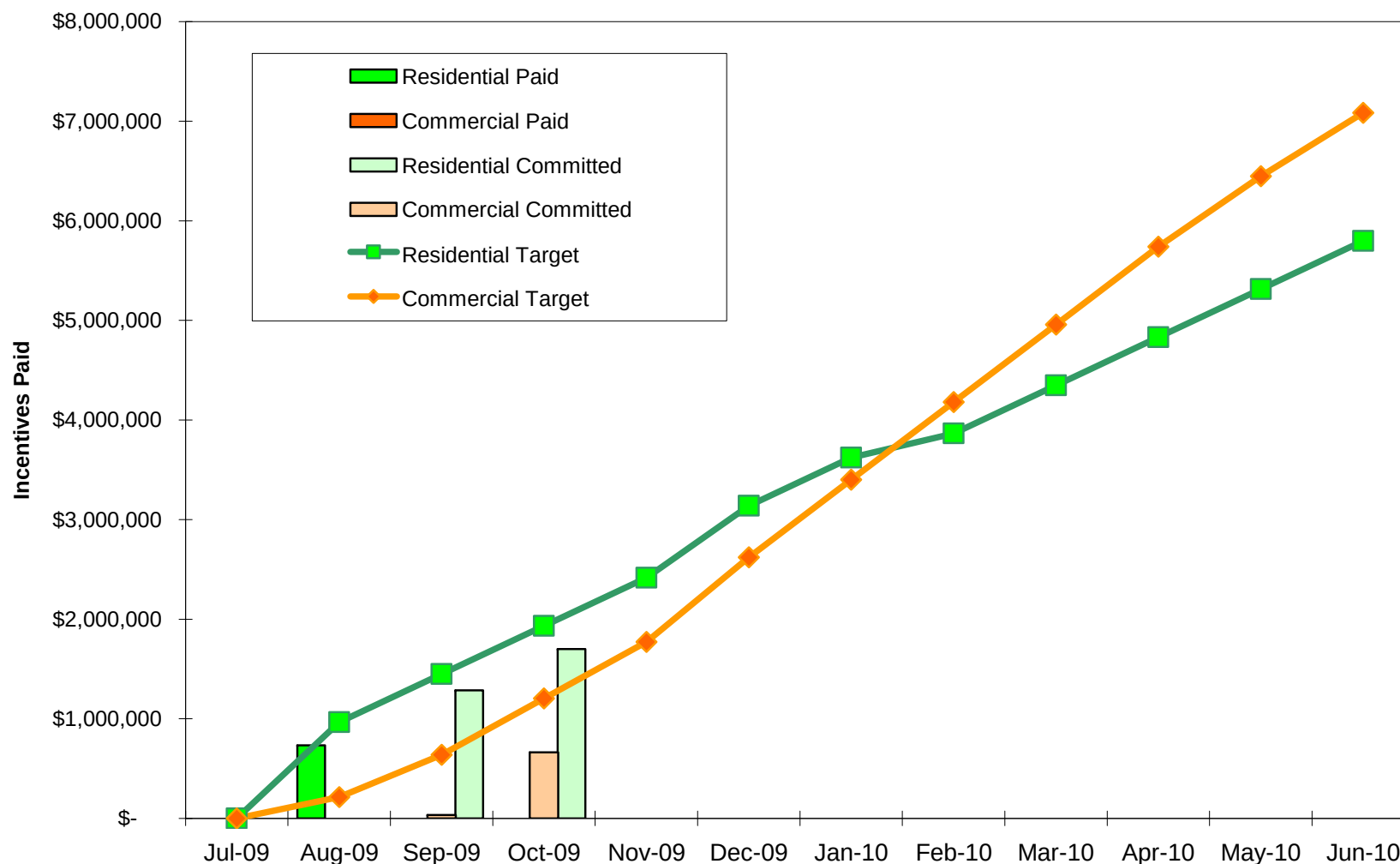
Monthly Performance Report – August 2009 (08/01/09 – 08/28/09)



Performance Chart

1. *First Year Incentive Payment Tracking* - This Chart shows the paid versus target and forecasted committed incentives for the PY2009.

Chart 1: PY2009 Incentive Tracking



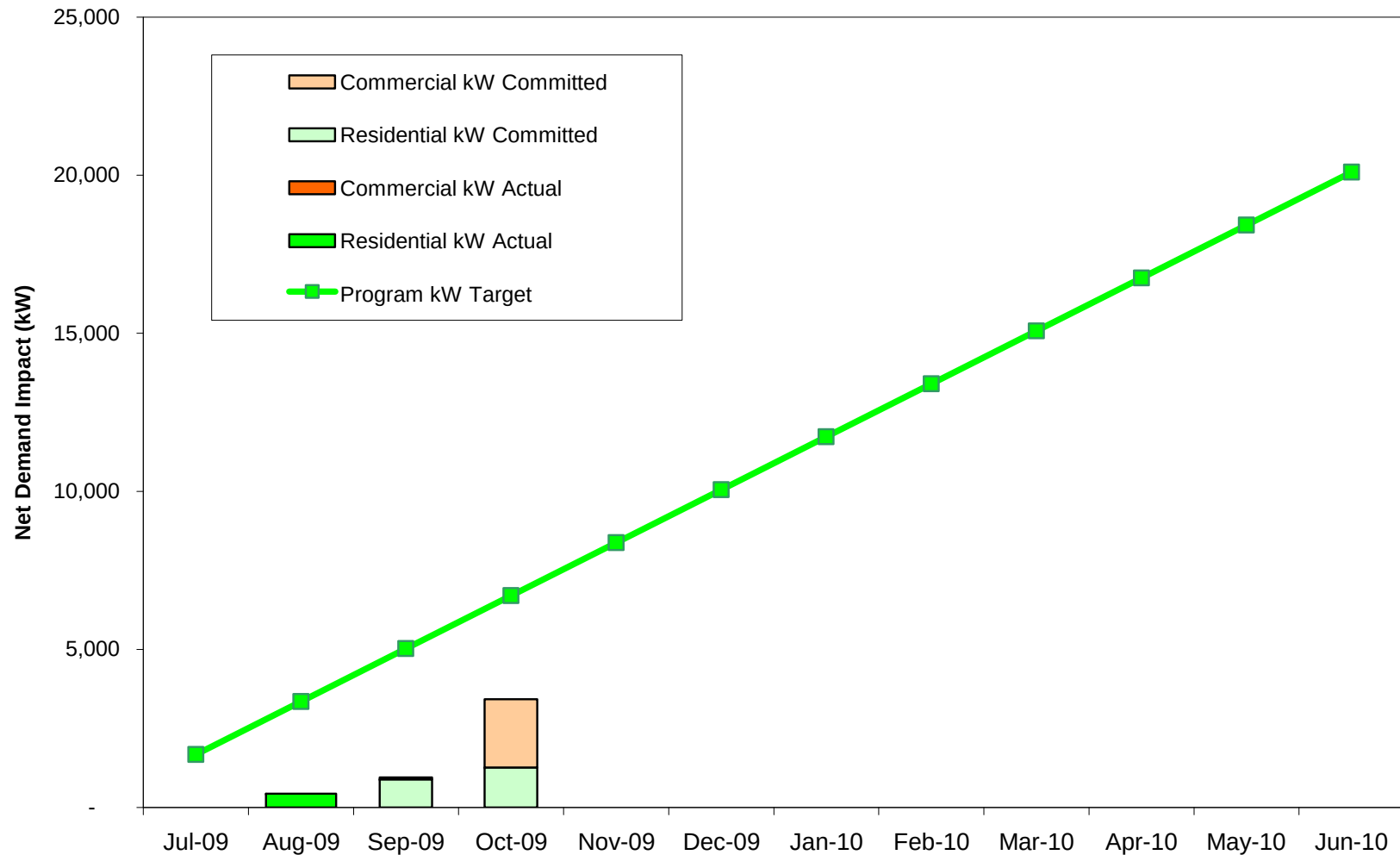
Hawaii Energy Efficiency Program

Monthly Performance Report – August 2009 (08/01/09 – 08/28/09)



2. *First Year Demand Impact Tracking* - This Chart shows the combined demand impact versus target for PY2009.

Chart 2: PY2009 Net Demand Impact Tracking



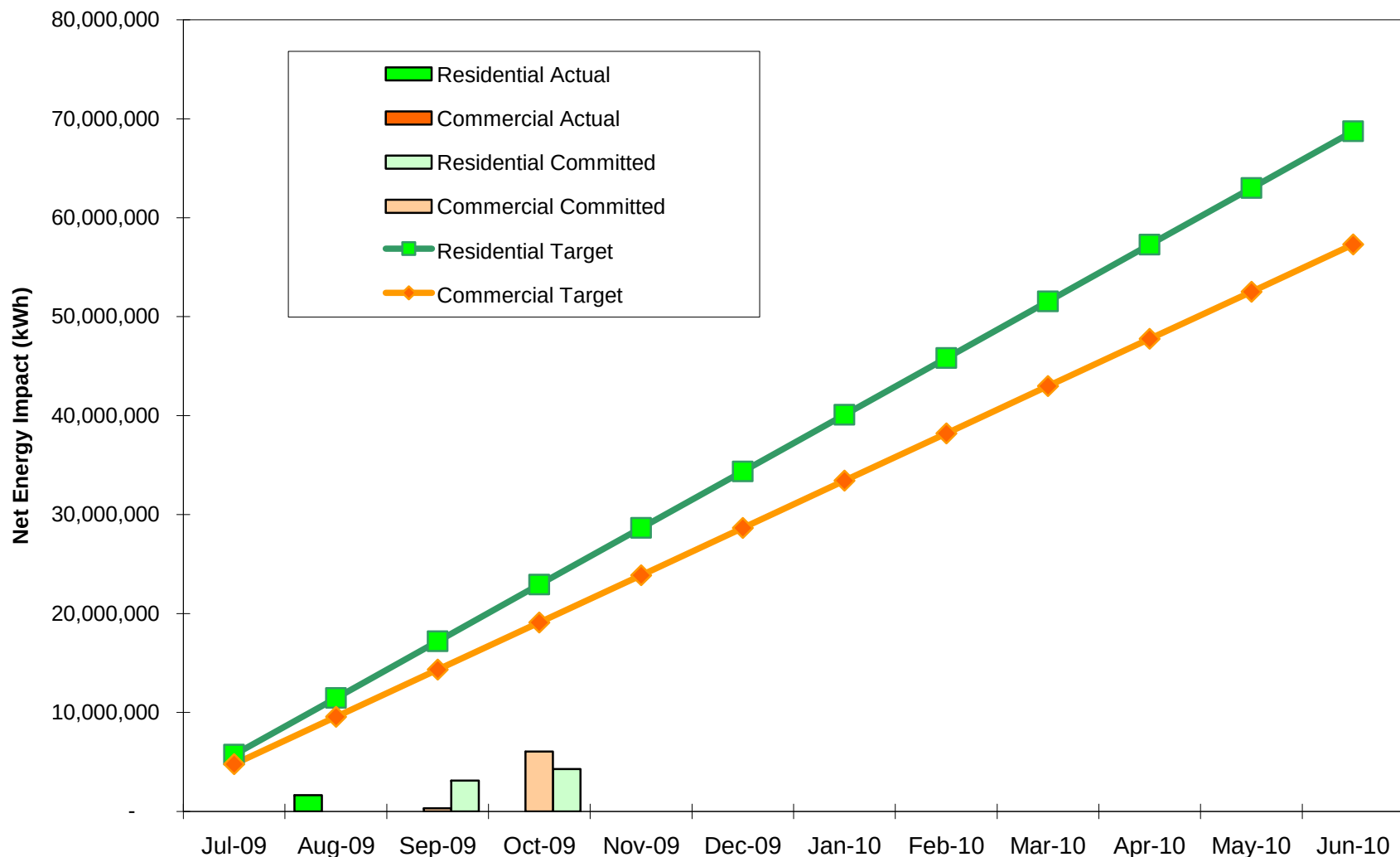
Hawaii Energy Efficiency Program

Monthly Performance Report – August 2009 (08/01/09 – 08/28/09)



3. *First Year Energy Impact Tracking* - This Chart shows the combined demand impact versus target for PY2009.

Chart 3: PY2009 Net Energy Impact Tracking



Hawaii Energy Efficiency Program

Monthly Performance Report – August 2009 (08/01/09 – 08/28/09)



Budget Summary

Program Area	07/01/09 to 06/30/10 Budget	Monthly Budget	Billed	Actual ¹	Actual % of Budget	Expected % of Budget
Residential Programs	\$7,553,007	\$436,192	\$717,754.68	\$748,233.67	9.9%	5.8%
- Incentives	\$5,796,775	\$289,839	\$734,630.00	\$734,630.00	12.7%	5.0%
- Non-incentive expenses	\$1,756,232	\$146,353	\$13,017.87	\$13,017.87	0.7%	8.3%
- Performance Incentive Fees			(\$29,166.50)	NA		
- Subtotal			(\$16,148.63)	\$13,017.87		
- Taxes			(\$726.69)	\$585.80		
- TOTAL Non-incentive			(\$16,875.32)	\$13,603.67		
Business Programs	\$9,231,453	\$532,407	\$76,141.65	\$106,620.64	1.2%	5.8%
- Incentives	\$7,084,948	\$354,247	\$0.00	\$0.00	0.0%	5.0%
- Non-incentive expenses	\$2,146,505	\$178,160	\$102,029.33	\$102,029.33	4.8%	8.3%
- Performance Incentive Fees			(\$29,166.50)	NA		
- Subtotal			\$72,862.83	\$102,029.33		
- Taxes			\$3,278.83	\$4,591.32		
-TOTAL Non-incentive			\$76,141.65	\$106,620.64		
Marketing³	\$470,000	\$39,010	\$5,747.50	\$5,747.50	1.2%	8.3%
Education & Training³	\$141,000	\$11,703	\$2,581.50	\$2,581.50	1.8%	8.3%
Market Evaluation³	\$117,500	\$9,753	\$0.00	\$0.00	0.0%	8.3%
General Administration	\$1,245,222	\$103,353	\$70,412.34	\$70,412.34	5.7%	8.3%
IT²	\$85,350	\$42,675	\$41,681.54	\$41,681.54	48.8%	50.0%
TOTAL	\$18,843,532	\$1,133,791	\$914,319.21	\$975,277.20	5.2%	6.0%

Note 1: Reflects the procedural change to record incentives (and savings) the day the incentives are recorded on the accounting system.

Note 2: We are requesting an approval to increase in our PY09 IT budget to \$277,648 in September. Approval of this budget would equate to August expenditures as 15%.

Note 3: These costs will be distributed by residential and business in the future; currently they are invoiced in business programs.

Hawaii Energy Efficiency Program

Monthly Performance Report – August 2009 (08/01/09 – 08/28/09)



Incentive Summary

Program	Incentives	Incentive Distribution ¹	Non-Incentive Without Tax and Fees	Non-Incentive Distribution
Residential Programs				
REWH	\$356,140.00	48.5%	\$6,378.75	5.5%
RNC	\$285,000.00	38.8%	\$781.07	0.7%
ESH	\$93,490.00	12.7%	\$5,597.68	4.9%
RLI	\$0.00	0.0%	\$260.36	0.2%
TOTAL RESIDENTIAL	\$734,630.00	100.0%	\$13,017.87	11.3%
Business Programs				
CIEE	\$0.00	0.0%	\$86,724.93	75.4%
CINC	\$0.00	0.0%	\$7,652.20	6.7%
CICR	\$0.00	0.0%	\$7,652.20	6.7%
TOTAL BUSINESS	\$0.00	0.0%	\$102,029.33	88.7%
TOTAL PROGRAMS	\$734,630.00	100.0%	\$115,047.19	100.0%

Note 1: Reflects the procedural change to record incentives (and savings) the day the incentives are recorded on the accounting system.

Hawaii Energy Efficiency Program

Monthly Performance Report – August 2009 (08/01/09 – 08/28/09)



Marketing Highlights

The activity this month involved fielding media advertising specials that are the result of the soft advertising market. Many of these offers are for “complete” services that include creative development. Our subcontracted creative agency needs to review and coordinate all messaging if we decide to use the “complete” services that are currently being discounted by the media agencies.

Media Outlet	Subject	Action	Follow-up
KGMB	Marketing Opportunities	Turn over to Wall to Wall for Review	Compare and negotiation.
KHON	Marketing Opportunities	Turn over to Wall to Wall for Review	Compare and negotiation.
Clear Channel	Marketing Opportunities	Turn over to Wall to Wall for Review	Compare and negotiation.
Honolulu Magazine	Marketing Opportunities	Turn over to Wall to Wall for Review	Compare and negotiation.
Honolulu Advertiser	Marketing Opportunities	Turn over to Wall to Wall for Review	Compare and negotiation.

Hawaii Energy Efficiency Program

Monthly Performance Report – August 2009 (08/01/09 – 08/28/09)



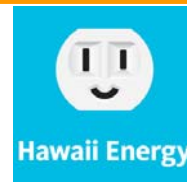
Education and Training Highlights

The following outreach and training activities took place this month.

Event	Attendees	Subject	Count	Date
NARPM – National Association of Residential Property Manager	Property Managers – All Islands	Annual Meeting / Present Efficiency Programs	289	8/11/09
USACE – United States Army Corps of Engineers	Engineers	Quarterly Meeting / Present Efficiency Programs	40	8/7/09
Personal Finance Expo at NBC	General Public	Financial Planning Education Event / Booth and Presentation	6,000+	8/14-16/09
Pacific Century Fellows	Fellows	Energy Issues in Hawaii / Present Efficiency Programs	30	8/12/09
Asia Clean Energy Summit at the Sheraton Waikiki	Pacific arena Energy Stakeholders	Energy policy and actions event / Booth and attendance	300+	8/31/09
Hawaii Energy Futures Hawaii Public Radio (HPR)	Listeners of HPR	On air Interview regarding Hawaii Energy, Efficiency Programs	1000+	8/24/09
Hawaii Energy Policy Forum	State of Hawaii Energy Stakeholders	Present Efficiency Programs	30	8/18/09

Hawaii Energy Efficiency Program

Monthly Performance Report – August 2009 (08/01/09 – 08/28/09)



Market Evaluation Highlights - Actions taken to obtain trade ally input on programs to develop better market penetration.

Trade Allies	Subject	Outcome	Follow-On
Dorvin Leis – Mechanical Contractor	Introductions of their Energy Project team as well as LED product presentation	Will promote program and help give feedback	
Blue Planet – Non Profit	Blue Planet – Home Energy makeover introduction and participation discussions	Support of Home Makeover	
HIS – Hawaiian Island Solar	Review programs and discuss improvements	Started Data Logger Loan Program	HIS to use Data loggers on AOAO Heat pumps
Heliodyne - Manufacture	Describe improvement with active solar system monitoring device	Program will help develop test site for remote monitor	Site selection / data collection
Forrest City - Developer	Discuss their activities and expansion of efforts targeted for their homes. Contractual requirements for Solar systems	Behavior modification measures development	
The Management Office - Contractor	Program discussion / presented their commercial lighting services		
Sopogy	Update of their activities in Concentrated Solar and HVAC	Include in potential of emerging technologies	
Chevron Energy Services	Update of their project activities		
Energy Unlimited	Presented concerns regarding solar program	Feedback	
BOMA – Building Operator Management Association	BOMA Office Building Peer Group Comparisons	Get comparison data	Present to BEEP
Kanu Hawaii – Non Profit	Discussions of ARRA proposal for home energy monitors and energy audit study	EPA & ARRA funding	Pursue ARRA funding
Kahalui Federal Credit Union	Discussion of Solar Loan program details. MECO bought down interest to allow credit union to give lower interest solar loans	Interest buy down appears are good process	Contact Credit Union League review buy down and other opportunities
Hawaii Solar Energy Association (HSEA).	Solar savings evaluation / Program incentive revisions	Present findings Sept.	

Hawaii Energy Efficiency Program

Monthly Performance Report – September 2009 (08/29/09 – 09/25/09)



Executive Summary

This month's activity involved outreach to the Public, Hawaii Energy Stakeholders and the Vendor Allies. Notable items this month were:

- *Maui Commercial Meetings* – Several meetings with commercial customers on Maui arranged by both Trade Allies and Hawaii energy were held to promote the program and field project leads.
- *Made changes to the Residential Efficient Solar Water Heating Incentives* – A review of the projected solar participation and program budgets necessitated a decision to either stop the program mid-year or reduce incentives to allow a full year of participation. In addition, the program needed to address the State of Hawaii Solar mandate. The incentives were changed as follows: Retrofits incentives decreased from \$1,000 to \$750 starting Feb 1, 2010 and New Construction Incentives are discontinued for projects after December 31, 2009.

The following table is an overall summary of our performance in the month of September. Business Incentives were approved in September with the payments sent out in October.

Key Performance Metrics	Month's Results	YTD Results	PY2009 Targets	YTD %of Target PY2009
Annual Energy Savings Impacts (Net Generation Level)				
Residential (MWh)	1,941	3,582	68,722	5%
Business (MWh)	0	0	57,301	0%
Peak Demand (kW)	601	1,038	20,097	5%
Total Resource Benefit			\$208,342,000	
Island Equity (% of Total Incentive Dollars)				
Oahu	84%	86%	69%	
Maui County	5%	7%	19%	
Hawaii County	9%	7%	11%	
Market Transformation (Applications Completed)				
Emerging Technologies	0	0	20	0%
Ally Referrals	0	0	40	0%
Financials ¹				
Total Incentives ²	\$715,565	\$1,450,195	\$12,881,723	11.3%
Total Program Expenses (Billed)	\$211,434	\$1,199,785	\$5,961,809	20.1%
Total Program Costs	\$926,999	\$2,649,980	\$18,843,532	14.1%
¹ Includes Ramp-Up to match Attachment F				
² Based on date incentives for period 8/29/09 – 9/25/09				

Hawaii Energy Efficiency Program

Monthly Performance Report – September 2009 (08/29/09 – 09/25/09)



Overall Program Activities Timeline

Issues	July	August	September	October	November	December	January	...
Office Location	Site evaluations	Site evaluations	Site selected	Sign Lease	Construction	Completion		
Maui On-Island Inspector		Interviews	Change RFP	Completion				
Utility Bill Incentive Credits		HECO MOU Proposal		Completion				
CFL In-Store Coupons		Contact Retailers	Develop MOUs	Target Start				
Solar Contractor Agreements	Distributed	Processing	Completion					
Establish revised 2-year Program Budget		Start analysis for 2 year budget revision	Revise based on updated forecasts	Submit to JFA				
Total Resource Benefit	Develop Worksheet	Review Avoided Costs & T&D Losses	w/ DBEDT to propose Avoided Costs	Receive Avoided Costs	Completion			
Technical Resource Manual		A&E / KEMA / IRP Doc Reviews		Draft TRM		Completion		
Combine Solar Specifications for All Islands				Draft Compilation	Review with HSEA	Completion		
Photo-Voltaic Incentive Development		Proposal review w/PUC	PUC Review & Comment	Provide response to comments				

On Schedule	Done	Delay	Cancel	Next Month Priorities

Hawaii Energy Efficiency Program

Monthly Performance Report – September 2009 (08/29/09 – 09/25/09)



Transition Highlights

- *Incentives credited directly to Utility Bill* – Government customers are best served by the incentives being credited to their electric bill. MOU being drafted between HECO companies and Hawaii Energy to define the procedures to accomplish this.

Hawaii Energy Efficiency Program

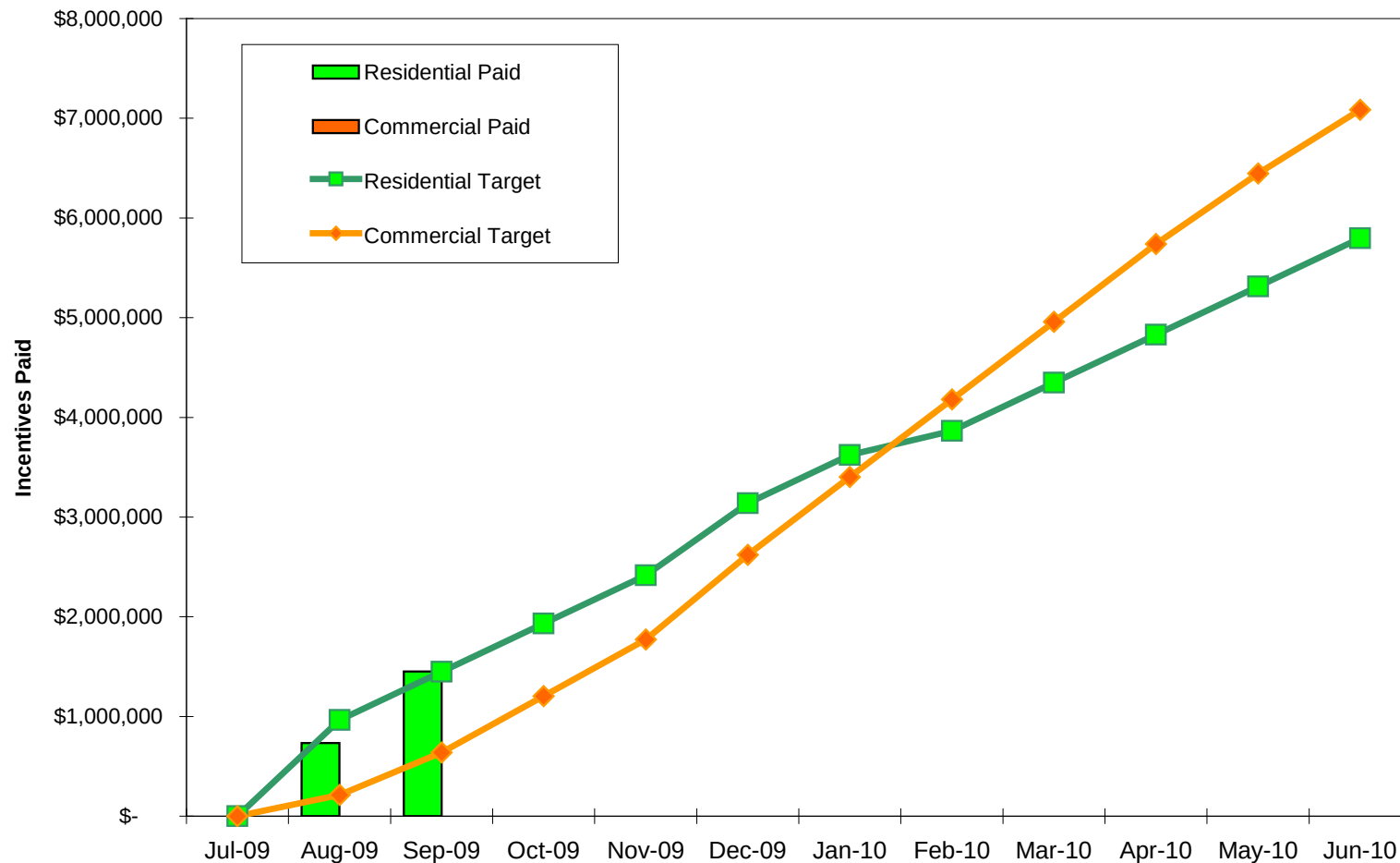
Monthly Performance Report – September 2009 (08/29/09 – 09/25/09)



Performance Chart

1. *First Year Incentive Payment Tracking* - This Chart shows the paid versus target and forecasted (committed) incentives for the PY2009.

Chart 1: PY2009 Incentive Tracking



Hawaii Energy Monthly Report - September 2009 - Final

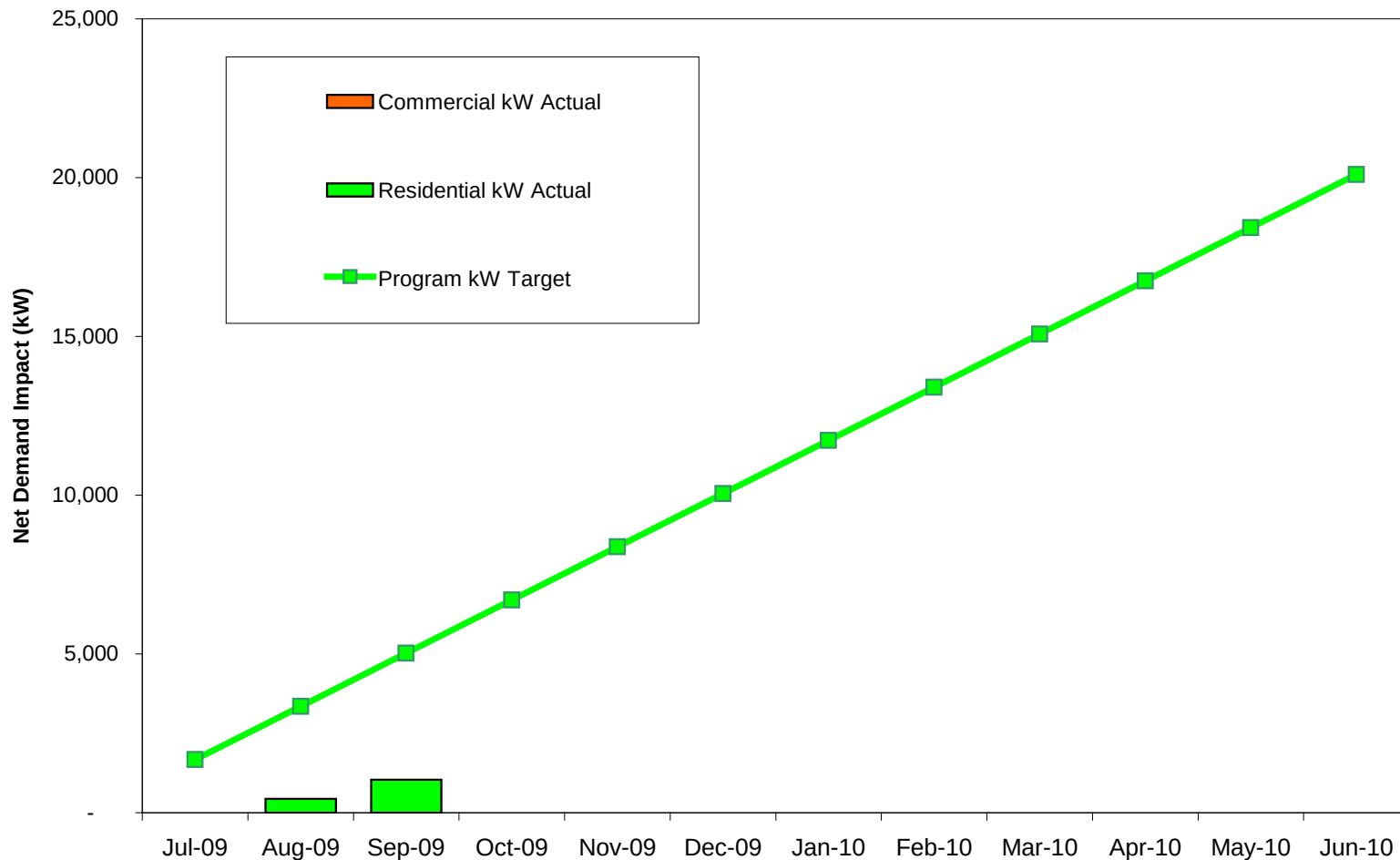
Hawaii Energy Efficiency Program

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2. *First Year Demand Impact Tracking* - This Chart shows the combined demand impact versus target for PY2009.

Chart 2: PY2009 Net Demand Impact Tracking



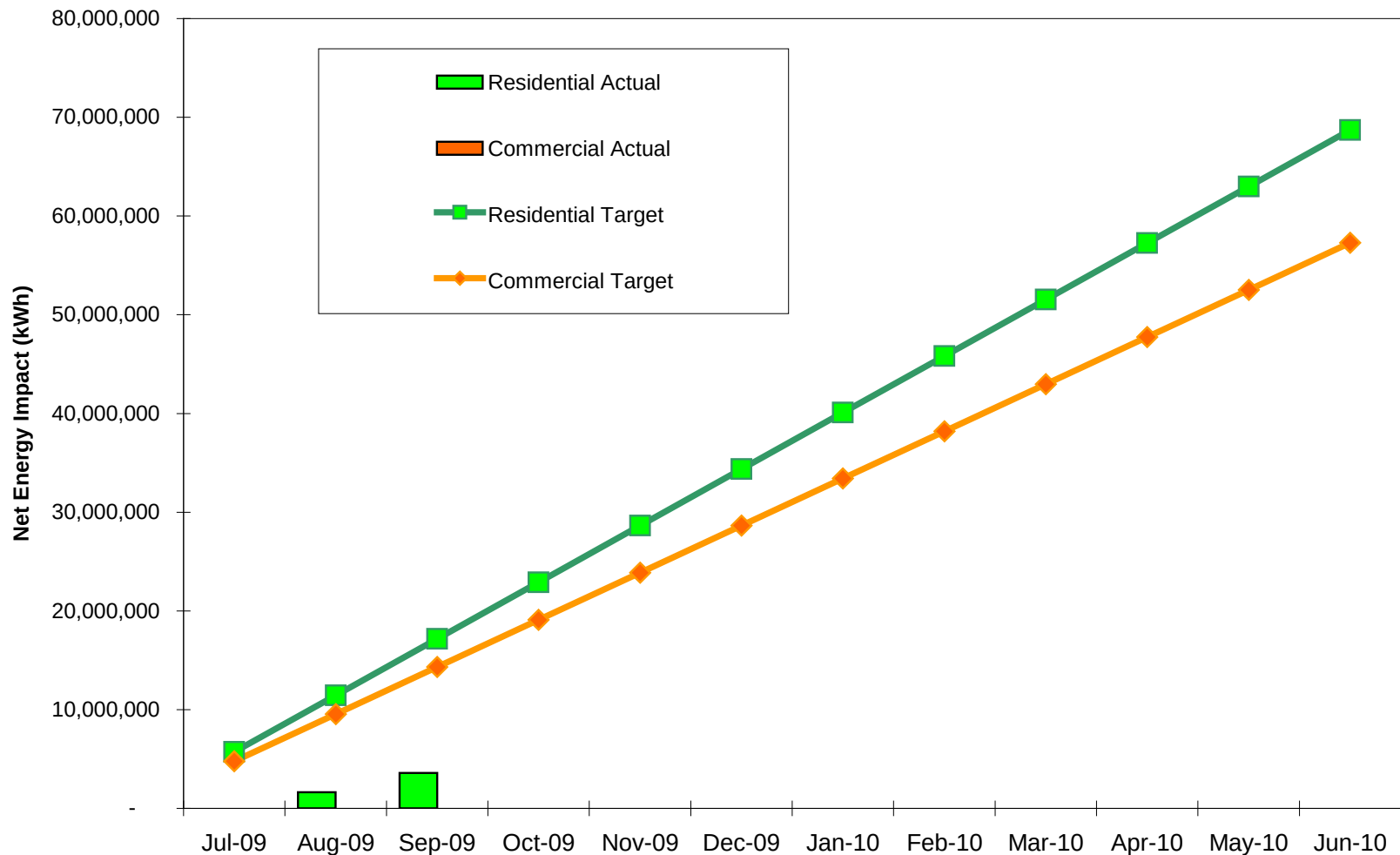
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3. *First Year Energy Impact Tracking* - This Chart shows the combined demand impact versus target for PY2009.

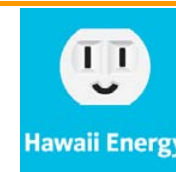
Chart 3: PY2009 Net Energy Impact Tracking



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Hawaii Energy Efficiency Program

Monthly Performance Report – September 2009 (08/29/09 – 09/25/09)



Budget Summary

Program Area	07/01/09 to 06/30/10 Budget	Monthly Budget	Billed	Actual ¹	Actual % of Budget	Expected % of Budget ⁵
Residential Programs	\$ 7,553,007	\$ 1,010,072	\$ 689,884.01	\$ 720,363.00	9.5%	5.8%
- Incentives	\$ 5,796,775	\$ 863,719	\$ 715,565.00	\$ 715,565.00	12.3%	14.9%
- Non-incentive expenses	\$ 1,756,232	\$ 146,353	\$ 4,591.39	\$ 4,591.39	0.3%	8.3%
- Performance Incentive Fees			\$ (29,166.50)	NA		
- Subtotal			\$ (24,575.11)	\$ 4,591.39		
- Taxes			\$ (1,105.88)	\$ 206.61		
- TOTAL Non-incentive			\$ (25,680.99)	\$ 4,798.00		
Business Programs	\$ 9,231,453	\$ 766,211	\$ 69,833.39	\$ 100,312.38	1.1%	5.8%
- Incentives	\$ 7,084,948	\$ 588,051	\$ -	\$ -	0.0%	8.3%
- Non-incentive expenses	\$ 2,146,505	\$ 178,160	\$ 95,992.71	\$ 95,992.71	4.5%	8.3%
- Performance Incentive Fees			\$ (29,166.50)	NA		
- Contractor Contribution			NA	NA		
- Subtotal			\$ 66,826.21	\$ 95,992.71		
- Taxes			\$ 3,007.18	\$ 4,319.67		
-TOTAL Non-incentive			\$ 69,833.39	\$ 100,312.38		
Marketing³	\$ 470,000	\$ 39,010	\$ 92,537.61	\$ 92,537.61	19.7%	8.3%
Education & Training³	\$ 141,000	\$ 11,703	\$ 2,679.84	\$ 2,679.84	1.9%	8.3%
Market Evaluation³	\$ 117,500	\$ 9,753	\$ -	\$ -	0.0%	8.3%
General Administration	\$ 1,245,222	\$ 103,353	\$ 54,907.35	\$ 54,907.35	4.4%	8.3%
IT²	\$ 85,350	\$ 42,675	\$ 15,546.54	\$ 15,546.54	18.2%	50.0%
TOTAL	\$ 18,843,532	\$ 1,133,791	\$ 925,388.75	\$ 986,346.74	5.2%	6.0%

Note 1: Reflects the procedural change to record incentives (and savings) the day the incentives are recorded on the accounting system.

Note 2: We requested an increase in our PY09 IT budget to \$277,648. Approval of this budget would equate to September expenditures as 5.6%.

Note 3: One advertising cost was allocated to business programs and has been corrected.

Note 4: For the first 3 months of the program (Quarter 1), we are comparing to the budgets defined in attachment F. In Quarter 2, we will compare to the formally approved revised budget.

Note 5: Increased residential expected percent to reflect the amount to bring us to the 3 month cumulative goal of 1/4 of the year. There was a lag in the distribution at initiation that the commercial programs are still facing. We are keeping the expected percent of commercial incentives less than linear expectations at this time due to the lag.

Hawaii Energy Efficiency Program

Monthly Performance Report – September 2009 (08/29/09 – 09/25/09)



Incentive Summary

Program	September Incentives	Incentive Distribution ¹	Non-Incentive Without Tax and Fees ²	Non-Incentive Distribution
Residential Programs				
REWH	\$312,400.00	43.7%	\$1,836.56	1.8%
RNC	\$192,840.00	26.9%	\$1,147.85	1.1%
ESH	\$210,325.00	29.4%	\$1,606.99	1.6%
RLI	\$0.00	0.0%	\$229.57	0.2%
TOTAL RESIDENTIAL	\$715,565.00	100.0%	\$4,591.39	4.6%
Business Programs				
CIEE	\$0.00	0.0%	\$40,573.32	40.3%
CINC	\$0.00	0.0%	\$27,534.03	27.4%
CICR	\$0.00	0.0%	\$27,885.35	27.7%
TOTAL BUSINESS	\$0.00	0.0%	\$95,992.71	95.4%
TOTAL PROGRAMS	\$715,565.00	100.0%	\$100,584.10	100.0%

Note 1: Reflects the procedural change to record incentives (and savings) the day the incentives are recorded on the accounting system.

Note 2: These are approximations of efforts and expenses across programs. In the second quarter, we will have more accurate of tracking in place.

Hawaii Energy Efficiency Program

Monthly Performance Report – September 2009 (08/29/09 – 09/25/09)



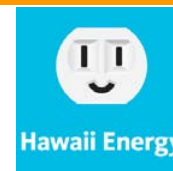
Marketing Highlights

The activity this month involved:

Media Outlet	Subject	Action	Follow-up
HonuGuide	Introduction to HonuGuide and Sustain Hawaii. Reviewed potential participation.	Hawaii Energy will not directly participate in the guide or with on-line utility review/reporting services	Will assist with information on the program for inclusion and distribution of programs through HonuGuide and Sustain Hawaii
Wall to Wall	Review of Website Designs	Provided comment	New
Doug Carlson	Potential PR services	Under consideration	Will work through Wall to Wall
Honolulu Magazine	Advertising Promotion services	Under consideration	Will work through Wall to Wall

Hawaii Energy Efficiency Program

Monthly Performance Report – September 2009 (08/29/09 – 09/25/09)



Education and Training Highlights

The following outreach and training activities took place this month.

Event	Attendees	Subject	Count	Date
Asia Pacific Clean Energy Summit & Expo	Pacific Arena Energy Stakeholders	Energy policy and actions event	300+	8/30-9/3/09
2009 Maui County Energy Expo	Maui County Energy Stakeholders	Energy policy and actions event on county level	300+	9/10-9/11/09
Rebuild Hawaii – Convention Center	Oahu Energy Stakeholders	Participated in Local Energy Community meeting	75+	9/9/09
Grainger – Maui	Commercial Accounts on Maui	Trade Ally and customer discussion to promote the program	16	9/9/09
WESCO Presentation on Maui	Commercial Accounts on Maui	Trade Ally and customer discussion to promote the program	46	9/30/09
Customer Direct Meetings - Maui	Hyatt Regency Maui, Marriot Maui Ocean Club Four Seasons Lanai KS Maui Campus, Maui Memorial Medical Center, Westin Maui	Specific Projects		9/9/09

Hawaii Energy Efficiency Program

Monthly Performance Report – September 2009 (08/29/09 – 09/25/09)



Market Evaluation Highlights - Actions taken to obtain trade ally input on programs to develop better market penetration.

Trade Allies	Subject	Outcome	Follow-On
Home Energy Saving Collaboration w/Blue Planet Foundation	Introductions with UH Sustainability forum members and Kanu Hawaii to discuss coordination of activities. Education on home metering and peer group comparison activities.	Will be sharing information on activities. Provide assistance to home makeover show.	Provide support and Hawaii Energy ad in Home Energy Makeover show.
Energy Industries Meeting	Energy Studies and Recommissioning collaboration	Clarified items concerning energy studies	Continuing effort
Chelsea Group	Energy Studies and Recommissioning, LED Parking Lot Lighting, PV Incentive status	Input taken to help develop custom and new programs	None
Hawaii Solar Energy Association (HSEA).	Solar savings evaluation / Program incentive revisions	Presented Solar Program Changes	None
HCEI EUEWG Meeting	Participation		Continuing effort

Hawaii Energy Efficiency Program

Quarterly Performance Report – 1st Quarter PY09 (06/27/09 – 09/25/09)



Executive Summary

The Hawaii Energy Efficiency Program's 1st Quarter of operation under SAIC administration started with a successful program transition from the utility on July 1, 2009 with relatively little difficulty and virtually no disruption of the ongoing efficiency and rebate programs from the customer point of view. We established a transition website containing new Program rebate forms and instructions to assist customers in understanding the changes taking place. The utility supported the transition by transferring data, materials and equipment to the new program in a timely fashion. In addition, they placed notices in their advertising and on their website to direct rebate customers to our new transition website. Jointly with the utility, we also met with critical vendors and large commercial customers on all islands to discuss the new program and how it would be different from the old utility program.

During this 1st Quarter, we completed considerable program start-up and housekeeping initiatives, including development of a new custom rebate tracking system, transparent reporting and rebranding/renaming of our new program as **"Hawaii Energy"** to distinguish it from the previous utility program. We also recruited highly capable technical and management staff from the old utility program and subcontracted with Honeywell to continue operation of the residential programs, thereby ensuring a relatively seamless transition. There are, however, many more developments and continuing refinements needed to stabilize Program operations and ensure that we make real progress on our state energy goals.

Statistically, we finished the 1st Quarter somewhat under our total program budget and considerably behind on most of our performance goals due in part to the slowing of processing during the initial start-up period. This is a concern, but the 2nd Quarter is already moving much better and is on track to catch back up with our budget and performance goals within a reasonable period of time. Additionally, we have a major marketing campaign beginning on all islands in the 2nd Quarter.

Through process refinements, technical innovation, upgraded data management, stakeholder input and business efficiencies, we have dramatically cut the staff and budget needed to accomplish the same level of efficiency impact achieved by old the utility DSM program. We will use these savings to fund the significant Program improvements that will be necessary to meet the state's energy goals. The only area of significant concern is the Program's seriously diminished marketing budget compared with previous marketing expenditures by the utility. We are not sure how this will affect customer participation in the Program, but we intend to continuously monitor this and make needed adjustments going forward.

Hawaii Energy Efficiency Program

Quarterly Performance Report – 1st Quarter PY09 (06/27/09 – 09/25/09)



Summary of Program Highlights for 1st Quarter PY09 *(summary of activity highlights for the Quarter)*

Smooth Transition – On July 1, 2009, the new Hawaii Energy Efficiency Program under administration of SAIC officially took over responsibility for the DSM rebate programs formerly run by the HECO, HELCO and MECO utilities. The utilities actively participated in the transition, helped with outreach and delivered program materials, data and equipment to Hawaii Energy in a timely fashion. This utility support helped to ensure a smooth transition.

Wall-to-Wall Subcontract – On June 2, SAIC signed a two-year subcontract with *Wall-to-Wall*, a local marketing design firm to provide critical outreach support services to the new Program, including design of a unique program name and logo, program branding and identity, advertisement design and placement, website development and public relations. After extensive analysis and vetting of multiple ideas and designs, “**Hawaii Energy**” was chosen as the new Program name and the new logo was established as seen above in the header. In addition, we have developed with *Wall-to-Wall* a comprehensive marketing plan designed to push incentives that have underperformed in the 1st Qtr and draw customers to our website where they will be further educated as to the full range of conservation and efficiency measures they can employ.

Honeywell Subcontract – On June 21, SAIC signed a two-year subcontract with Honeywell to provide support services to the new Program, including continuation of its operation of the residential services that it had handled under the old utility DSM program. This contributed significantly to a relatively seamless transition. Honeywell continues to operate and enhance the residential program for Hawaii Energy through process innovations and on-going cost-management efforts. It is currently working with SAIC IT technicians to integrate the Honeywell database into Hawaii Energy’s new tracking system. Honeywell also completes the check-cutting and distribution work for both the residential and business programs.

PV Program Design – One of the Program’s first contractual deliverables was to design a plan for use of incentives to encourage installation of PV systems in Hawaii. Through reach-back to mainland SAIC expert resources, the Program developed a comprehensive analysis, design and implementation plan for several solar PV rebate program options for PUC consideration. The options have been reviewed by the PUC and the design plan sent back for an expanded analysis of further options. An updated and expanded plan is now awaiting further review and possible action by the PUC.

Recruitment from HECO Program – After failing to negotiate a subcontract with HECO to provide support services to the new Program, SAIC (with HECO’s permission) recruited four key personnel from the utility program, including Derrick Sonoda, a senior manager. The addition of these highly qualified personnel from the utility gave the Program an accelerated critical mass which allowed the Program to maintain a good momentum as the transition proceeded.

Hawaii Energy Efficiency Program

Quarterly Performance Report – 1st Quarter PY09 (06/27/09 – 09/25/09)



Website Development – Initially, *Wall-to-Wall* set up a transition website at www.hawaiienergy.com to answer customer questions about the new Program and guide customers to rebate forms and Program information. Contemporaneously, work has proceeded with *Wall-to-Wall* designers, SAIC IT technicians and Hawaii Energy staff on development of a fully interactive website that will feature on-line (paperless) rebate applications, real-time rebate status, customer class-segregated information, conservation and efficiency education materials, energy news, vendor advertising, customer forums and vendor ratings, peer group energy footprint comparisons and much more. The new website is expected to be placed in service during the 2nd Quarter, with functionality and material improvements ongoing.

New Tracking System – With reach-back assistance from SAIC IT assets, combined with innovations and technical guidance from Program personnel bringing previous experience with the utility DSM program, we developed a revolutionary new customer and rebate tracking system that has automated and streamlined the entire customer data operation and rebate process. Already, the new system's ability to effectively manage and manipulate large amounts of customer data has resulted in unexpected benefits to the Program, including the easy identification of customers who have a significantly better or worse energy footprint than their peer comparison groups. The system continues to be refined with technical upgrades and additional functionality.

Usage Data Reviews – Utilizing the enhanced capabilities of the new customer and rebate tracking system, the Program has developed a process to manipulate and review customer electric usage data in ways that allow comparison of a customer's kWh usage with other customers in a peer group. In addition, the tracking system is also being used to easily monitor a customer's energy usage before and after a rebated efficiency measure is implemented, thereby quickly identifying the efficacy and successfulness of the measure implemented. We anticipate that this kind of data analysis will evolve into a valuable tool that will be used to greatly enhance our ability to target energy conservation and efficiency opportunities.

Revised 2-Year Budget – Due to subcontract negotiations occurring after the original budget was established and operational experience since the Program transitioned to SAIC, SAIC has requested to make internal line item adjustments to the initial 2-Year Budget contained in the SAIC-PUC Contract. While making these budget adjustments, SAIC will increase transparency and understanding of the Program's detailed expenditures by accommodating the PUC's request to track and include individual budgets for each program component. These adjustments do not change any of the total budget limitations or SAIC performance guarantees mandated by the Contract.

Point of Sale Rebates - The Program developed marketing relationships with key wholesale and retail suppliers to accomplish point of sale rebates due to start in the 2nd Quarter. Suppliers participating in the program include Home Depot, COSTCO, Wal-Mart, Sam's Club, Long's Drugs, City Mill and Lowe's. Others are in the planning stages. Covered products include Energy Star appliances and high efficiency light bulbs and associated fixtures.

Hawaii Energy Efficiency Program

Quarterly Performance Report – 1st Quarter PY09 (06/27/09 – 09/25/09)



Key Personnel Changes – Early in the Program, SAIC successfully recruited an exceptional local engineering/business talent, Michael Chang, to join the Program as Deputy Program Manager. With Michael's former managerial experience in the utility DSM program and strong involvement with the energy industry in Hawaii, we have been able to readjust the job responsibilities of John Nicol, the Deputy Program Manager who was originally sent by SAIC from its Wisconsin program to ensure successful first year Program start-up operations. We have determined that both Michael and John should remain as Deputy Program Managers, with Michael performing local duties and John returning to the Wisconsin program, but continuing to devote up to 25% of his time remotely to the Hawaii Energy Program. We will monitor this arrangement going forward and make any needed adjustments.

Island Equity – Plans are being developed to expand all Program services and incentives to the outer islands beginning in the 2nd Quarter, including ESH. Also, all Program forms, processes and procedures are being revised so as to be the same for all islands to the maximum extent possible.

Ally Development – During this Quarter, ally relationships, information sharing, coordinated planning and joint outreach efforts were developed with many allies who share common objectives with Hawaii Energy, including: Hawaii Solar Energy Association (HSEA), Hawaii Renewable Energy Association (HREA), American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), Building Owners and Managers Association (BOMA), Blue Planet Foundation, Enterprise Hawaii, University of Hawaii (UH), Research Corporation of the University of Hawaii (RCUH), Department of Business Development and Tourism (DBEDT), Hawaii Community Action Program (HCAP), Maui Community Action Program (MCAP), KANU Hawaii, United States Department of Energy (USDOE), National Renewable Energy Laboratory (NREL), Hawaiian Electric Company (HECO), Hawaii Electric Light Company (HELCO), Maui Electric Company (MECO).

Low Income/Hard to Reach (RLI) – Several planning inquiries and initiatives were employed during the 1st Quarter aimed at finding ways to better serve low income and hard-to-reach residential customers. We are planning coordinated efforts with DHHL, HCAP and MCAP to jointly deliver direct-install solar hot water heaters, Energy Star appliances, high efficiency light bulbs, water flow restrictors and general energy educational materials beginning in the 2nd or 3rd Quarter.

Outreach – During the 1st Quarter, Hawaii Energy engaged in broad public outreach through participation in a diverse group of public and private meetings, appearances, presentations, forums, energy events, sponsorships and media, including: “Energy Futures” NPR interview, Pacific Coast Energy Association (PCEA) Workshop, Blue Planet Foundation Energy Home Makeover TV Show, Western Conference Public Utility Commissioners (WCPUC) presentation, Hawaii Solar Energy Association (HSEA) presentation, Hawaii Clean Energy Initiative (HCEI) Energy Efficiency Working Group presentations, Pearl Ridge Shopping Center Energy Fair, Aloha Tower Energy Fair, UH Energy Symposium presentation, Solar Hot Water Heater Vendor and large commercial customer forums on all islands, and collaboration meetings with retailers, wholesalers, vendor associations, government agencies and public interest groups.

Hawaii Energy Efficiency Program

Quarterly Performance Report – 1st Quarter PY09 (06/27/09 – 09/25/09)



Rebate Oversubscription – During the last few months before the July 1, 2009 transition, the utility exceeded its budget on solar hot water heater rebates and failed to pay in excess of \$2M in owed rebates. This left a number of solar hot water vendors with unpaid rebate claims. Some vendors had in excess of \$10K in rebate claims due, causing the vendors economic hardship and general concern about the future of the program. After discussions between the PUC, HECO and SAIC concerning how to best resolve the problem, the PUC issued a D&O directing the utility to pay the outstanding rebate claims. Once the overdue claims were paid, Hawaii Energy assessed the prospects of future rebate oversubscriptions from committed, but not yet completed solar installations that would impact Hawaii Energy's budget. Hawaii Energy determined that the risk of further oversubscription was a manageable risk.

Vendor Sanctions for Rule Violations – During the 1st Quarter, Hawaii Energy received complaints against several solar hot water vendors for unfair advertising infractions in violation the terms of their participation in the approved solar vendor program. Sanctions were given to the offending vendors without objection. The sanctions included taking some vendors off the approved solar vendor list for 3 to 6 months and other vendors having reduced solar rebates for 3 to 6 months. These actions were coordinated with solar industry leadership in a joint effort to maintain the integrity of the solar hot water program.

Hawaii Energy Efficiency Program

Quarterly Performance Report – 1st Quarter PY09 (06/27/09 – 09/25/09)



Summary of Significant Changes or Anticipated Changes in Implementation Strategies and Services *(a summary of any significant changes or anticipated changes in implementation strategies and services)*

New Interactive Website – Rollout of the previously-discussed new interactive website being developed by *Wall-to-Wall* will mark a significant change in the way Hawaii Energy intends primarily to reach out to its customers, allies and vendors. The fully interactive website will replace the transition website at www.hawaiienergy.com and provide a one-stop location for users to learn about our programs and get the latest in energy conservation and efficiency information.

Reduced Solar Hot Water Rebates – During the 1st Quarter, Hawaii Energy determined that the solar rebate commitments made by the utility before the July 1 transition date but which would not be due until after the transition, were in fact going to cause issues with the Hawaii Energy budget going forward unless action was taken to reduce the projected liability. After consultation with solar hot water industry leaders, the Contract Manager and the PUC, Hawaii Energy made the decision to institute various solar rebate reductions. The reductions begin in October 2009 for new military residential construction and then continue in February 2010 for residential retrofits. All new solar residential construction rebates will end as of January 1, 2010. The reductions were done in order to preserve the funding viability of the entire solar rebate program for the remainder of PY09.

Peer Group Energy Comparisons – During the 2nd and 3rd Quarters, we anticipate implementing two different peer group energy comparison programs aimed at quantifying and statistically proving the savings that can be achieved with peer group behavior modification. The first of these programs will be jointly-developed and operated by Hawaii Energy and Blue Planet Foundation. It will consist of an interactive web-page inviting people to voluntarily participate in the effort by signing in and checking off a list of distinguishing factors that will allow them to be categorized into different peer groups whose energy use profiles can then be compared with each individual participate in the peer group. The second of these programs is a commercial program produced by OPOWER that will be contracted by Hawaii Energy to target a small sampling of ratepayers who will be randomly selected and placed in peer groups based on publically available criteria. These ratepayers will then regularly receive printed comparisons of their energy usage compared to the average of those in their peer groups. The idea behind both programs is to measure the change in energy usage of those receiving peer comparison information versus those in the peer group who do not receive any peer comparison information. While energy savings will not accrue towards program goals, if these pilots are successful, they may be integrated into the Hawaii Energy Portfolio in the 2010 program year.

Budget Performance *(actual quarterly expenditures for administrative, information technology, and service delivery costs compared to the annual component of the approved two-year budgets)*

The table below summarizes budget performance for the first quarter relative to the annual component of the 2-year budget:

Hawaii Energy Efficiency Program

Quarterly Performance Report – 1st Quarter PY09 (06/27/09 – 09/25/09)



Program Area	1 Year	Q1 Results					
	07/01/09 to 06/30/10 Budget	Plan Budget	Billed ⁵	Actual ¹	Actual % of PY09 Budget	Expected % of PY09 Budget	Actual Variance to Plan
Residential Programs⁶	\$ 7,553,007	\$ 1,882,456	\$1,387,427	\$1,478,376	19.6%	17.3%	\$ 404,080
- Incentives	\$ 5,796,775	\$ 1,443,397	\$1,450,195	\$1,450,195	25.0%	24.9%	\$ (6,798)
- Non-incentive expenses	\$ 1,756,232	\$ 439,059	\$27,435	\$27,435	1.6%	24.9%	\$ 411,624
- Performance Incentive Fees			(\$87,500)	\$0			
- Subtotal			(\$60,065)	\$27,435			
- Taxes			(\$2,703)	\$1,235			
- TOTAL Non-incentive			(\$62,768)	\$28,669			
Business Programs⁶	\$ 9,231,453	\$ 1,831,025	\$199,187	\$342,874	3.7%	17.3%	\$ 1,488,151
- Incentives	\$ 7,084,948	\$ 1,296,545	\$0	\$0	0.0%	18.3%	\$ 1,296,545
- Non-incentive expenses	\$ 2,146,505	\$ 534,480	\$328,110	\$328,110	15.3%	24.9%	\$ 206,370
- Performance Incentive Fees			(\$87,500)	\$0			
- Contractor Contribution			(\$50,000)	\$0			
- Subtotal			\$190,610	\$328,110			
- Taxes			\$8,577	\$14,765			
-TOTAL Non-incentive			\$199,187	\$342,874			
Marketing³	\$ 470,000	\$ 117,030	\$100,265	\$100,265	21.3%	24.9%	\$ 16,765
Education & Training³	\$ 141,000	\$ 35,109	\$11,992	\$11,992	8.5%	24.9%	\$ 23,117
Market Evaluation³	\$ 117,500	\$ 29,258	\$0	\$0	0.0%	24.9%	\$ 29,258
General Administration	\$ 1,245,222	\$ 310,060	\$187,568	\$187,568	15.1%	24.9%	\$ 122,492
IT²	\$ 85,350	\$ 128,025	\$135,491	\$135,491	158.7%	150.0%	\$ (7,466)
TOTAL	\$ 18,843,532	\$ 3,401,373	\$2,021,930	\$2,256,565	12.0%	18.1%	\$ 1,144,808

Note 1: Reflects the procedural change to record incentives (and savings) the day the incentives are recorded on the accounting system.

Note 2: We requested an increase in our PY09 IT budget to \$277,648. Approval of this budget would equate to quarterly expenditures of 49%.

Note 3: These costs will be distributed by residential and business beginning in Quarter 2; some of these costs are invoiced entirely as business program costs for Quarter 1.

Note 4: For the first 3 months of the program (Quarter 1), we are comparing to the budgets defined in Attachment F. Beginning in Quarter 2, we will compare to the officially approved revised budget

Note 5: This chart is provided for illustrative purposes and is not to replace the invoice.

Note 6: Assumes that Call Center, Data Tracking, Program Management and Program Operations line items in Attachment F are included in Residential Programs and Business Programs general service delivery expenses.

Hawaii Energy Efficiency Program

Quarterly Performance Report – 1st Quarter PY09 (06/27/09 – 09/25/09)



Incentive Performance (*committed customer incentive payments as evidenced by a signed incentive contract that specifies that a future incentive payment will be made to a Program customer for energy efficiency measures*)

Below is a table of incentives that are applicable for recognizing savings toward program goals.

Program	2 Year Budget	Incentives	% Spent	Incentive Distribution
Residential Incentives	\$ 11,983,095	\$ 1,450,195	12.1%	100.0%
Business Incentives	\$ 14,646,008	\$ -	0.0%	0.0%
Total Incentives	\$ 26,629,103	\$ 1,450,195	5.4%	100.0%

Hawaii Energy Efficiency Program

Quarterly Performance Report – 1st Quarter PY09 (06/27/09 – 09/25/09)



Key Performance Metrics (report of progress made towards achieving savings targets and other agreed-upon indicators of performance)

Key Performance Metrics 1 st Quarter PY09	YTD Results	PY2009 Targets	YTD % of Target PY2009
Annual Energy Savings Impacts (Net Generation Level)			
<i>Residential (MWh)</i>	3,582	68,722	5%
<i>Business (MWh)</i>	0	57,301	0%
<i>Peak Demand (kW)</i>	1,038	20,097	5%
<i>Total Resource Benefit</i>		\$208,342,000	
Island Equity (% of Total Incentive Dollars) [Must be within 20% of target]			
<i>Oahu</i>	86%	69%	Within 17%
<i>Maui County</i>	7%	19%	Within 12%
<i>Hawaii County</i>	7%	11%	Within 4%
Market Transformation (Applications Completed)			
<i>Emerging Technologies</i>	1 ¹	20	5%
<i>Ally Referrals</i>	64	40	160%

Note 1: One emerging technology was claimed in September although it was not reported in the September monthly report.

Hawaii Energy Efficiency Program

Quarterly Performance Report – 1st Quarter PY09 (06/27/09 – 09/25/09)



Back Up Materials

Below is the revised July monthly budget report to comply with the revised process for claiming incentives. The August and September reports reflect the change and do not need a revision. A revised July table is necessary to tie out to the table in this Quarterly report and avoid counting incentives twice.

July Budget Performance (6/27/09 through 7/31/09)

Program Area	07/01/09 to 06/30/10 Budget	Monthly Budget	Billed	Actual ¹	Actual % of Budget	Expected % of Budget
Residential Programs	\$7,553,007	\$436,192	\$ (19,133.46)	\$10,856.97	0.1%	5.8%
- Incentives	\$5,796,775	\$289,839	\$0.00	\$0.00	0.0%	5.0%
- Non-incentive expenses	\$1,756,232	\$146,353	\$ 10,856.97	\$10,856.97	0.6%	8.3%
- Performance Incentive Fees			(\$29,166.50)	NA		
- Subtotal			(\$18,309.53)	\$10,856.97		
- Taxes			(\$823.93)	\$488.56		
- TOTAL Non-incentive			(\$19,133.46)	\$11,345.53		
Business Programs	\$9,231,453	\$532,407	\$50,694.71	\$133,423.70	1.4%	5.8%
- Incentives	\$7,084,948	\$354,247	\$0.00	\$0.00	0.0%	5.0%
- Non-incentive expenses	\$2,146,505	\$178,160	\$ 127,678.18	\$127,678.18	5.9%	8.3%
- Performance Incentive Fees			(\$29,166.50)	NA		
- Contractor Contribution Credit			(\$50,000.00)			
- Subtotal			\$ 48,511.68	\$127,678.18		
- Taxes			\$2,183.03	\$5,745.52		
-TOTAL Non-incentive			\$50,694.71	\$133,423.70		
Marketing³	\$470,000	\$39,010	\$ 1,979.44	\$1,979.44	0.4%	8.3%
Education & Training³	\$141,000	\$11,703	\$ 6,560.20	\$6,560.20	4.7%	8.3%
Market Evaluation³	\$117,500	\$9,753	\$0.00	\$0.00	0.0%	8.3%
General Administration	\$1,245,222	\$103,353	\$ 62,248.42	\$62,248.42	5.0%	8.3%
IT²	\$85,350	\$42,675	\$ 78,262.86	\$78,262.86	91.7%	50.0%
TOTAL	\$18,843,532	\$1,133,791	\$180,612.17	\$293,331.59	1.6%	6.0%

Note 1: Reflects the procedural change to record incentives (and savings) the day the incentives are recorded on the accounting system.

Note 2: We requested an increase in our PY09 IT budget to \$277,648. Approval of this budget would equate to July expenditures as 28%.

Note 3: These costs will be distributed by residential and business beginning in Quarter 2; currently they are invoiced in business programs.

Note 4: For the first 3 months of the program (Quarter 1), we are comparing to the budgets defined in Attachment F. Beginning in Quarter 2, we will compare to the officially approved revised budget.

Hawaii Energy Efficiency Program

Monthly Performance Report – October 2009 (09/26/09 – 10/30/09)



Executive Summary

Notable activities this month included:

- *Outer Island Commercial Meetings* – Several Commercial and Pubic Meetings on Oahu, Maui, Lanai and the island of Hawaii.
- *Commercial Incentives Paid* – Paid out backlog of \$1,073,407 in approved commercial incentives.
- *Changes to Residential Solar Incentives* – Reduction of New Construction incentive from \$1,000 to \$600 to ensure funding lasts a full year.
- *TV Spot* – Aired “Be Smart, Save Energy” spot on Blue Planet’s Home Energy Makeover.

The following table is an overall summary of our performance in the month of October.

Key Performance Metrics	Month's Results	YTD Results	PY2009 Targets	YTD % of Target PY2009
Annual Energy Savings Impacts (Net Generation Level)				
Residential (MWh)	1,945	5,528	68,722	8%
Business (MWh)	3,097	18,626	57,301	33%
Peak Demand (kW)	3,648	4,686	20,097	23%
Total Resource Benefit			\$208,342,000	
Island Equity (% of Total Incentive Dollars)				
Oahu	96%	92%	69%	
Maui County	2%	4%	19%	
Hawaii County	2%	4%	11%	
Market Transformation (Applications Completed)				
Emerging Technologies	1	1	20	5%
Ally Referrals	64	64	40	160%
Financials ¹				
Total Incentives ²	\$ 2,154,066	\$ 3,604,261	\$12,881,723	28.0%
Total Program Expenses (Billed)	\$ 597,268	\$ 1,797,054	\$ 6,113,189	29.4%
Total Program Costs	\$ 2,751,334	\$ 5,401,315	\$18,994,912	28.4%
¹ Includes Ramp-Up to match Attachment F				
² Based on date incentives for period 9/26/09 – 10/30/09				

Transition Highlights

Government Incentives Credited Directly to Utility Bill – The first Government bill credits were made this month.

Hawaii Energy Monthly Report - October 2009 - Final R1

Hawaii Energy Efficiency Program

Monthly Performance Report – October 2009 (09/26/09 – 10/30/09)



Overall Program Activities Timeline

Issues	July	August	September	October	November	December	January	...
Office Location	Site evaluations	Site evaluations	Site selected	Sign Lease	Sign Lease	Office Outfitting	Move in Jan 4	
Maui On-Island Inspector		Interviews	Change RFP	Contract Delay	Finalize contract			
Utility Bill Incentive Credits		HECO MOU Proposal		Completion				
CFL In-Store Coupons		Contact Retailers	Develop MOUs	Started				
Establish revised 2-year Program Budget		Start analysis for 2 year budget revision	Revise based on updated forecasts	Submit to JFA				
Total Resource Benefit	Develop Worksheet	Review Avoided Costs & T&D Losses	w/ DBEDT to propose Avoided Costs	Receive Avoided Costs for consideration in FY10 TRB				
Technical Resource Manual		A&E / KEMA / IRP Doc Reviews		Draft TRM		Meeting with M&V contractor	Completion	
Combine Solar Specifications for All Islands				Draft Compilation	Completion			
Photo-Voltaic Incentive Development		Proposal review w/PUC	PUC Review & Comment	Under PUC review				

On Schedule	Done	Delay	Cancel	Next Month Priorities

Hawaii Energy Efficiency Program

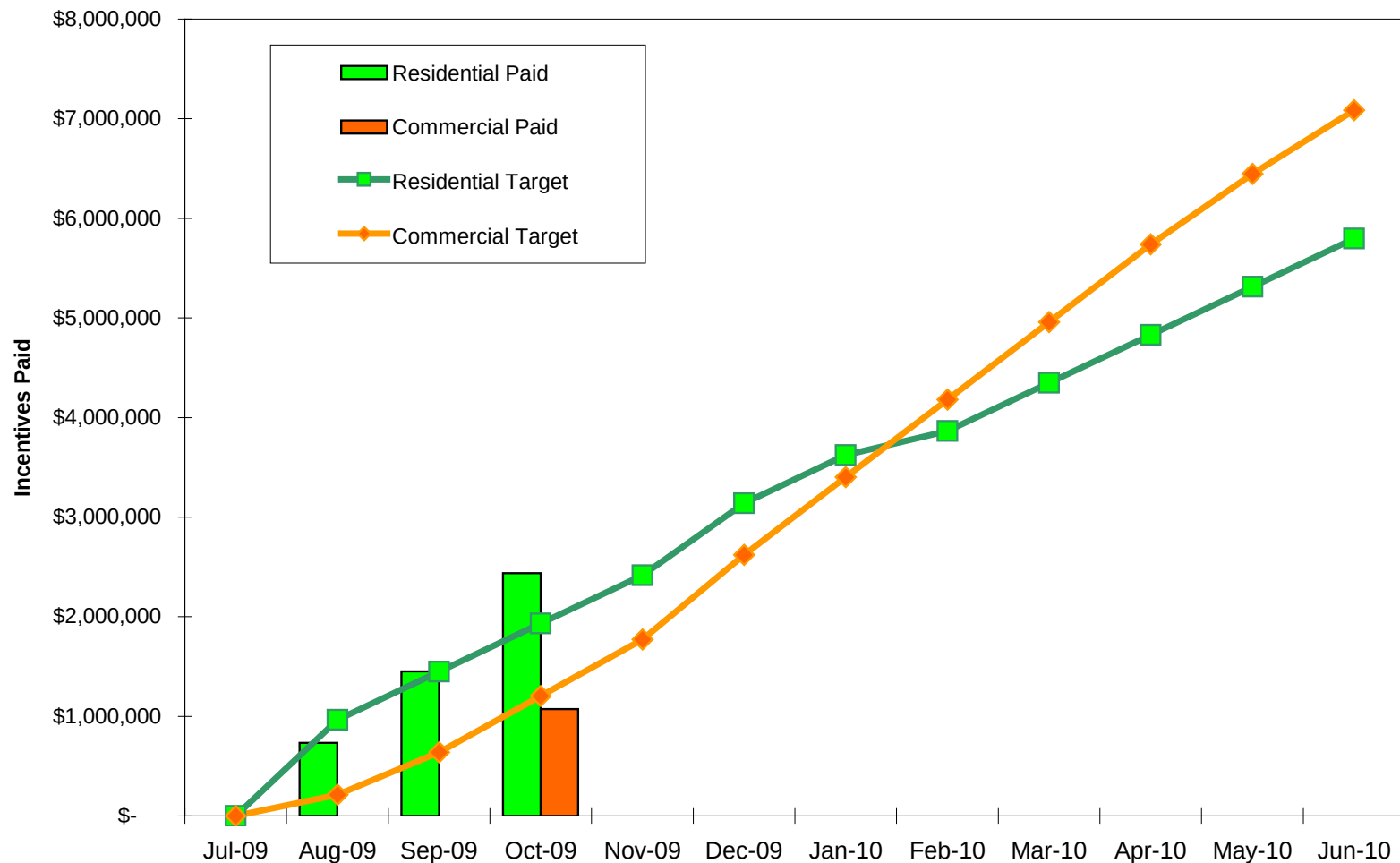
Monthly Performance Report – October 2009 (09/26/09 – 10/30/09)



Performance Chart

1. *First Year Incentive Payment Tracking* - This Chart shows the paid versus target and forecasted (committed) incentives for the PY2009.

Chart 1: PY2009 Incentive Tracking



Hawaii Energy Monthly Report - October 2009 - Final R1

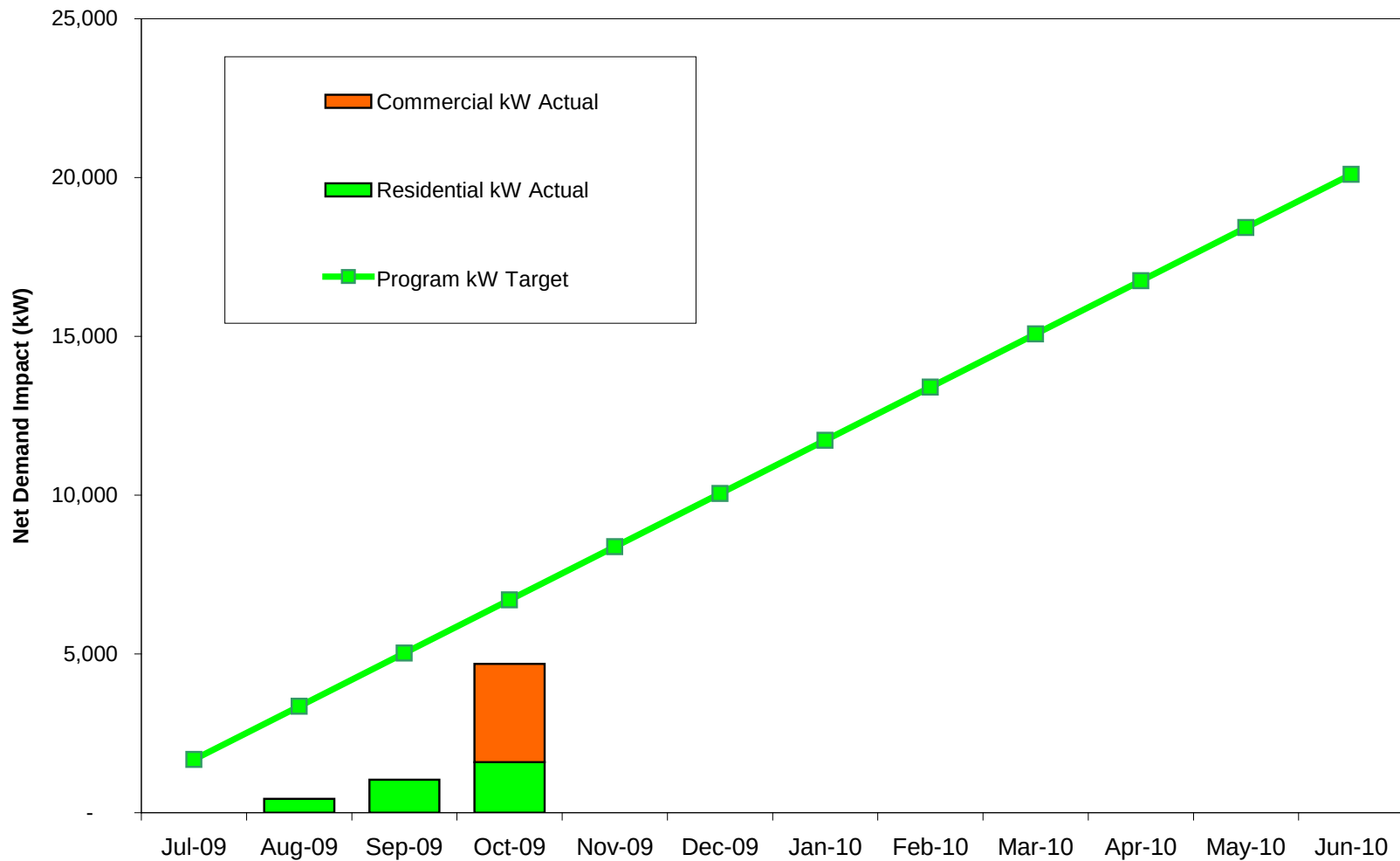
Hawaii Energy Efficiency Program

Monthly Performance Report – October 2009 (09/26/09 – 10/30/09)



2. *First Year Demand Impact Tracking* - This Chart shows the combined demand impact versus target for PY2009.

Chart 2: PY2009 Net Demand Impact Tracking



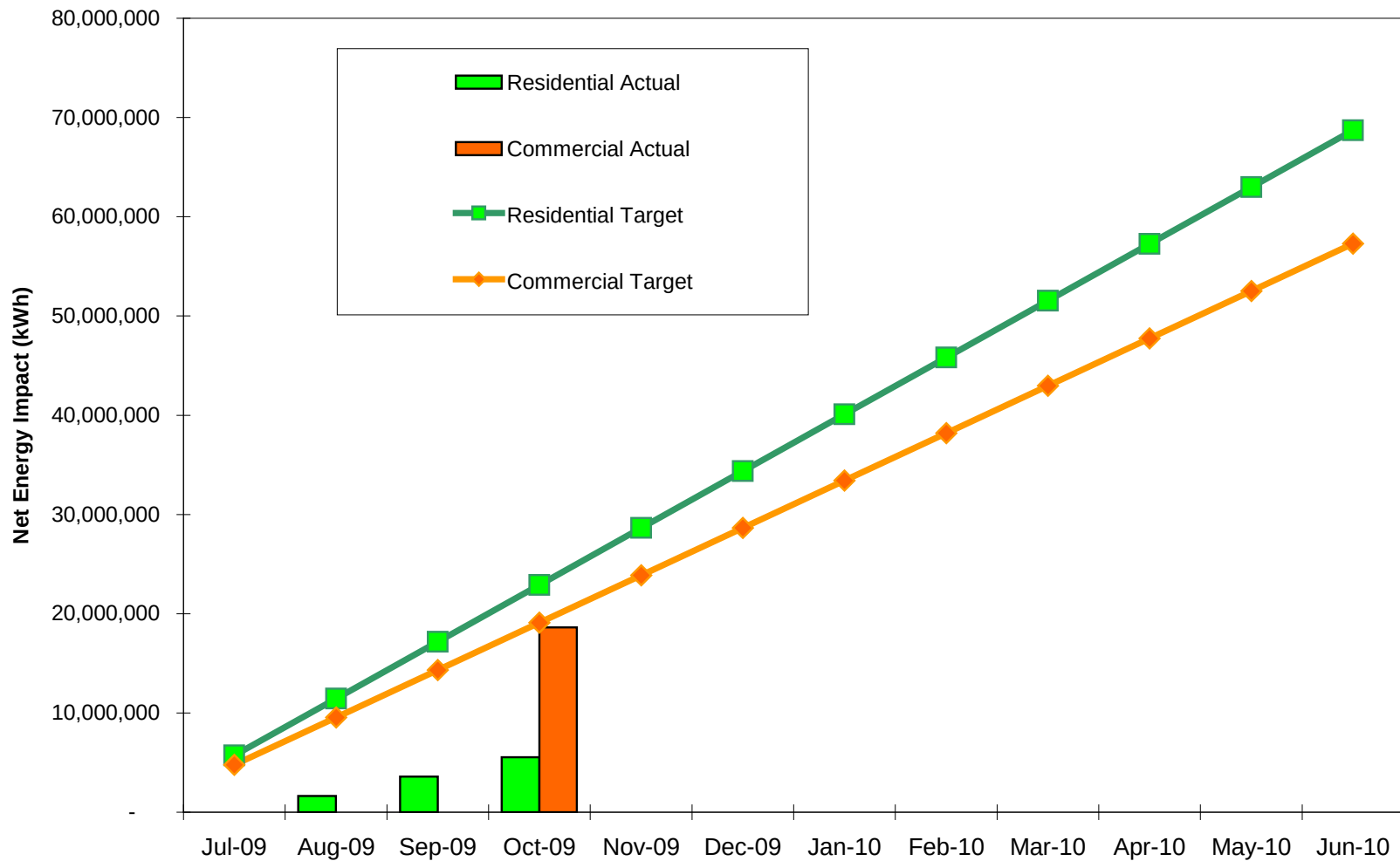
Hawaii Energy Efficiency Program

Monthly Performance Report – October 2009 (09/26/09 – 10/30/09)



3. *First Year Energy Impact Tracking* - This Chart shows the combined demand impact versus target for PY2009.

Chart 3: PY2009 Net Energy Impact Tracking



Hawaii Energy Efficiency Program

Monthly Performance Report – October 2009 (09/26/09 – 10/30/09)



Marketing Highlights

The following marketing activities took place this month.

Media Outlet	Subject	Action	Follow-up
TV	Blue Planet Home Energy Makeover	"Be Smart , Save Energy" Commercial	Put spot on website

Government Highlights

The following activities with the Government took place this month.

Agency	Subject	Action	Follow-up
Hawaii Clean Energy Initiative (HCEI) Energy Working group (EUEWG)	Energy Efficiency legislative modifications	Working Group Meetings in developing Legislature Recommendations	Quarterly participation
HCEI Plenary Meetings	Clean Energy Legislative actions	Participation in discussions	Quarterly participation
Council for Native Hawaiian Advancement – Hawaiian Homes	Energy Loan Program	Collaborate on financial options for energy projects	Share materials and coordinate efforts.

Hawaii Energy Efficiency Program

Monthly Performance Report – October 2009 (09/26/09 – 10/30/09)



Education and Training Highlights

The following education and training activities took place this month.

Event	Attendees	Subject	Count	Date
WESCO (Electrical Distributor) Presentation – Kona, Hawaii	Commercial Customers	Introduction of Programs	30	10/01/09
WESCO (Electrical Distributor) Presentation – Honolulu, Oahu	Commercial Customers	Introduction of Programs	60	10/02/09
“Live Energy Lite” HECO Residential Educational Program	Residential Customers	Introduction of Programs	8,000+	10/03/09
Pacific Coast Electrical Association Conference & Expo (PCEA) – HECO	Commercial Customers	Introduction of Programs	450	10/07/09
Lana`i Community Event	Residential Customers	Introduction of Programs	200	10/10/09
Chamber of Commerce 2009 Sustainability for Business Forum	Commercial Customers	Introduction of Programs	75	10/15/09
Grainger – Kona	Commercial Customers	Introduction of Programs	14	10/22/09
Grainger – Hilo	Commercial Customers	Introduction of Programs	12	10/21/09

Market Evaluation Highlights

The following actions were taken to obtain trade ally input on programs and develop better market penetration this month.

Trade Allies	Subject	Outcome	Follow-On
Panasonic	Home - Efficient Exhaust Ventilation Fans	Product	Add to the list of potential new RNC Incentives

Hawaii Energy Efficiency Program Budget Performance

Note		PY09 Revised			
		October Allocations	Allocations to Date*	Budget**	% Spent
	<u>Residential Programs</u>				
1	Residential (3000)				
2	Residential Program Ops and Management				
	REWH	\$ 212,291.59	\$ 228,706.03	\$ 1,207,347	19%
	RNC	\$ 20,927.10	\$ 23,209.65	\$ 84,912	27%
	ESH	\$ 130,175.81	\$ 135,847.50	\$ 849,124	16%
	RLI	\$ (21.15)	\$ 342.14	\$ 33,344	1%
	Total Residential Programs	\$ 363,373.36	\$ 388,105.32	\$ 2,174,728	18%
	Education & Training (E&T)	\$ 1,643.78	\$ 2,721.56	\$ 63,450	4%
	Market Evaluation	\$ -	\$ -	\$ -	
	Advertising/Marketing	\$ 8,449.03	\$ 8,449.03	\$ 341,729	2%
	<i>Total Residential Non-Incentive</i>	\$ 373,466.17	\$ 399,275.92	\$ 2,579,907	15%
	Less Performance Incentives (for Pool)	\$ (29,166.50)	\$ (116,666.00)	\$ (350,000)	33%
	Residential Incentives				
	REWH	\$ 221,050.00	\$ 889,590.00	\$ 2,986,000	30%
	RNC	\$ 669,800.00	\$ 1,147,640.00	\$ 583,750	197%
	ESH	\$ 191,330.00	\$ 495,145.00	\$ 1,989,250	25%
	RLI	\$ -	\$ -	\$ 237,775	0%
	<i>Total Residential Incentives</i>	\$ 1,082,180.00	\$ 2,532,375.00	\$ 5,796,775	44%
	Performance Pool Award	\$ -	\$ -	\$ 350,000	33%
5	Total Residential Programs	\$ 1,426,479.67	\$ 2,814,984.92	\$ 8,376,682	34%
	<u>Business (C&I) Programs</u>				
1	Business (4000)				
2	Business Programs Ops and Management				
	CIEE	\$ 52,951.51	\$ 349,387.44	\$ 547,783	64%
	CINC	\$ 38,374.30	\$ 112,121.25	\$ 484,371	23%
	CICR	\$ 41,177.67	\$ 117,087.81	\$ 702,645	17%
	PV	\$ 13,898.69	\$ 13,898.69	\$ 36,183	38%
	Subtotal Business Programs	\$ 146,402.17	\$ 592,495.20	\$ 1,770,984	33%
	Less Contractor Contribution		\$ (50,000.00)	\$ (50,000)	100%
	Total Business Programs	\$ 146,402.17	\$ 542,495.20	\$ 1,720,984	32%
	Education & Training (E&T)	\$ 3,712.90	\$ 5,484.96	\$ 77,550	7%
	Market Evaluation	\$ -	\$ -	\$ 64,625	0%
	Advertising/Marketing	\$ 10,741.10	\$ 10,741.10	\$ 417,668	3%
	<i>Total Business Non-Incentive</i>	\$ 160,856.17	\$ 558,721.26	\$ 2,280,828	24%
	Less Performance Incentive Fee (for Pool)	\$ (29,166.50)	\$ (116,666.00)	\$ (350,000)	33%
	Business Incentives				
	CIEE	\$ 796,398.00	\$ 796,398.00	\$ 1,895,464	42%
	CINC	\$ 275,488.00	\$ 275,488.00	\$ 1,676,042	16%
	CICR	\$ -	\$ -	\$ 2,431,324	0%
	PV	\$ -	\$ -	\$ -	
	New	\$ -	\$ -	\$ 1,082,116	0%
	<i>Total Business Incentives</i>	\$ 1,071,886.00	\$ 1,071,886.00	\$ 7,084,948	15%
	Performance Pool Award	\$ -	\$ -	\$ 350,000	33%
5	Total Business Programs	\$ 1,203,575.67	\$ 1,513,941.26	\$ 9,365,776	16%
	Ramp Up Program Costs	\$ -	\$ 486,054.27	\$ 467,277	104%
	Less Contractor Contribution From Residential Ramp Up	\$ -	\$ (50,000.00)	\$ (50,000)	100%
	Total Ramp Up	\$ -	\$ 436,054.27	\$ 417,277	104%
	Total Services and Initiatives	\$ 2,630,055.34	\$ 4,764,980.45	\$ 18,159,735	26%
	<u>Supporting Services</u>				
	GA	\$ 101,367.77	\$ 288,935.88	\$ 1,245,222	23%
	IT	\$ 19,911.21	\$ 155,402.15	\$ 277,648	56%
	Ramp Up GA	\$ -	\$ 165,937.53	\$ 160,945	103%
	Ramp Up IT	\$ -	\$ 126,058.54	\$ 122,783	103%
	Less Contractor Contribution	\$ -	\$ (100,000.00)	\$ (100,000)	100%
	Total Supporting Services	\$ 121,278.98	\$ 636,334.08	\$ 1,706,598	37%
	Sub-Total Estimated Contractor Costs	\$ 2,751,334.32	\$ 5,401,314.53	\$ 19,866,334	27%
	Performance Awards in Excess of Target Levels			\$ 133,000	
	Total Estimated Contractor Costs, including Performance Awards in Excess of Target Levels			\$ 19,999,334	

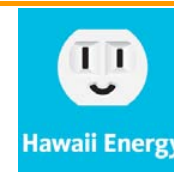
*Minus contractor contributions and performance incentive fees

**Authorized budgets are according to the Hawaii Energy Efficiency Program Budget Revision 1 and included per verbal approval of this revised budget

- 1 October Allocations to Generic Residential and Business Programs are reflected as if spent this period (and they were subtracted from the cumulative); Cumulative past generic expenditures were allocated to the cumulative at the percents spent over the first months of the program
- 2 Program Ops and Management includes Program Management, Program Operations, Call Center, and Data Tracking; Program Management will consume approximately 30%
- 4 PPV costs will be transferred to CINC incentives at a later date; We are not stopping RNC payments therefore we will need to backfill with ARRA or an under budget program

Hawaii Energy Efficiency Program

Monthly Performance Report – November 2009 (10/31/09 – 11/27/09)



Executive Summary

Notable activities this month included:

- *Outer Island Commercial Meetings* – Several Commercial and Public Meetings on Oahu, Maui, Lanai and the island of Hawaii.

The following table is an overall summary of our performance in the month:

Key Performance Metrics	Month's Results	YTD Results	PY2009 Targets	YTD % of Target PY2009
Annual Energy Savings Impacts (Net Generation Level)				
Residential (MWh)	1,166	6,695	68,722	10%
Business (MWh)	2,308	20,934	57,301	37%
Peak Demand (kW)	916	5,602	20,097	28%
Island Equity (% of Total Incentive Dollars)				
Oahu	93%	92%	69%	
Maui County	2%	4%	19%	
Hawaii County	5%	4%	11%	
Market Transformation (Applications Completed)				
Emerging Technologies	1	1	20	5%
Ally Referrals	17	37	40	93%
Financials ¹				
Total Incentives ²	\$ 903,750.00	\$ 4,508,011.00	\$ 12,881,723.00	35%
Total Program Expenses (Billed)	\$ 300,644.13	\$ 2,097,697.66	\$ 6,113,189.00	34%
Total Program Costs	\$ 1,204,394.13	\$ 6,605,708.66	\$ 18,994,912.00	35%
¹ Includes Ramp-Up to match Attachment F				
² Based on date incentives for period 10/31/09 – 11/27/09				

Transition Highlights

Effective Rate Schedules – Received historical effective rate schedules for the utility companies for the past 10 years. Will use with customers to help make financial decisions on projects. Escalation trends help develop a sense of urgency to take actions today to avoid cost increase risk in the future.

Hawaii Energy Efficiency Program

Monthly Performance Report – November 2009 (10/31/09 – 11/27/09)



Overall Program Activities Timeline

Issues	July	August	September	October	November	December	January	...
Office Location	Site evaluations	Site evaluations	Site selected	Sign Lease	Sign Lease	Office Outfitting	Move in Jan 4	
Maui On-Island Inspector		Interviews	Change RFP	Contract Delay	Finalize contract	Award & Start		
Total Resource Benefit	Develop Worksheet	Review Avoided Costs & T&D Losses	w/ DBEDT to propose Avoided Costs	Receive Avoided Costs for consideration in FY10 TRB				
Technical Resource Manual		A&E / KEMA / IRP Doc Reviews		Draft TRMs	Draft TRMs	Introductions to M&V contractor	Completion of TRMs	
Combine Solar Specifications for All Islands				Draft Compilation	New specs completed	Issue Solar Specs		
Photo-Voltaic Incentive Development		Proposal review w/PUC	PUC Review & Comment		Under PUC review			
Develop Commercial Solar Water Heater Incentive Process					Develop			
Energy Star Appliance Program Expansion to Maui and Hawaii Counties					Forms / Database mods Completed	Retailer Meetings		Start date delayed TBD
Energy Care Pack					Showerhead RFP	CFL RFP	Start delivery w/Solar and RLI projects	

On Schedule	Done	Delay	Cancel	Next Month Priorities

Hawaii Energy Efficiency Program

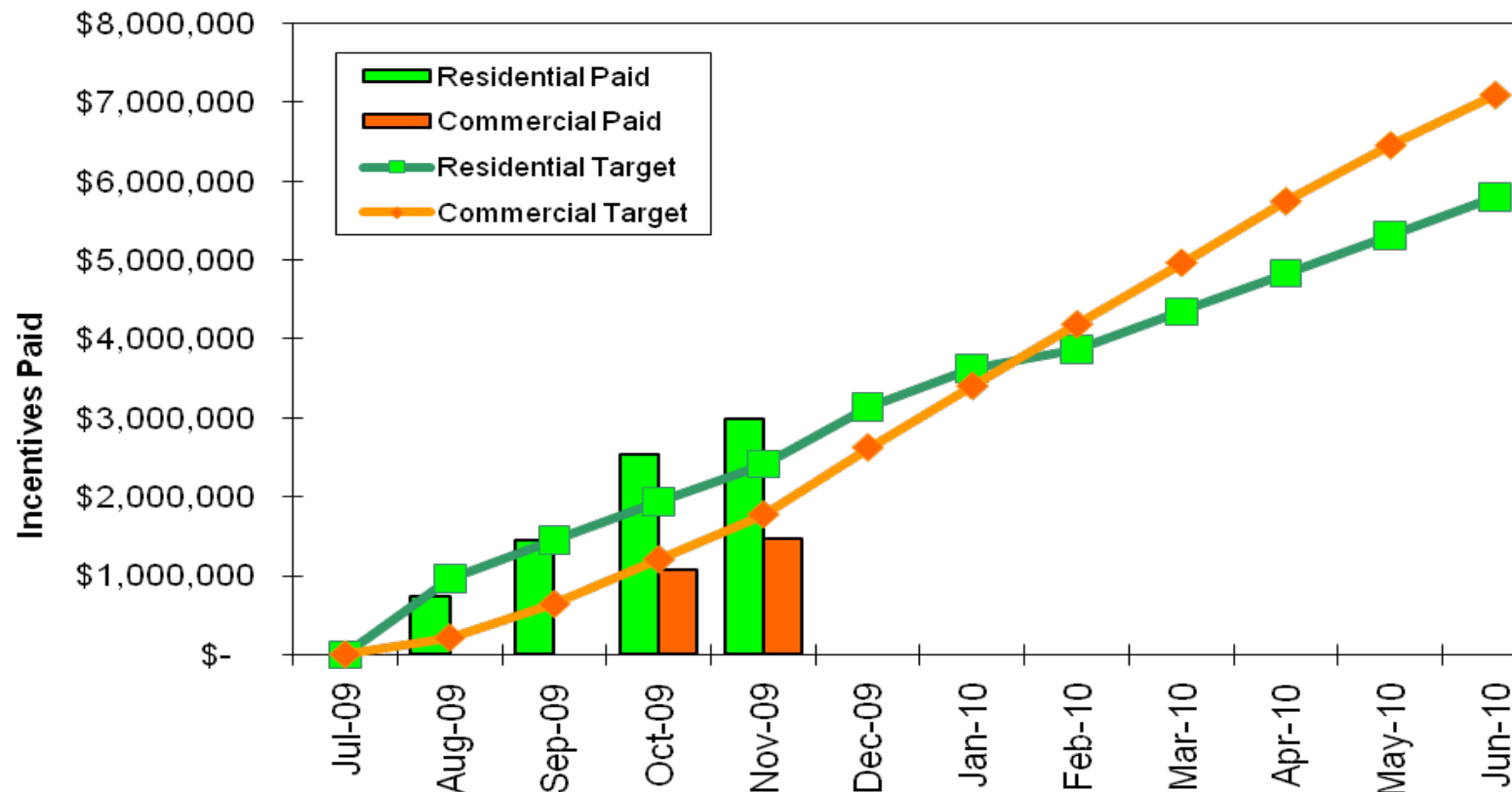
Monthly Performance Report – November 2009 (10/31/09 – 11/27/09)



Performance Chart

1. *First Year Incentive Payment Tracking* - This Chart shows the paid versus target and forecasted (committed) incentives for the PY2009.

Chart 1: PY2009 Incentive Tracking



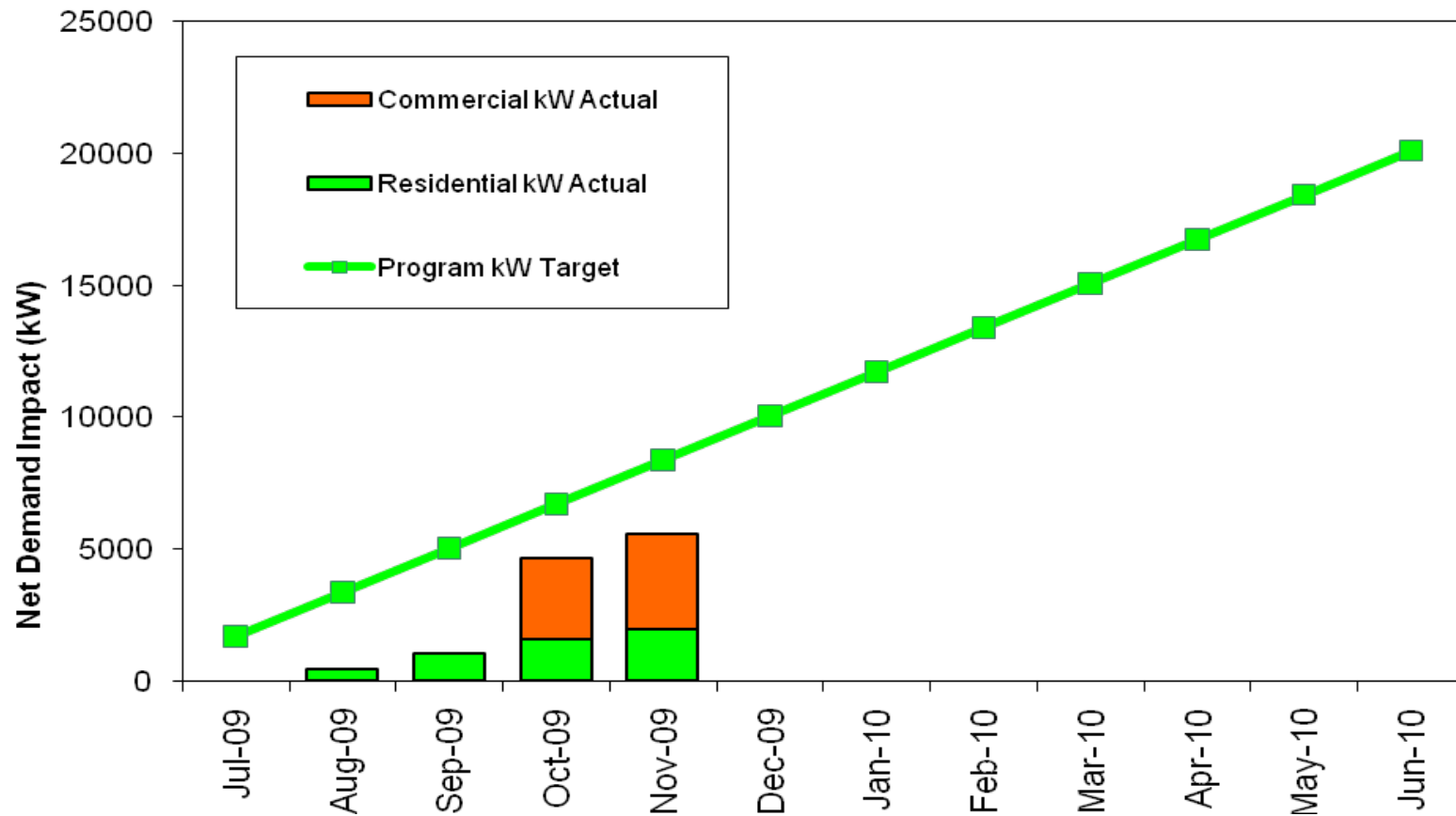
Hawaii Energy Efficiency Program

Monthly Performance Report – November 2009 (10/31/09 – 11/27/09)



2. *First Year Demand Impact Tracking* - This Chart shows the combined demand impact versus target for PY2009.

Chart 2: PY2009 Net Demand Impact Tracking



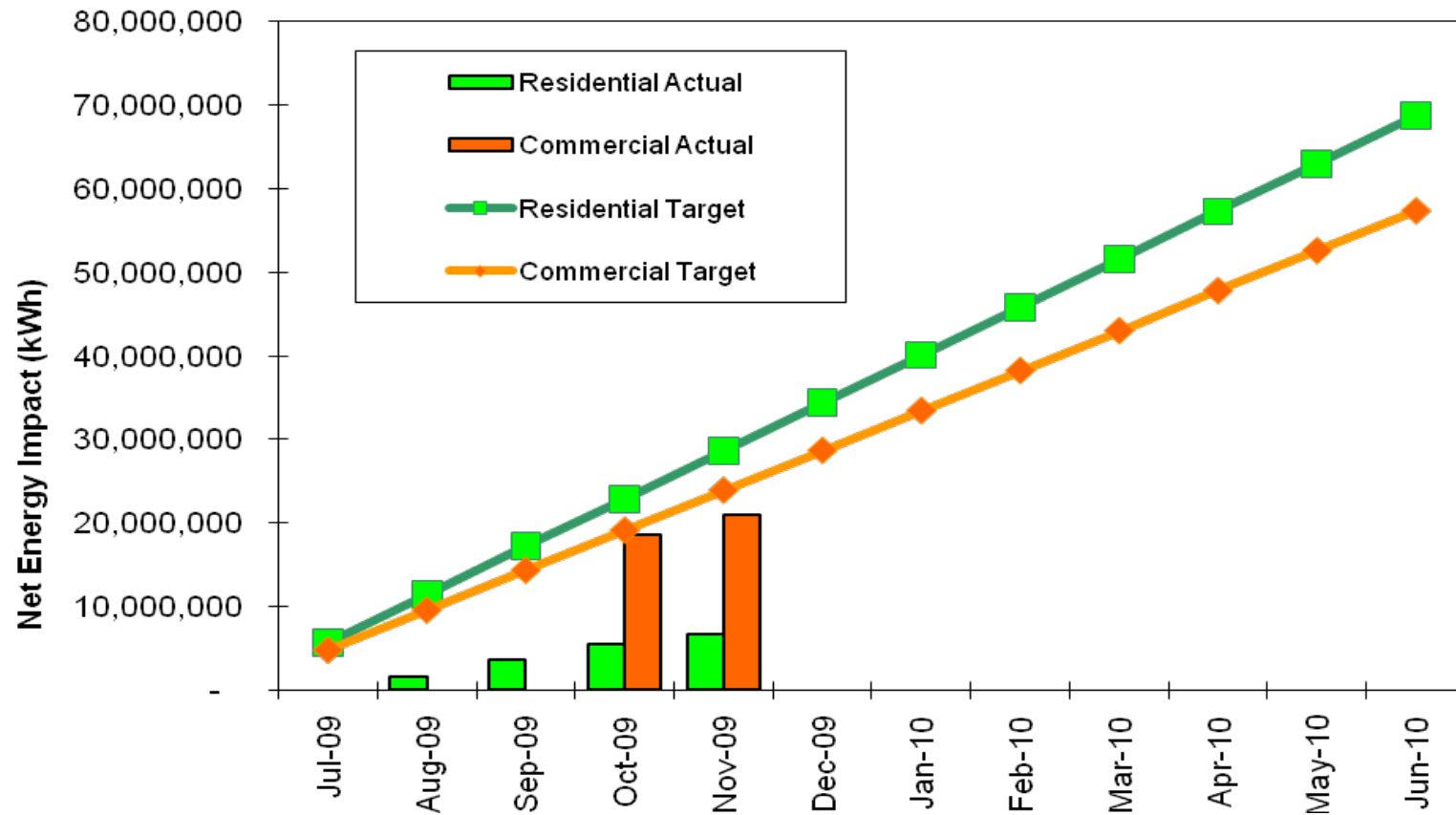
Hawaii Energy Efficiency Program

Monthly Performance Report – November 2009 (10/31/09 – 11/27/09)



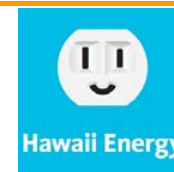
3. *First Year Energy Impact Tracking* - This Chart shows the combined demand impact versus target for PY2009.

Chart 3: PY2009 Net Energy Impact Tracking



Hawaii Energy Efficiency Program

Monthly Performance Report – November 2009 (10/31/09 – 11/27/09)



Marketing Highlights

The following marketing activities took place this month.

Media Outlet	Subject	Action	Follow-up
Bennet group	Public Relations / Promotions	Interview	Request for Proposal

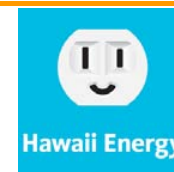
Government Highlights

The following activities with Government agencies took place this month.

Agency	Subject	Action	Follow-up
Honolulu Community Action Program (HCAP)	Training of energy programs and coordination of shower heads for direct install by CAPS	Completed training and selection of showerheads.	Delivery of material
Research Corporation of the University of Hawaii (RCUH) – Mike Hamnett	Research assistance between RCUH and Hawaii Energy. Coordinate predictions of economic models of energy conservation activities with real projects.	Market and technical review of energy usage patterns in both residential and commercial facilities.	Sharing of prior program development material (Integrated Resource Plans (IRP) Measurement and Evaluations (M&E) reports) Residential review based on combined resources.
Tokyo Gas Co., Ltd. and Jyukankyo Research Institute	PAYS and OBF Programs	Meeting	

Hawaii Energy Efficiency Program

Monthly Performance Report – November 2009 (10/31/09 – 11/27/09)



Education and Training Highlights

The following education and training activities took place this month.

Event	Attendees	Subject	Count	Date
GEXPRO (GE Lighting Supply)	Sales Staff	Lighting programs training and feedback	12	11/2/09
Longs Drugs / WEBCO	Sales Staff	CFL program training	7	11/15/09
City Mill Presentation	Residential Customers	Introduction of Programs	16	11/11/09
Foodland	Residential Customers	Introduction of Programs	7	11/12/09
WEBCO/Don Quixote Presentation	Residential Customers	Introduction of Programs	5	11/16/09
Graham Builders	Residential Customers	Introduction of Programs	12	11/17/09
ABM Family - Honolulu, Oahu	Commercial Customers	Introduction of Programs	25	11/19/09
Mechanical Contractors/Consultants/HVAC Presentation	Commercial Customers	Introduction of Programs	40	11/20/09
Aina Energy	Hawaii Energy Staff	Briefed on products and described custom applications for their products including high bay t8 lighting, advanced controls, light tubes to obtain information for website and work on specific projects.	3	11/18/09
GE Lighting	Hawaii Energy Staff	Presentation of products and promotions on lighting products to obtain information for website and work on specific projects. Educated on current products and LED evaluation by DOE status.	6	11/02/09

Market Evaluation Highlights

There were no actions taken to obtain trade ally input on programs and develop better market penetration this month.

Hawaii Energy Efficiency Program

Monthly Performance Report – November 2009 (10/31/09 – 11/27/09)



Budget Notes

The following table captures the allocation of expenses across programs. Due to the change to increase the detail of reporting and to accommodate with the cost system, there had been some discrepancies in the past. The following table best represents how the generic residential and business expenses should be allocated and will be used going forward for the program year. It includes:

- The transfer of Residential New Construction Incentives to Commercial New Construction Incentives in accordance with the change to consider incentives for public private ventures (PPV) as commercial incentives. This change was made to reflect that the residential measures were installed behind a commercial meter. All incentives for residential measures, EnergyStar, solar systems, etc., that are installed behind commercial meters will be taken out of the business programs (CINC and CIEE).
- Allocation of Education & Training and Marketing expenses (purchased prior to the reporting change) to their respective Education & Training and Marketing line items.

Hawaii Energy Efficiency Program Budget Revision 1 - October 7, 2009
March 3, 2009 through June 30, 2010

Note		PY09 REVISED			
		November	BUDGET		
		Allocations	Allocations to Date*	AUTHORIZATION*	% Spent
	Residential Programs				
1	Residential (3000)				
2	Residential Program Ops and Management ¹				
	REWH	\$ 137,385.47	\$ 358,093.54	\$ 1,207,347	30%
	RNC	\$ 8,814.88	\$ 36,438.76	\$ 84,912	43%
	ESH	\$ 39,990.47	\$ 176,638.69	\$ 849,124	21%
	RLI	\$ (80.98)	\$ 1,966.41	\$ 33,344	6%
	Total Residential Programs	\$ 186,109.85	\$ 573,137.39	\$ 2,174,728	26%
	Education & Training (E&T)	\$ 490.92	\$ 9,208.25	\$ 63,450	15%
	Market Evaluation	\$ -	\$ -	\$ -	
	Advertising/Marketing	\$ -	\$ 53,568.08	\$ 341,729	16%
	<i>Total Residential Non-Incentive</i>	\$ 186,600.77	\$ 635,913.72	\$ 2,579,907	25%
	Less Performance Incentives (for Pool)	\$ (29,166.50)	\$ (145,832.50)	\$ (350,000)	42%
	Residential Incentives				
	REWH	\$ 246,210.00	\$ 1,135,800.00	\$ 2,986,000	38%
3	RNC	\$ 101,550.00	\$ 653,190.00	\$ 583,750	112%
	ESH	\$ 157,195.00	\$ 652,340.00	\$ 1,989,250	33%
	RLI	\$ -	\$ -	\$ 237,775	0%
	Total Residential Incentives	\$ 504,955.00	\$ 2,441,330.00	\$ 5,796,775	42%
	Performance Pool Award	\$ -	\$ -	\$ 350,000.00	
	Total Residential Programs	\$ 662,389.27	\$ 2,931,411.22	\$ 8,376,682	35%
	Business (C&I) Programs				
1	Business (4000)				
2	Business Programs Ops and Management				
	CIEE	\$ 35,804.96	\$ 229,595.31	\$ 547,784	42%
	CINC	\$ 25,513.07	\$ 160,022.41	\$ 484,371	33%
	CICR	\$ 32,201.05	\$ 171,319.57	\$ 702,646	24%
	PV	\$ -	\$ 13,898.69	\$ 36,183	38%
	Subtotal Business Programs	\$ 93,519.08	\$ 574,835.97	\$ 1,770,985	32%
	Less Contractor Contribution	\$ -	\$ (50,000.00)	\$ (50,000)	100%
	Total Business Programs	\$ 93,519.08	\$ 524,835.97	\$ 1,720,985	30%
	Education & Training (E&T)	\$ 428.95	\$ 11,909.68	\$ 77,550	15%
	Market Evaluation	\$ -	\$ -	\$ 64,625	0%
	Advertising/Marketing	\$ -	\$ 65,886.60	\$ 417,669	16%
	<i>Total Business Non-Incentive</i>	\$ 93,948.03	\$ 602,632.25	\$ 2,280,828	26%
	Less Performance Incentive Fee (For Pool)	\$ (29,166.50)	\$ (145,832.50)	\$ (350,000)	42%
	Business Incentives				
	CIEE	\$ 121,958.00	\$ 918,356.00	\$ 1,895,465	48%
3	CINC	\$ 276,837.00	\$ 1,148,325.00	\$ 1,676,042	69%
	CICR	\$ -	\$ -	\$ 2,431,324	0%
	PV	\$ -	\$ -	\$ -	0%
	New	\$ -	\$ -	\$ 1,082,117	0%
	Total Business Incentives	\$ 398,795.00	\$ 2,066,681.00	\$ 7,084,948	29%
	Performance Pool Award	\$ -	\$ -	\$ 350,000.00	42%
	Total Business Programs	\$ 463,576.53	\$ 2,523,480.75	\$ 9,365,776	28%
	Ramp Up Program Costs	\$ -	\$ 486,054.27	\$ 467,277	104%
	Less Contractor Contribution From Residential Ramp Up	\$ -	\$ (50,000.00)	\$ (50,000)	100%
	Total Ramp Up	\$ -	\$ 436,054.27	\$ 417,277	104%
	Total Services and Initiatives	\$ 1,125,965.80	\$ 5,890,946.24	\$ 18,159,735	33%
	Supporting Services				
	GA	\$ 56,207.06	\$ 345,142.94	\$ 1,245,222	28%
	IT	\$ 22,221.27	\$ 177,623.42	\$ 277,648	64%
	Ramp Up GA	\$ -	\$ 165,937.53	\$ 160,945	103%
	Ramp Up IT	\$ -	\$ 126,058.54	\$ 122,783	103%
	Less Contractor Contribution	\$ -	\$ (100,000.00)	\$ (100,000)	100%
	Total Supporting Services	\$ 78,428.33	\$ 714,762.42	\$ 1,706,598	42%
	Sub-Total Estimated Contractor Costs	\$ 1,204,394.13	\$ 6,605,708.66	\$ 19,866,334	34%
	Performance Awards in Excess of Target Levels			\$ 133,000	
	Total Estimated Contractor Costs, including Performance Awards in Excess of Target Levels			\$ 19,999,334	

- 1 November Allocations to Generic Residential and Business Programs were distributed across programs at approximations of efforts for the first quarter (Residential: 30% REWH, 30% RNC, 30% ESH, and 10% RLI; Business: CIEE 40%, CICR 30%, CINC 30%)
- 2 Program Ops and Management includes Program Management, Program Operations, Call Center, and Data Tracking; Program Management will consume approximately 30%.
- 3 \$596,000 in PPV costs have been transferred to CINC incentives; We are not planning on stopping RNC payments, therefore we will need to backfill with an under budget program with contract manager approval. The costs were transferred in the cumulative column since they were not incurred during the month.

Hawaii Energy Conservation and Efficiency Program

Monthly Performance Report – December 2009 (11/28/09 – 12/31/09)



Executive Summary

December was a relatively slow month due to the holidays. Drafting began on substantive materials for the new website, expected to be operational by March 31, 2010. Preparations were made for our move to the new office at 1132 Bishop Street (move date January 4, 2010). Total Resource Benefit (TRB) and Technical Resource Manual (TRM) data improvements were made in preparation for upcoming Program Evaluator and Technical Advisory Group (TAG) meetings in January 2010. Work proceeded on the planned Energy Star program expansion to neighbor islands in next Quarter.

The following table is an overall summary of our performance in the month:

Key Performance Metrics	Month's Results	YTD Results	PY2009 Targets	YTD % of Target PY2009
Annual Energy Savings Impacts (Net Generation Level)				
Residential (MWh)	1,459	8,856	68,722	12.9%
Business (MWh)	5,939	26,874	57,301	46.9%
Peak Demand (kW)	1,886	7,488	20,097	37.3%
Island Equity (% of Total Incentive Dollars)				
Oahu	84%	96%	69%	139%
Maui County	8%	2%	19%	11%
Hawaii County	8%	2%	11%	18%
Market Transformation (Applications Completed)				
Emerging Technologies	1	2	20	10%
Ally Referrals	9	46	40	115%
Financials ¹				
Total Incentives ²	\$1,285,358	\$5,793,369	\$12,881,723	45%
Total Program Expenses (Billed)	\$695,515	\$2,793,212	\$6,113,189	46%
Total Program Costs ³	\$1,980,872	\$8,586,581	\$19,166,334	45%
¹ Includes Ramp-Up to match Attachment F				
² Based on date incentives for period 11/28/09 – 01/01/10				
³ Total Budget reflects the deduction of \$700,000 in performance incentive fees for the award pool.				

Hawaii Energy *Conservation and Efficiency Program*

Monthly Performance Report – December 2009 (11/28/09 – 12/31/09)



Monthly Highlights

- *New Website:* Basic design of new website completed. Work being expedited on drafting substantive materials to populate the new website. Purchase Order signed with experienced energy writer (Pepi Nieva) to draft and coordinate the materials for the 1st Phase of the new website. Projecting new website 1st Phase startup by end of March 2010.
- *New Office:* The old office was cleaned out and equipment, files and materials packed to be delivered to the new office in downtown Honolulu for move-in on January 4, 2010. New office cubicles and furniture installed in preparation for move.
- *Maui On-Island Inspector:* Contract awarded, inspector engaged and trained.
- *Total Resource Benefit:* Worked through existing materials to develop for January Program Evaluator and TAG meetings
- *Combine Solar Specifications for All Islands:* Worked on single set of solar specifications for all islands.
- *Energy Star Expansion to Neighbor Islands:* Prepared marketing materials and retail/distributor arrangements for expansion of Energy Star rebate expansion to neighbor islands.
- *Energy Care Pack Development:* Negotiated compact fluorescent lamp (CFL) purchase contract for CFL deliveries with solar hot water and RLI programs.

Hawaii Energy Conservation and Efficiency Program

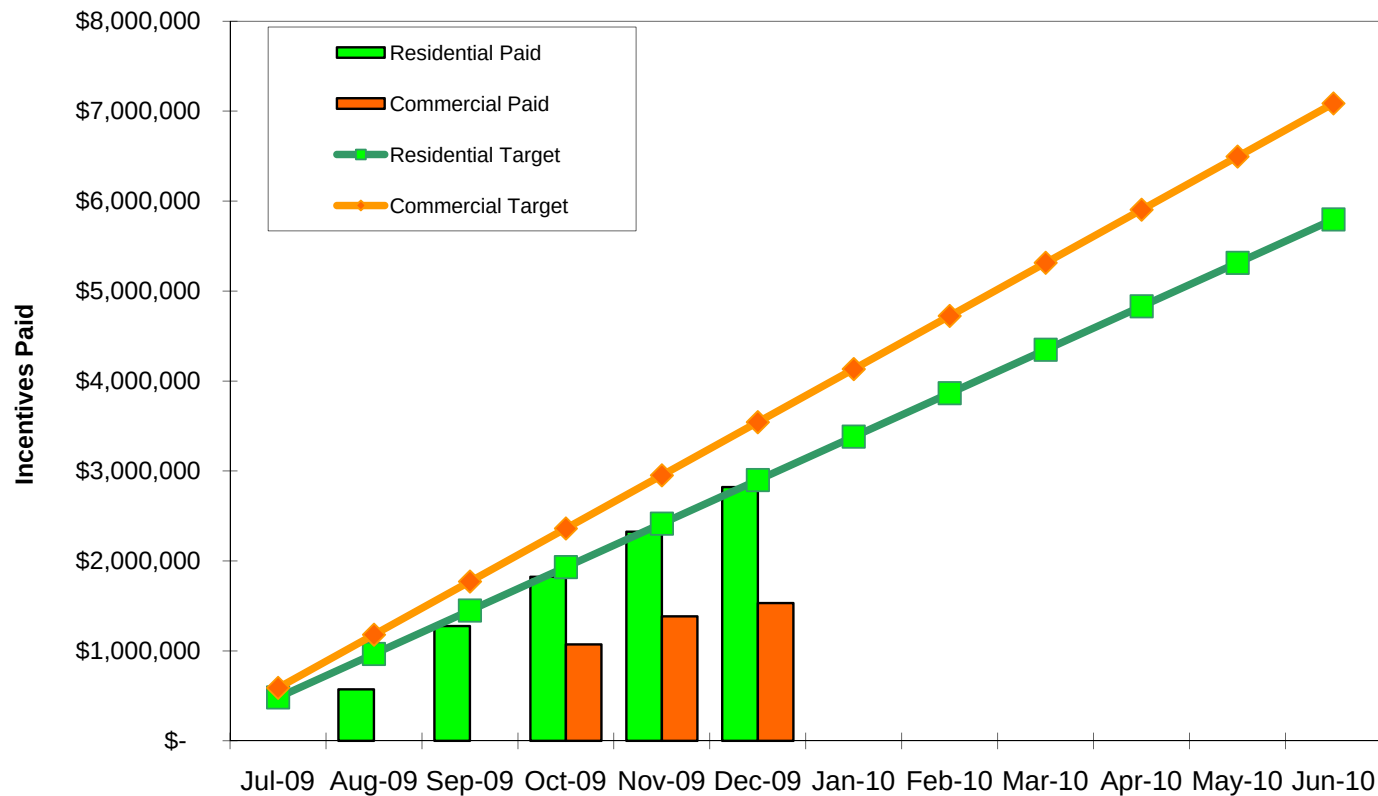
Monthly Performance Report – December 2009 (11/28/09 – 12/31/09)



Performance Charts

1. *First Year Incentive Payment Tracking* - This Chart shows the paid versus target and forecasted (committed) incentives for the

Chart 1: PY2009 Incentive Tracking



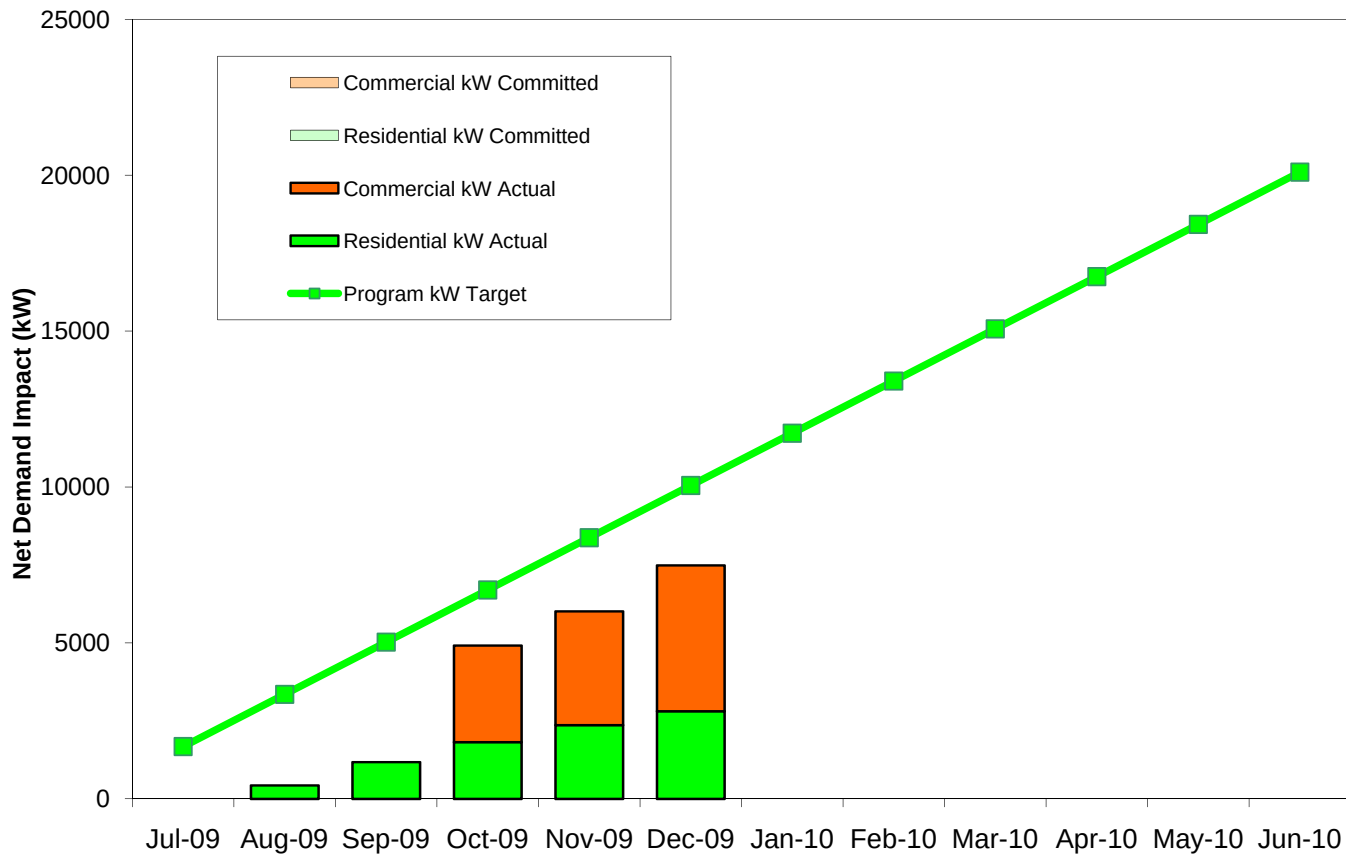
Hawaii Energy Conservation and Efficiency Program

Monthly Performance Report – December 2009 (11/28/09 – 12/31/09)



2. *First Year Demand Impact Tracking* - This Chart shows the combined demand impact versus target for PY2009.

Chart 2: PY2009 Net Demand Impact Tracking



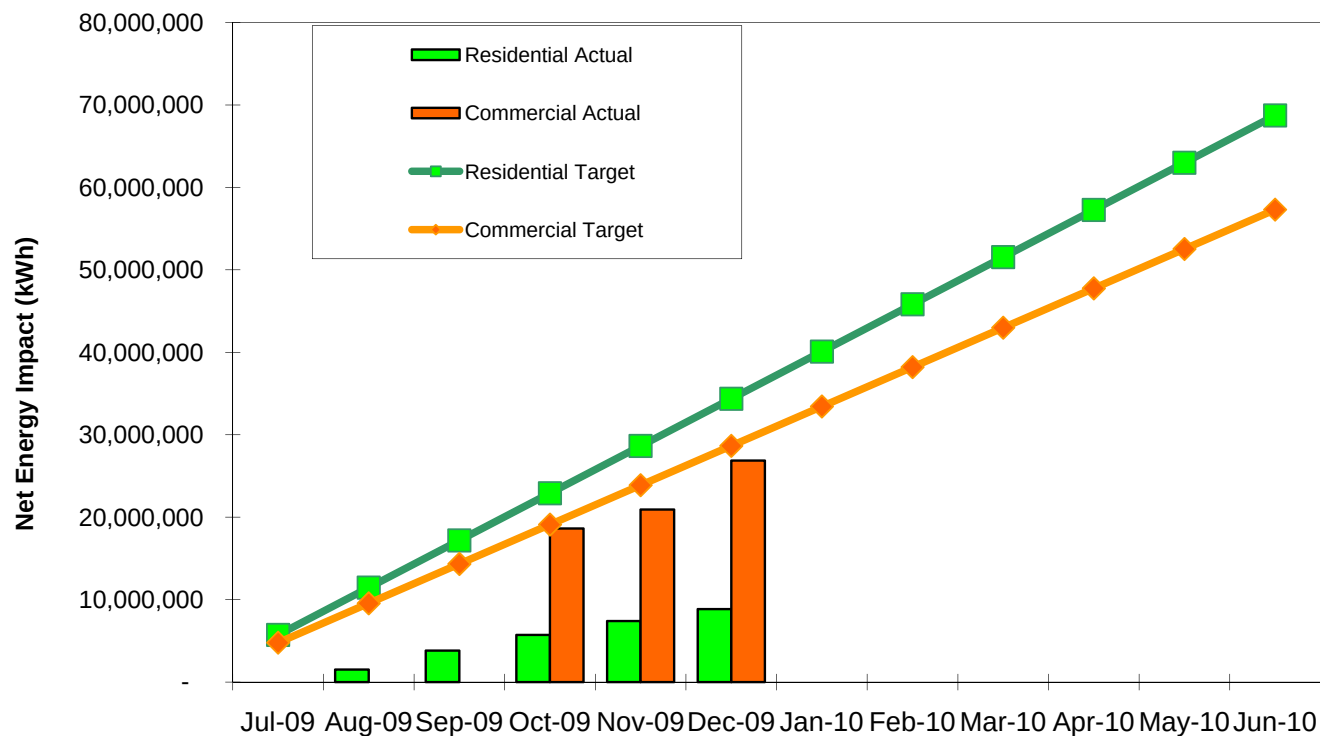
Hawaii Energy Conservation and Efficiency Program

Monthly Performance Report – December 2009 (11/28/09 – 12/31/09)



3. *First Year Energy Impact Tracking* - This Chart shows the combined demand impact versus target for PY2009.

Chart 3: PY2009 Net Energy Impact Tracking



Hawaii Energy Conservation and Efficiency Program

Monthly Performance Report – December 2009 (11/28/09 – 12/31/09)



Marketing and Outreach Highlights

The following marketing activities took place this month.

Media Outlet or Contact	Subject	Action
Doug Carlson	Potential PR and Online Forum Mgr	Meeting – Starling 12/1
Consortium for Energy Efficiency (CEE)	Membership benefits	Web Conference – Mgrs 12/7
Hawaii Council on Economic Education - Kristine Castagnaro	Customer Energy Efficiency Training Collaboration	Meeting – Starling 12/14

Government Highlights

The following activities with the Government took place this month.

Agency	Subject	Action
Kauai Island Utilities Cooperative	RLI – HE support for expanded solar hot water heater program	Meeting – Sonoda 12/1
State Representative Coffman	Solar Rebate for WAP solar installations	Meeting – Starling 12/1
Hawaii Energy Policy Forum (HEPF) Meeting	2010 Legislative Initiatives	Meeting – Starling 12/1
DBEDT – Staff	Potential Additional Funding for Efficiency Programs	Meeting – Starling 12/9

Hawaii Energy Conservation and Efficiency Program

Monthly Performance Report – December 2009 (11/28/09 – 12/31/09)



Education and Training Highlights

The following education and training activities took place this month.

Event	Attendees	Subject	Count	Date
Rebuild Hawaii	Commercial Customers	Program Update Presentation – Starling/Chang	100	12/2
Optimum Energy	Michele Cook	Web Conference	6	12/3
JCI Utility	Marc Jeanson	Program Briefing / JCI Utility Services	2	12/4
Times Supermarket/WEBCO	Randy Slentz, James Payne	CFL program training – Sonoda	13	12/1/09

Market Evaluation and Technology Development Highlights

The following actions were taken to obtain trade ally input on program market penetration and technology development this month.

Trade Allies	Subject	Action
Blue Planet	Market Outreach Collaboration	Meetings – Starling, Sonoda and Chang 12/8 & 12/17
T&T Tinting Specialists	Technology review	Open House – Sonoda 12/9
Energy Industries, GEXPRO, GE Lighting	Technology Development	Meeting – Operators 12/15
Renewable Energy Development Venture – Maurice Kaya	Market Outreach Collaboration	Meeting – Starling 12/15
Hawaiian Electric Company	Coordination	Conference Call – Sonoda 12/23
Siebert Brandford Shank & Co., LLC - Peter Wong	Financing program for Efficiency Programs	Meeting – Chang 12/17

Hawaii Energy *Conservation and Efficiency Program*

Monthly Performance Report – December 2009 (11/28/09 – 12/31/09)



Budget Status

The following table captures the allocation of expenses across programs.

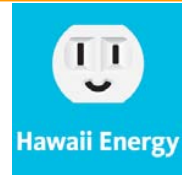
Hawaii Energy Efficiency Program Budget Revision 1 - October 7, 2009
March 3, 2009 through June 30, 2010

		PY09 REVISED			
		December	BUDGET		
		Allocations	Allocations to Date*	AUTHORIZATION*	% Spent
Residential Programs					
<i>Residential Non-Incentive</i>					
1.2 Residential Program Ops and Management					
REWH	\$	292,597.78	\$ 650,691.31	\$ 1,207,347	54%
RNC	\$	15,648.71	\$ 52,087.46	\$ 84,912	61%
ESH	\$	168,102.26	\$ 344,740.94	\$ 849,124	41%
RLI	\$	(131.25)	\$ 1,835.16	\$ 33,344	6%
Total Residential Programs	\$	476,217.49	\$ 1,049,354.88	\$ 2,174,728	48%
Education & Training (E&T)	\$	691.95	\$ 9,900.20	\$ 63,450	16%
Market Evaluation	\$	-	\$ -	\$ -	
Advertising/Marketing	\$	26,487.60	\$ 80,055.68	\$ 341,729	23%
<i>Total Residential Non-Incentive</i>	\$	503,397.04	\$ 1,139,310.76	\$ 2,579,907	44%
Less Performance Incentives (for Pool)	\$	(29,166.50)	\$ (174,999.00)	\$ (350,000)	50%
<i>Residential Incentives</i>					
REWH	\$	313,760.00	\$ 1,449,560.00	\$ 2,986,000	49%
3 RNC	\$	-	\$ 653,190.00	\$ 583,750	112%
ESH	\$	86,155.00	\$ 738,495.00	\$ 1,989,250	37%
RLI	\$	-	\$ -	\$ 237,775	0%
<i>Total Residential Incentives</i>	\$	399,915.00	\$ 2,841,245.00	\$ 5,796,775	49%
Performance Pool Award	\$	-	\$ -	\$ 350,000.00	
Total Residential Programs	\$	874,145.54	\$ 3,805,556.76	\$ 8,376,682	45%
Business (C&I) Programs					
<i>Business Non-Incentive</i>					
1.2 Business Programs Ops and Management					
CIEE	\$	42,081.17	\$ 271,676.47	\$ 547,784	50%
CINC	\$	32,029.37	\$ 192,051.78	\$ 484,371	40%
CICR	\$	45,027.52	\$ 216,347.09	\$ 702,646	31%
PV	\$	-	\$ 13,898.69	\$ 36,183	38%
Subtotal Business Programs	\$	119,138.06	\$ 693,974.04	\$ 1,770,985	39%
Less Contractor Contribution	\$	-	\$ (50,000.00)	\$ (50,000)	100%
Total Business Programs	\$	119,138.06	\$ 643,974.04	\$ 1,720,985	37%
Education & Training (E&T)	\$	1,878.09	\$ 13,787.77	\$ 77,550	18%
Market Evaluation	\$	-	\$ -	\$ 64,625	0%
Advertising/Marketing	\$	32,693.83	\$ 98,580.43	\$ 417,669	24%
<i>Total Business Non-Incentive</i>	\$	153,709.98	\$ 756,342.23	\$ 2,280,828	33%
Less Performance Incentive Fee (for Pool)	\$	(29,166.50)	\$ (174,999.00)	\$ (350,000)	50%
<i>Business Incentives</i>					
CIEE	\$	262,139.00	\$ 1,180,495.00	\$ 1,895,465	62%
3 CINC	\$	566,027.00	\$ 1,714,352.00	\$ 1,676,042	102%
CICR	\$	57,277.00	\$ 57,277.00	\$ 2,431,324	2%
PV	\$	-	\$ -	\$ -	
New	\$	-	\$ -	\$ 1,082,117	0%
<i>Total Business Incentives</i>	\$	885,443.00	\$ 2,952,124.00	\$ 7,084,948	42%
Performance Pool Award	\$	-	\$ -	\$ 350,000.00	
Total Business Programs	\$	1,009,986.48	\$ 3,533,467.23	\$ 9,365,776	38%
Ramp Up Program Costs	\$	-	\$ 486,054.27	\$ 467,277	104%
Less Contractor Contribution From Residential Ramp Up	\$	-	\$ (50,000.00)	\$ (50,000)	100%
Total Ramp Up	\$	-	\$ 436,054.27	\$ 417,277	104%
Total Services and Initiatives	\$	1,884,132.02	\$ 7,775,078.26	\$ 18,159,735	43%
Supporting Services					
GA	\$	91,311.97	\$ 436,454.91	\$ 1,245,222	35%
IT	\$	5,428.51	\$ 183,051.93	\$ 277,648	66%
Ramp Up GA	\$	-	\$ 165,937.53	\$ 160,945	103%
Ramp Up IT	\$	-	\$ 126,058.54	\$ 122,783	103%
Less Contractor Contribution	\$	-	\$ (100,000.00)	\$ (100,000)	100%
Total Supporting Services	\$	96,740.49	\$ 811,502.91	\$ 1,706,598	48%
Sub-Total Estimated Contractor Costs	\$	1,980,872.51	\$ 8,586,581.17	\$ 19,866,334	43%
Performance Awards in Excess of Target Levels				\$ 133,000	
Total Estimated Contractor Costs, including Performance Awards in Excess of Target Levels				\$ 19,999,334	

- November Allocations to Generic Residential and Business Programs were distributed across programs at approximations of efforts for the first quarter (Residential: 30% REWH, 30% RNC, 30% ESH, and 10% RLI; Business: CIEE 40%, CICR 30%, CINC 30%)
- Program Ops and Management includes Program Management, Program Operations, Call Center, and Data Tracking; Program Management will consume approximately 30%.
- \$596,000 in PPV costs were transferred in November to CINC incentives; \$56,769 in PPV costs were transferred this month to CINC incentives. The costs were transferred in the cumulative column since they were not incurred during the month. We had no planned on stopping payments permanently, therefore, we will request to backfill the overage with an under budget program to the contract manager.

Hawaii Energy Efficiency Program

Quarterly Performance Report – 2nd Quarter PY09 (09/26/09 – 01/01/10)



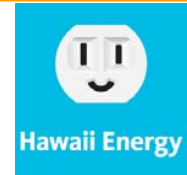
Executive Summary

The Hawaii Energy Efficiency Program's Second Quarter was a period of learning and of establishing ourselves as the program administrator. Below are a few highlights:

- Marketing Efforts – We helped sponsor the Home Energy Makeover produced by Blue Planet Foundation. The show highlighted local families who underwent energy efficiency audits and improvements on their houses. Our first television commercial was launched during the airing of the show.
- Budget Reallocations- We reallocated incentives disbursed to public private ventures (PPV) from Residential New Construction (RNC) to Commercial New Construction (CINC) incentives to reflect that the residential incentivized measures were installed on homes with a commercial meter. All incentives for residential measures, including ENERGY STAR and solar systems, that are installed on homes with commercial meters will be billed to business programs in the future. We made corrections for Education & Training and Marketing expenses (purchased prior to the reporting change) to their respective Education & Training and Marketing line items.
- Preparation for Our Downtown Office Space - We prepared to be ready to operate from our new office space as of the first of the new quarter. Residents and businesses will be able to stop in, ask questions, and check out our educational area. As well as we will be in walking distance from the Public Utilities Commission.
- Energy Solutions for the Home (ESH) to Neighbor Islands – We prepared to launch the ESH rebate program offerings to the neighbor Islands and plan to launch next quarter to increase our island equity performance.
- Report Card - The following is a report card reflecting our performance and strategic actions we are taking to improve our performance.

Hawaii Energy Efficiency Program

Quarterly Performance Report – 2nd Quarter PY09 (09/26/09 – 01/01/10)



Performance Indicator	Q2 Results	YTD Results	PY09 Targets	Status	Strategic Actions Taken This Quarter	Strategic Changes for Next Quarter
Residential Savings (MWh)	4,088	7,311	68,722		- Began implementation of CFL program with point of purchase rebates - Increased the information resources on the website - Decreased the Solar hot water incentive value to accommodate demand	- Increase penetration of CFL program - Propose leveraging of stimulus funds to aid the solar industry and benefit the program
Business Savings (MWh)	24,828	25,166	57,301			Increase Specialists' on-site and outreach activities
Peak Demand (kW)	6,046	7,082	20,097			
Total Resource Benefits (Est. in Millions)	\$43,587,256	\$50,675,597	\$126,683,813			
Market Transformation	0	0	20			- Choose an internal lead to track these closely - PM will monitor status weekly
-Emerging Technologies	143	143	40			
-Ally Referrals						
Island Equity						
-Oahu County (Est.)	89%	90%	69%			
-Maui County (Est.)	4%	5%	19%		Increased neighbor Island commercial meetings	Expand ESH to Neighbor Islands
-Hawaii Country (Est.)	7%	6%	11%			
Budget						
-Non- Incentive Billed	\$1,593,427	\$2,793,212	\$6,284,611			Increase non-incentive spend slightly
-Incentive Billed	\$4,343,174	\$5,793,369	\$12,881,723		Currently under-spending on non-incentive due to \$1 million decrease in PY10	Create greater push on business incentives
-Total Billed	\$5,936,601	\$8,586,581	\$18,966,334			

Hawaii Energy *Conservation and Efficiency Program*

Monthly Performance Report – January 2010 (01/01/10 – 01/31/10)



Executive Summary

January began with a welcomed move into new downtown offices at 1132 Bishop St, Suite 1800, Honolulu, Hawaii, within walking distance of the PUC. Work continued on the Technical Resource Manual (TRM), trade ally development, neighbor island engagement, substantive content for the new website and new programs to be introduced during the second half of PY2009. Performance metrics continued to improve, but remain short of year-to-date expectations. Projections for remainder of program year incentive budgets have begun to show potential shortages in residential incentives and potential surpluses in commercial incentives by end of PY2009, indicating possible budget reallocations or early program termination might be necessary.

The business incentive annual energy savings impacts were revised in January to reflect the shift of the Military Public Private Venture (PPV) and two commercial master-metered residential solar water systems from the Residential New Construction (RNC) program to the Commercial & Industrial New Construction (CINC) program. This reallocation reflects the fact that these properties hold commercial accounts and their public benefits fee is designated as commercial. Therefore, the rebate and savings should be accounted for as commercial. In addition, the new figures reflect the application of the 73% Net-to-Gross adjustment factors to the savings figures. The adjustment was not taken into account on prior reporting.

Hawaii Energy Conservation and Efficiency Program

Monthly Performance Report – January 2010 (01/01/10 – 01/31/10)



The following table is an overall summary of our performance in the month:

Key Performance Metrics	Month's Results	YTD Results	PY2009 Targets	YTD % of Target PY2009
Annual Energy Savings Impacts (Net Generation Level)				
Residential (MWh)	1,795	10,652	68,722	15.5%
Business (MWh) ⁵	1,053	18,023	57,301	43.1%
Peak Demand (kW) ⁵	734	6,950	20,097	37.2%
Island Equity (% of Total Incentive Dollars)				
Oahu	99.7%	95.2%	69%	138%
Maui County	0%	2.4%	19%	13%
Hawaii County	0.3%	2.4%	11%	22%
Market Transformation (Applications Completed) ⁴				
Emerging Technologies	0	2	20	10%
Ally Referrals	0	46	40	115%
Financials ¹				
Total Incentives ²	\$598,192	\$6,391,561	\$12,881,723	50%
Total Program Expenses (Billed) ³	\$289,423	\$3,082,635	\$6,084,611	51%
Total Program Costs ³	\$887,615	\$9,474,196	\$18,966,334	50%
¹ Includes Ramp-Up to match Attachment F ² Based on date incentives for period 1/1/10-1/31/10 ³ Total Budget reflects the deduction of \$700,000 in performance incentive fees for the award pool and \$200,000 for contractor contribution. ⁴ Reporting of Transformation not recorded this month. Will fix reporting and correct and update in next month's report. ⁵ Business Programs impacts retroactively adjusted for Net-to-Gross (73%) on demand and energy savings and adjustment of PPV Solar Thermal impacts to 0.51 kW and 2,250 kWh per system.				

Hawaii Energy Conservation and Efficiency Program

Monthly Performance Report – January 2010 (01/01/10 – 01/31/10)



Monthly Highlights

- *Technical Resource Manual (TRM)*: Submitted draft TRM for evaluation.
- *Condo Submetering Pilot Program*: Submitted request for pilot program to provide incentives to submeter electrical usage per unit for master metered AOA Condominiums. The \$150 per unit metered and billed incentive is coupled with audit and education components. Selecting one AOA in each county to roll out the program.
- *Commercial Solar Incentive* – Standardized across all island a \$50 per 5,000 BTU installed solar thermal water heating capacity incentive.
- *University of Hawaii (UH) Information Technology (IT) Meeting* – Working with UH students to have the class develop internet widgets. The educational outreach with the University is providing the students with real world work challenges within their senior level design class. The widgets being created will be used on the website and this summer. Hawaii Energy will be offering one of the students an intern position to develop the website tools.
- *LED Customized Incentives* - Developed criteria for accepting LED customized projects based on future Energy Star guidelines. These include UL listing, LM 79 & 80 test results, and three year manufacturer warranties.
- *Residential Low Income (RLI)* - We created a new RLI Solar Water Heating Inspection Request form that asks permission to enter the applicable property to access and inspect the outside hot water system. As well as, the form requires all communication between Hawaii Energy and the RLI solar water heater inspection applicant go through Office of Community Services (OCS) as the liaison.

Hawaii Energy Conservation and Efficiency Program

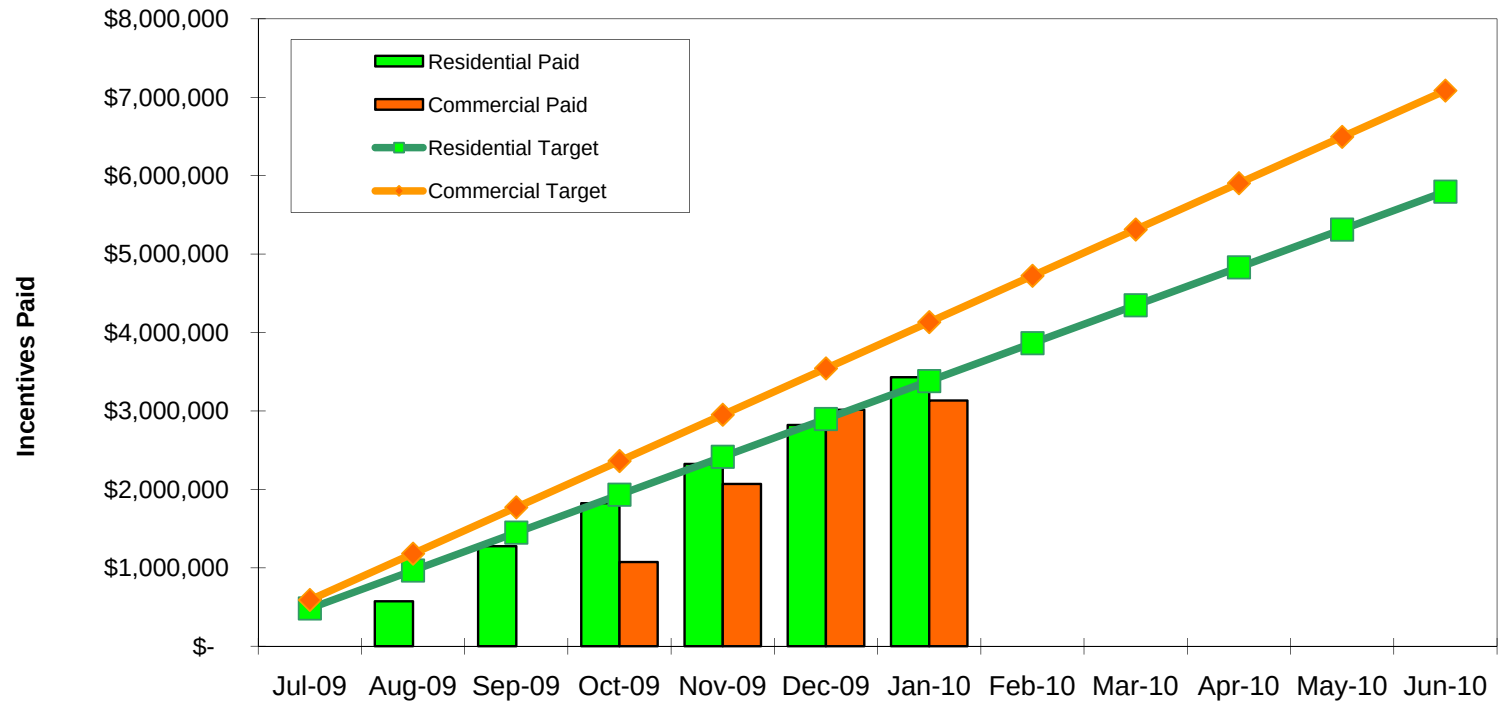
Monthly Performance Report – January 2010 (01/01/10 – 01/31/10)



Performance Charts

1. *First Year Incentive Payment Tracking* - This Chart shows the paid versus target and forecasted (committed) incentives for the PY2009.

Chart 1: PY2009 Incentive Tracking



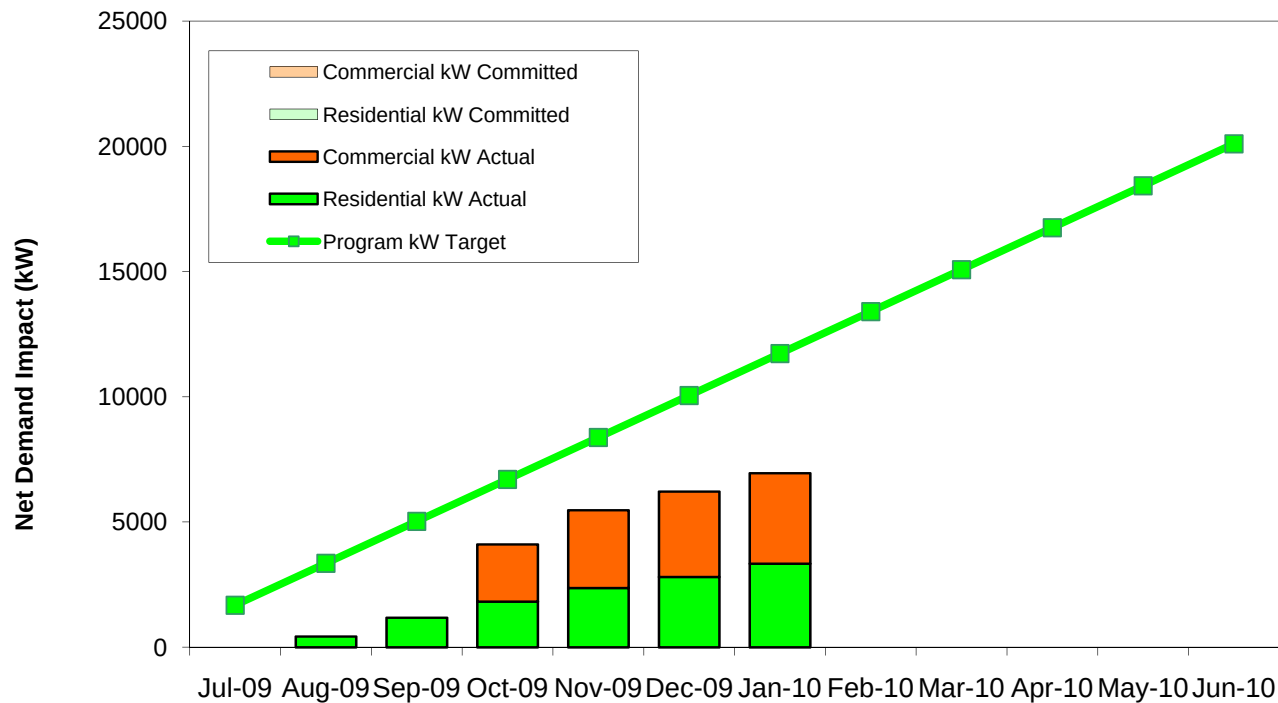
Hawaii Energy Conservation and Efficiency Program

Monthly Performance Report – January 2010 (01/01/10 – 01/31/10)



2. *First Year Demand Impact Tracking* - This Chart shows the combined demand impact versus target for PY2009.

Chart 2: PY2009 Net Demand Impact Tracking



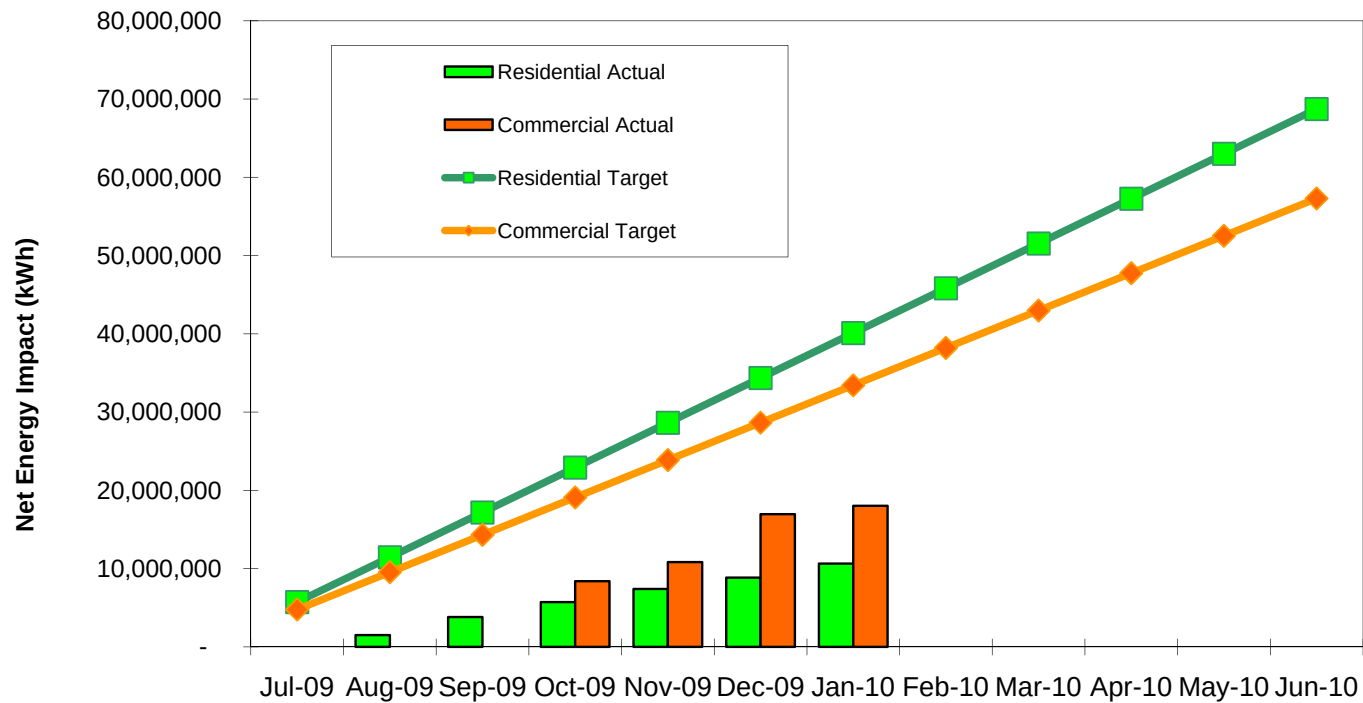
Hawaii Energy Conservation and Efficiency Program

Monthly Performance Report – January 2010 (01/01/10 – 01/31/10)



3. *First Year Energy Impact Tracking* - This Chart shows the combined demand impact versus target for PY2009.

Chart 3: PY2009 Net Energy Impact Tracking



Hawaii Energy Conservation and Efficiency Program

Monthly Performance Report – January 2010 (01/01/10 – 01/31/10)



Marketing and Outreach Highlights

The following marketing activities took place this month.

Media Outlet or Contact	Subject	Action
Pepi Nieva dba PNPR	Website information development	Meeting – 1/5, 1/13, 1/15
Wall-to-Wall Studios, Inc.	Website construction and advertising	Meeting – 1/6, 1/18
Wall-to-Wall Studios, Inc./Bennet Group	Public Relations	Meeting – 1/22

Government Highlights

The following activities with the Government took place this month.

Agency	Subject	Action
Hawaii Energy Policy Forum (HEPF) Meeting	Brief 2010 Legislature	Meeting – Starling 1/8
Hawaii Energy Technical Advisory Group (TAG) Meeting	Evaluation, Measurement & Verification (EM&V)	Meeting – Management Team 1/21
Representative Morita	Program Updates	Meeting – Starling 1/21
Hawaii Public Utilities Commission (HPUC)	Hawaii Energy Efficiency Program: Evaluation, Measurement & Verification (EM&V) Review of Draft EM&V Workplan for Program Year 2009 - 2010	Meeting – Management Team 1/22
State of Hawaii	State of the State Address by Governor Linda Lingle	Attendee – Starling 1/25
Hawaii Clean Energy Initiative	Plenary Session and Efficiency Working Group	Attendee - Management Team 1/25, 1/26

Hawaii Energy Conservation and Efficiency Program

Monthly Performance Report – January 2010 (01/01/10 – 01/31/10)



Education and Training Highlights

The following education and training activities took place this month.

Event	Attendees	Subject	Count	Date
University of Hawaii at Manoa	Michael Chang	Presentation to Graduate level Information Technology Students who may be helping with Hawaii Energy's next website for class credit	25	1/12, 1/19
Maui Inspections/Meetings	Lily Koo, Various Vendors	Hawaii Energy Efficiency Program Updates	11	1/20
Half Moon Seminars Workshop	Derrick Sonoda	Residential and Commercial Architects	34	1/22
Hilo Inspections	Calvin Wong, Vendors	Hawaii Energy Efficiency Program Updates	5	1/27

Hawaii Energy Conservation and Efficiency Program

Monthly Performance Report – January 2010 (01/01/10 – 01/31/10)



Market Evaluation and Technology Development Highlights

The following actions were taken to obtain trade ally input on program market penetration and technology development this month.

Trade Allies	Subject	Action
Mark Duda – Hawaii Solar Energy Association (HSEA)	Coordination on common issues in support of HCEI and legislation to be introduced in Hawaii Legislature	Meeting – Starling 1/7
Warren Bollmier – Hawaii Renewable Energy Alliance (HREA)	Coordination on common issues in support of HCEI and legislation to be introduced in Hawaii Legislature	Meeting – Starling 1/14
Lightbulb Source	Training – New lighting worksheets and LED customized process.	Meeting – Sonoda 1/27
Douglas Codiga, Schlack Ito Lockwood Piper & Elkind Law	"Climate Change Law and Policy: What Every Lawyer Should Know"	Seminar – Starling 1/27
First Hawaiian Bank – Derek Wong	Solar Water Heater Loan Program Development	Meeting – Chang 1/27
DWE Construction – Wayne Toyama.	Review projects and inspect offices	Meeting – Wong 1/27
Hawaii County Dept of Water – Julie Myhre and Owen Nishioka.	Post inspection Kekuanaoa St. offices and Leilani yard	Meeting – Wong 1/27
University of Hawaii, Hilo – Lo-Li Chih	Review upcoming and current projects	Meeting – Wong 1/27
Ced's Plumbing – Ced Matsuoka	Review commercial solar and split	Meeting – Wong 1/27
Fred Leslie – Kamehameha Schools Hawaii Campus	Review upcoming projects	Meeting – Wong 1/27
Coldwell Banker - Linda Kamatsu Wong VP	Reviewed changes to the Solar Hot Water Program and updated an editorial for an April Publication	Meeting – Sonoda 1/28
Hawaii Solar Energy Association	2010 Updates	Meeting – Management Team 1/28

Hawaii Energy *Conservation and Efficiency Program*

Monthly Performance Report – January 2010 (01/01/10 – 01/31/10)



Budget Status

The following table captures the allocation of expenses across programs.

	January Allocations	Allocations to Date*	PY09 Revised Budget Authorization	% Spent
Residential Programs				
Residential Non-Incentive				
1,2 Residential Program Ops and Management				
REWH	\$ 95,265.58	\$ 745,956.90	\$ 1,207,347.47	62%
RNC	\$ 5,745.75	\$ 57,833.21	\$ 84,912.39	68%
ESH	\$ 61,553.45	\$ 406,294.40	\$ 849,123.88	48%
RLI	\$ -	\$ 1,835.16	\$ 33,344.11	6%
Total Residential Programs	\$ 162,564.78	\$ 1,211,919.67	\$ 2,174,727.85	56%
Education & Training (E&T)	\$ 183.25	\$ 10,083.45	\$ 63,450.00	16%
Market Evaluation	\$ -	\$ -	\$ -	
Advertising/Marketing	\$ 1,510.63	\$ 81,566.30	\$ 341,729.01	24%
Total Residential Non-Incentive	\$ 164,258.66	\$ 1,303,569.42	\$ 2,579,906.86	51%
4 Less Performance Incentives (for Pool)	\$ (30,540.83)	\$ (205,539.83)	\$ (350,000.00)	59%
Residential Incentives	\$ -	\$ -	\$ -	
3 REWH	\$ 216,990	\$ 1,666,550.00	\$ 2,986,000.00	56%
RNC	\$ -	\$ 653,190.00	\$ 583,750.00	112%
ESH	\$ 263,515	\$ 1,002,010.00	\$ 1,989,250.00	50%
RLI	\$ -	\$ -	\$ 237,775.00	0%
Total Residential Incentives	\$ 480,505.00	\$ 3,321,750.00	\$ 5,796,775.00	57%
Performance Pool Award	\$ -	\$ -	\$ 350,000.00	0%
Total Residential Programs	\$ 614,222.83	\$ 4,419,779.59	\$ 8,376,681.86	53%

Business (C&I) Programs				
Business Non-Incentive				
1,2 Business Programs Ops and Management				
CIEE	\$ 32,807.58	\$ 304,484.05	\$ 547,783.98	56%
CINC	\$ 23,565.44	\$ 215,617.22	\$ 484,371.47	45%
CICR	\$ 28,759.15	\$ 245,106.24	\$ 702,645.96	35%
PV	\$ -	\$ 13,898.69	\$ 36,183.19	38%
Subtotal Business Programs	\$ 85,132.16	\$ 779,106.20	\$ 1,770,984.61	44%
Less Contractor Contribution	\$ -	\$ (50,000.00)	\$ (50,000.00)	100%
Total Business Programs	\$ 85,132.16	\$ 729,106.20	\$ 1,720,984.61	42%
Education & Training (E&T)	\$ 1,377.60	\$ 15,165.37	\$ 77,550.00	20%
Market Evaluation	\$ 14,293.19	\$ 14,293.19	\$ 64,625.00	22%
Advertising/Marketing	\$ 1,510.63	\$ 100,091.06	\$ 417,668.78	24%
Total Business Non-Incentive	\$ 102,313.58	\$ 858,655.82	\$ 2,280,828.39	38%
4 Less Performance Incentive Fee (for Pool)	\$ (30,540.83)	\$ (205,539.83)	\$ (350,000.00)	59%
Business Incentives	\$ -	\$ -	\$ -	
3 CIEE	\$ 91,087.00	\$ 1,271,582.00	\$ 1,895,464.60	67%
CINC	\$ 26,600.00	\$ 1,740,952.00	\$ 1,676,042.03	104%
CICR	\$ -	\$ 57,277.00	\$ 2,431,324.38	2%
PV	\$ -	\$ -	\$ -	
New	\$ -	\$ -	\$ 1,082,116.99	0%
Total Business Incentives	\$ 117,687.00	\$ 3,069,811.00	\$ 7,084,948.00	43%
Performance Pool Award	\$ -	\$ -	\$ 350,000.00	0%
Total Business Programs	\$ 189,459.76	\$ 3,722,926.99	\$ 9,365,776.39	40%
Ramp Up Program Costs	\$ -	\$ 486,054.27	\$ 467,277.00	104%
Less Contractor Contribution From Residential Ramp Up	\$ -	\$ (50,000.00)	\$ (50,000.00)	100%
Total Ramp Up	\$ -	\$ 436,054.27	\$ 417,277.00	104%
Total Services and Initiatives	\$ 803,682.59	\$ 8,578,760.85	\$ 18,159,735.25	47%

Supporting Services				
GA	\$ 79,259.69	\$ 515,714.60	\$ 1,245,222.00	41%
IT	\$ 4,672.77	\$ 187,724.70	\$ 277,648.00	68%
Ramp Up GA	\$ -	\$ 165,937.53	\$ 160,945.00	103%
Ramp Up IT	\$ -	\$ 126,058.54	\$ 122,783.30	103%
Less Contractor Contribution	\$ -	\$ (100,000.00)	\$ (100,000.00)	100%
Total Supporting Services	\$ 83,932.47	\$ 895,435.38	\$ 1,706,598.30	52%

Sub-Total Estimated Contractor Costs	\$ 887,615.06	\$ 9,474,196.23	\$ 19,866,333.55	48%
Performance Awards in Excess of Target Levels			\$ 133,000.00	

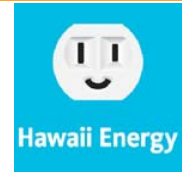
Total Estimated Contractor Costs, including Performance Awards in Excess of Target Levels	\$ 887,615.06		\$ 19,999,333.55	

- November Allocations to Generic Residential and Business Programs were distributed across programs at approximations of efforts for the first quarter (Residential: 30% REWH, 30% RNC, 30% ESH, and 10% RLI; Business: CIEE 40%, CICR 30%, CINC 30%)
- Program Ops and Management includes Program Management, Program Operations, Call Center, and Data Tracking; Program Management will consume approximately 30%.
- \$596,000 in PPV costs were transferred in November to CINC incentives; \$56,769 in PPV costs were transferred this month to CINC incentives. The costs were transferred in the cumulative column since they were not incurred during the month. We had no planned on stopping payments
-

The new R.W. Beck Invoice deducts the performance pool contributions prior to tax, therefore this summary now adds 4.712% to the deductions to simulate that tax is added to each line item as necessary for this summary. After 6 months (until the end of the program year), \$16,397.76 will be allocated to various line items as this tax. This tax is not required at time of invoice due to the deduction in total invoice value and causes increased "% spent" by individual line items. The total of this summary reflects the actual "% spent" for the overall program.

Hawaii Energy Conservation and Efficiency Program

Monthly Performance Report – February 2010 (02/01/10 – 02/28/10)



Executive Summary

This month consisted of many meetings to coordinate energy efficiency promotion and education activities with various government agencies and grass roots, contracting and distributor organizations.

The point-of-purchase (POP) incentives for residential compact fluorescent lamp (CFL) activity ramped up with the first reporting from the retailers arriving this month.

There was a recalculation of impact numbers based on calculation corrections made to the tracking system. These changes are shown and notated in Table 2. Reduction in emerging technologies was due to the first project having less than 25,000 kilowatt hours (kWh) per year in savings.

The following Table 1 is an overall summary of our performance in the month:

Key Performance Metrics	This Month's Results	PY2009 YTD Results	PY2009 Targets	PY2009 YTD % of Target
Annual Energy Savings Impacts (Net Generation Level)				
Residential (MWh)	2,050	17,177	68,722	25.0%
Business (MWh)	2,569	28,900	57,301	50.4%
Peak Demand (kW)	990	9,725	20,097	48.4%
Island Equity (% of Total Incentive Dollars)				
Oahu	78%	88%	69%	127.4%
Maui County	12%	7%	19%	35.3%
Hawaii County	10%	5%	11%	49.0%
Market Transformation (Applications Completed)				
Emerging Technologies	0	1	20	5.0%
Ally Referrals	30	95	40	237.5%
Financials ¹				
Total Incentives ²	\$1,139,880	\$7,531,441	\$12,881,723	58%
Total Program Expenses (Billed)	\$333,374	\$3,416,009	\$6,284,611	54%
Total Program Costs ³	\$1,473,254	\$10,947,450	\$18,966,334	58%
¹ Includes Ramp-Up to match Attachment F				
² Based on date incentives for period 2/01/10 – 02/28/10				
³ Total Budget reflects the deduction of \$700,000 in performance incentive fees for the award pool and \$200,000 for contractor contribution.				

Hawaii Energy Conservation and Efficiency Program

Monthly Performance Report – February 2010 (02/01/10 – 02/28/10)



Table 2 – Consolidated Year-to-Date Impact Value Changes Summary

February Year-to-Date Impact Value Changes Summary

Monthly Impacts				
Residential Energy (MWH)				
	Original	Revised	Difference	
2009 July				
August	1,641	1,479	(162)	Note 1
September	1,941	1,819	(122)	Note 1
October	1,945	1,804	(141)	Note 1
November	1,166	1,290	124	Note 1
December	1,459	1,134	(325)	
2010 January	1,795	7,602	5,807	Note 3
February	2,050	2,050	(0)	
YTD	11,997	17,177	5,180	MWH
Commercial MWH				
	Original	Revised	Difference	
2009 July				
August		292	292	Note 1, 2
September		46	46	Note 1, 2
October	3,097	16,359	13,262	Note 1, 2, 4
November	2,308	1,569	(739)	Note 1, 2
December	5,939	6,913	974	
2010 January	1,053	1,152	99	
February	2,569	2,569	0	
YTD	14,966	28,900	13,934	MWH
Combined Peak kW				
	Original	Revised	Difference	
2009 July				
August	437	453	16	Note 2
September	601	549	(52)	Note 2
October	3,648	3,616	(32)	Note 2
November	916	785	(131)	Note 2
December	1,886	1,614	(272)	Note 3
2010 January	734	1,719	985	
February	990	990	(0)	
YTD	9,212	9,725	513	MWH

The changes in the reported year to date impacts resulted from several simultaneous and retroactive changes as follows:

- Note 1)** Shift of Residential Water Heaters that existing behind commercial meters from the REWH and RNC programs to CIEE and CINC to appropriately allocate their incentive costs from the Business Programs.
- a. August 09 - Army (9 unit) & Marine Corps (151 units) Solar Water Heater (SWH) Projects
 - b. September 09 – Keola Lai (352 units) High Efficiency Water Heaters (HEWH)
 - c. October 09 – Various Military Homes (436 units) SWH.
 - d. November 09 – Ainakea (30 units) SWH.
- Note 2)** November 09 to January 10 - Correction of various Business Program measures not computing the Net-to-Gross adjustment of a 0.73 multiplier from the System Impact values.
- Note 3)** January 10 – Increase in Residential impacts caused by capture of 125,246 units of Compact Fluorescent Lights sold and invoiced in January.
- Note 4)** October 09 – Demand Value (KW) used in lieu of Energy Value (MWH)

Hawaii Energy *Conservation and Efficiency Program*

Monthly Performance Report – February 2010 (02/01/10 – 02/28/10)



Monthly Highlights

- *Department of Energy (DOE) Waste Water Workshops* – Presented at the workshops held on Big Island, Maui and Oahu.
- *Meeting with Housing and Urban Development (HUD)* – Discussed the properties they fund and how we could work together for Residential Low Income (RLI) and the potential of issuing low-flow Showerheads and CFLs.
- *University of Hawaii Economic Research Organization (UHERO)* – Discussed how UHERO would benefit from sharing of information regarding the economic impact of energy conservation activities; UHERO previously utilized aggregated final report data for their economic models.
- *Budget Transfers* – Completed request and received approval for transfers of funding within Business and Residential Programs to respond to the activity levels within the programs.

Hawaii Energy Conservation and Efficiency Program

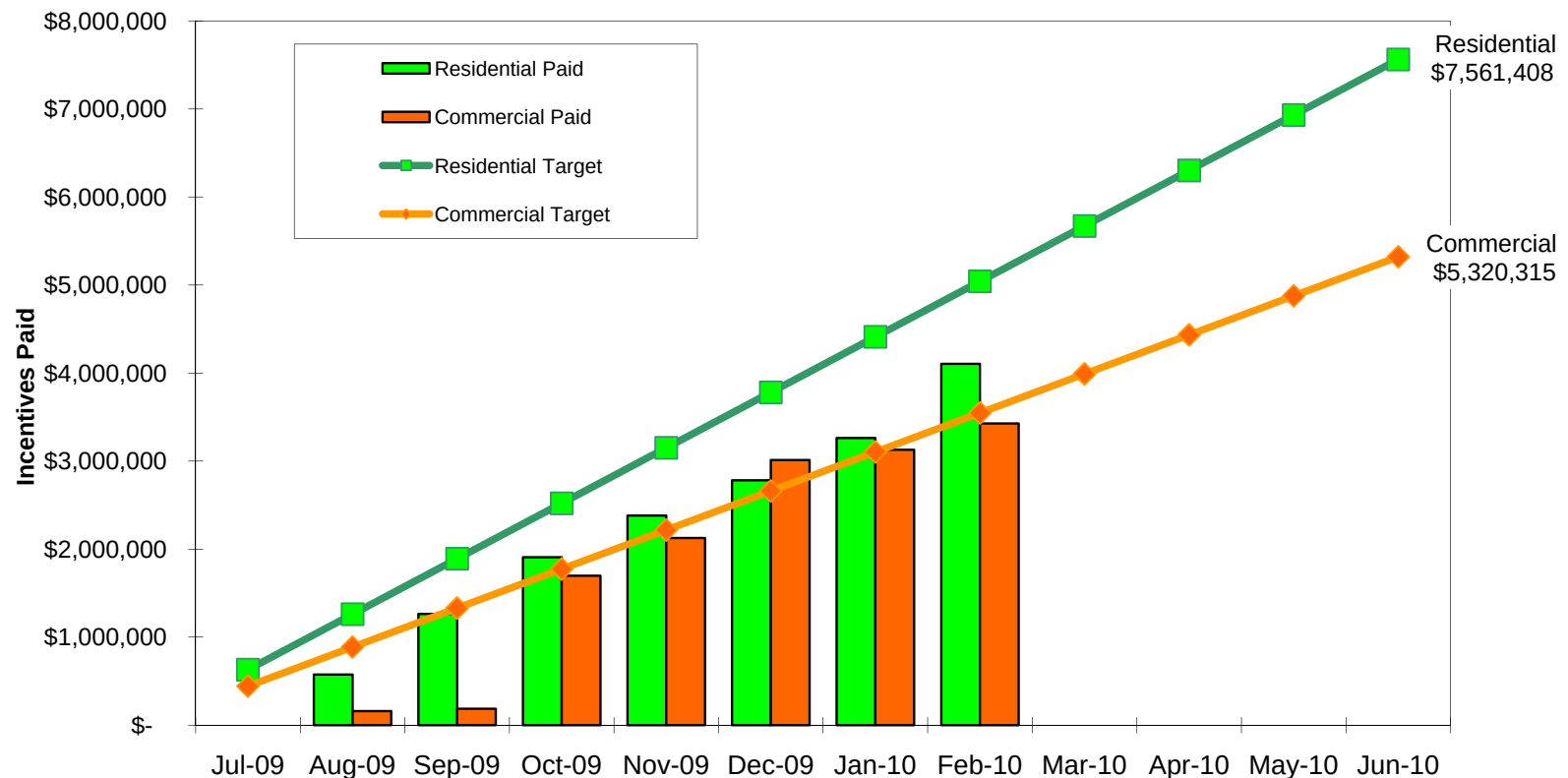
Monthly Performance Report – February 2010 (02/01/10 – 02/28/10)



Performance Charts

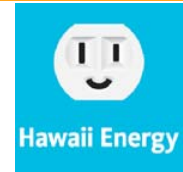
1. *First Year Incentive Payment Tracking* - This Chart shows the paid versus target incentives for the PY2009.

Chart 1: PY2009 Incentive Tracking



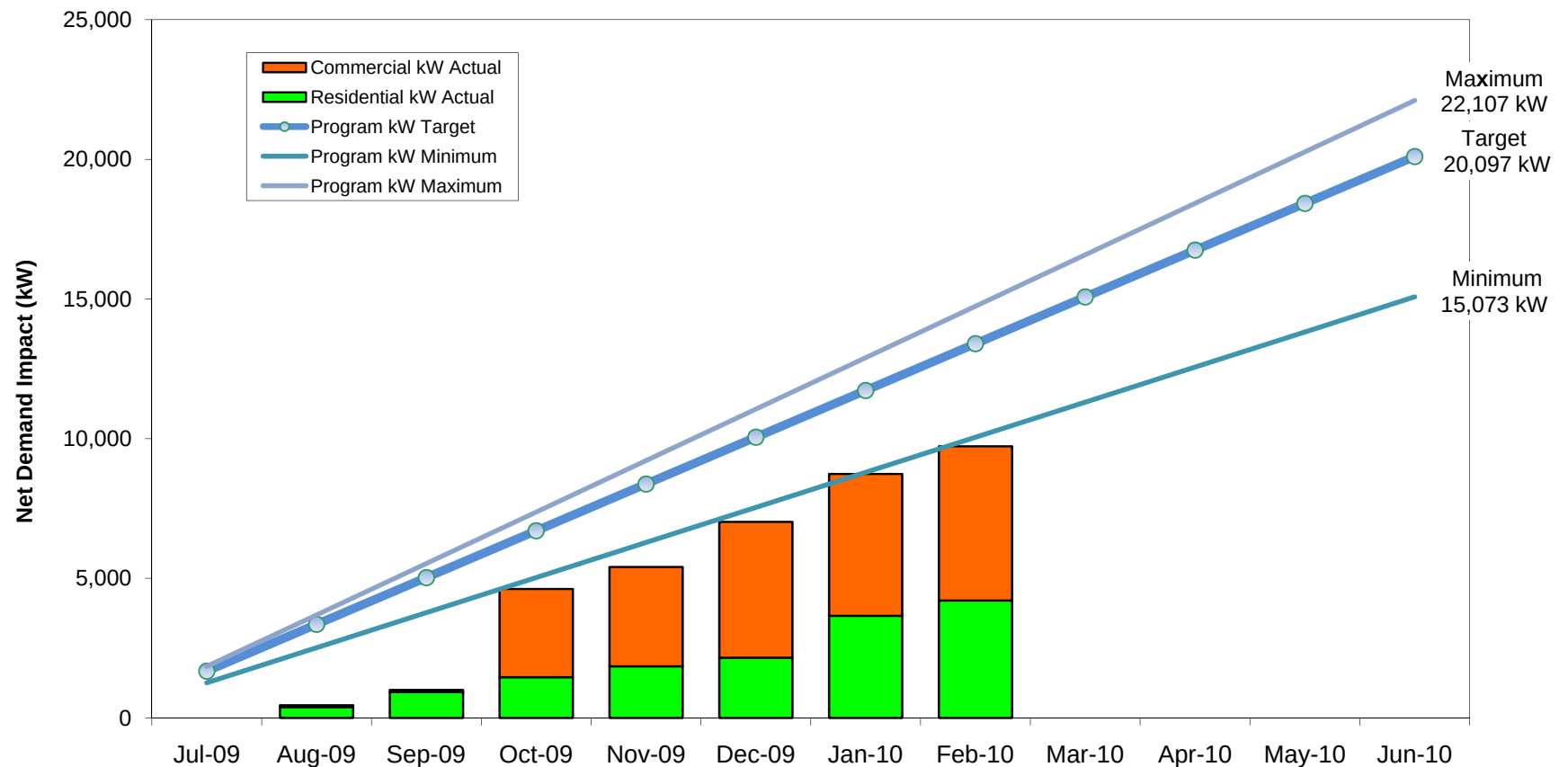
Hawaii Energy Conservation and Efficiency Program

Monthly Performance Report – February 2010 (02/01/10 – 02/28/10)



2. *First Year Demand Impact Tracking* - This Chart shows the combined demand impact versus target for PY2009.

Chart 2: PY2009 Net Demand Impact Tracking



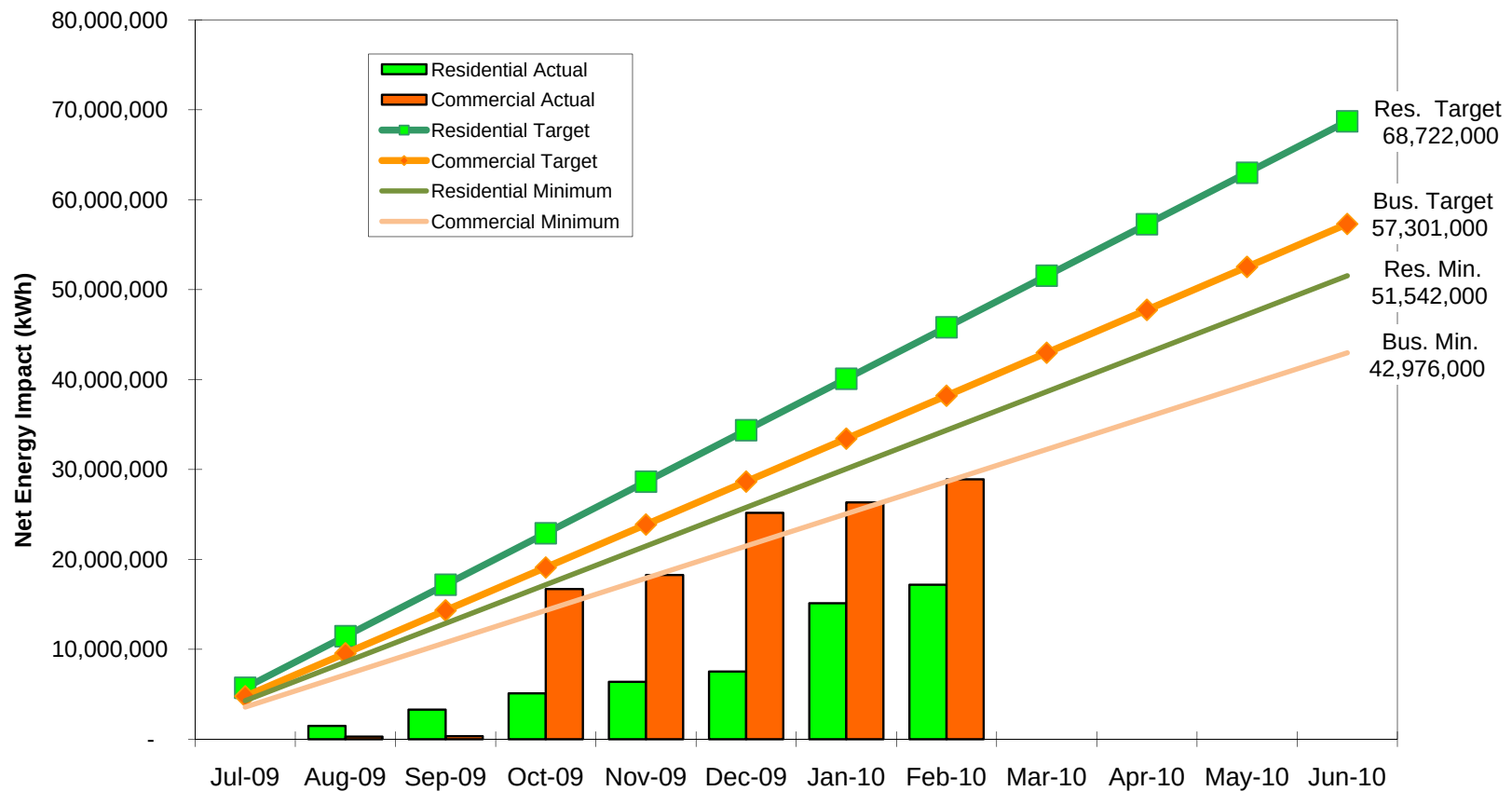
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Monthly Performance Report – February 2010 (02/01/10 – 02/28/10)



3. *First Year Energy Impact Tracking* - This Chart shows the combined demand impact versus target for PY2009.

Chart 3: PY2009 Net Energy Impact Tracking



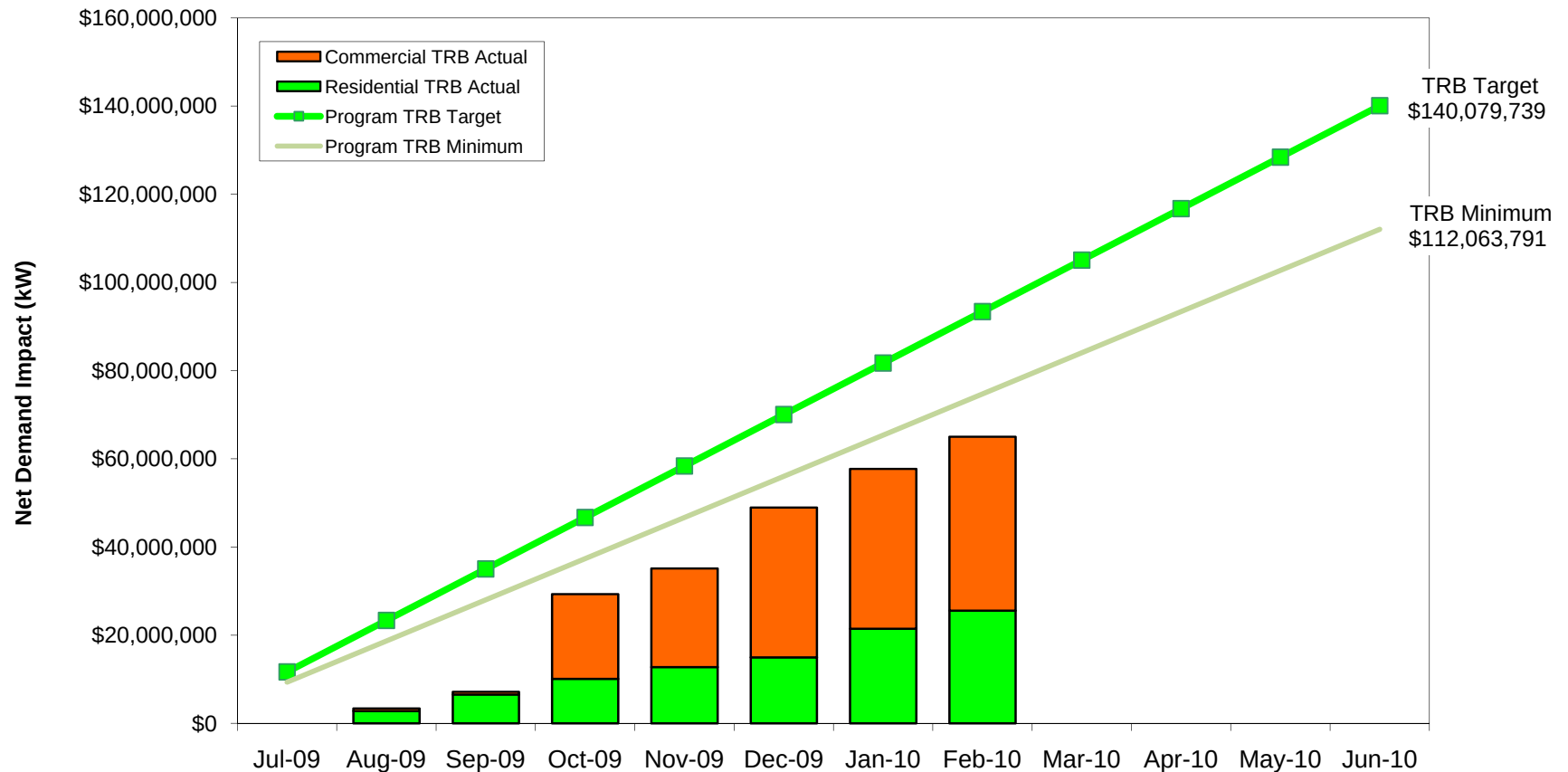
Hawaii Energy Conservation and Efficiency Program

Monthly Performance Report – February 2010 (02/01/10 – 02/28/10)



4. *First Year Total Resource Benefit (TRB)* - This Chart shows the combined TRB impact versus target for PY2009.

Chart 4: PY2009 Total Resource Benefit Impact Tracking



Hawaii Energy Conservation and Efficiency Program

Monthly Performance Report – February 2010 (02/01/10 – 02/28/10)



Marketing and Outreach Highlights

The following marketing activities took place this month.

Media Outlet or Contact	Subject	Action
The Bennet Group	Final subconsultant agreement with Hawaii Energy to provide public relations support	Retained February through December 2010
Pepi Nieva dba PNPR	Website information	Meeting – Starling - 2/1, 2/3, 2/25
The Bennet Group	Public relations	Meeting – Starling - 2/10, 2/12
UHERO	Presentation	Meeting – Sonoda - 2/12

Government Highlights

The following activities with the Government took place this month.

Agency	Subject	Action
Public Utilities Commission	Clean Energy Scenario Planning	Meeting – Chang - 2/8 – 2/10
Housing and Urban Development (HUD)	RLI Program	Meeting – Sonoda - 2/11
OCS at Honolulu Community Action Program (HCAP)	Discuss adding Smart Strips to the current offerings	Meeting – Sonoda - 2/18
State of Hawaii Energy Offices	State Energy Efficient Appliance Rebate Program	Phone Conference – Starling – 2/24

Hawaii Energy Conservation and Efficiency Program

Monthly Performance Report – February 2010 (02/01/10 – 02/28/10)



Education and Training Highlights

The following education and training activities took place this month.

Event	Attendees	Subject	Count	Date
Hahaione Elementary Renewable Energy Discussion	5 th Grade Students & Teachers	Renewable energy	61	2/4
Waste Water Workshop Island of Hawaii	Sonoda, EPA, County Staff, Board of Water, treatment centers and HELCO	Water and energy savings	28	2/8
Waste Water Workshop Island of Maui	Sonoda, EPA, MECO, Waste water treatment sites and County staff	Water and energy savings	37	2/9
Waste Water Workshop Island of Oahu	Sonoda, Koo, EPA, Board of Water, Sand Island Waste Water, DOD & City and County	Water and energy savings	64	2/10
Solar Water Contractors – Island of Hawaii	Solar Water contractors	Solar water updates, year awards	72	2/17
Business Incentives Update Meeting – Island of Hawaii	Commercial contractors and customers	Business incentives update	35	2/17
Solar Water Contractors – Island of Oahu	Solar Water Contractors	Solar water updates, year awards	72	2/18
AC/Lighting Contractors Breakfast - Maui	AC & Lighting Contractors	Business incentive updates	50	2/24
Solar Water Contractors – Island of Maui	Solar Water contractors	Solar water updates, year awards	45	2/24
ASHRAE Hawaii Chapter Technical Seminar	Chang	Water Heating in the 21 st Century	50	2/26

Hawaii Energy Conservation and Efficiency Program

Monthly Performance Report – February 2010 (02/01/10 – 02/28/10)



Market Evaluation and Technology Development Highlights

The following actions were taken to obtain trade ally input on program market penetration and technology development this month.

Trade Allies	Subject	Action
Taiwan Government Officials	Hawaii and Taiwan Energy Efficiency Programs	Meeting – Sonoda - 2/11
Webco Hawaii	Required documentation for CFL rebate reimbursements and process flow	Meeting – Sonoda - 2/19
Hawaii Home and Remodeling	Editor media stories and advertng opportunities	Meeting – Sonoda - 2/19
Legend Power	Voltage control system	Phone Meeting – Sonoda - 2/22
Pearl Harbor	Outstanding Applications, Potential New Projects and how to proceed with customized.	Meeting – Sonoda & Akagi - 2/23
Board of Water Supply	Working to coordinate water and energy conservation messages and projects	Meeting – Sonoda & Chang - 2/23
Blue Planet – Gary Gil	Molokai	Meeting – Sonoda - 2/25

Budget Status

The table on the following page captures the allocation of expenses across programs.

	February Allocations	Allocations to Date3	PY09 Revised Budget Authorization	% Spent
<u>Residential Programs</u>				
Residential Non-Incentive				
1 Residential Program Ops and Management				
REWH	\$ 95,341.55	\$ 841,298.42	\$ 1,207,347	70%
RNC	\$ 5,573.63	\$ 63,406.84	\$ 84,912	75%
ESH	\$ 62,049.81	\$ 468,344.21	\$ 889,125	53%
RLI	\$ 366.49	\$ 2,201.65	\$ 33,344	7%
Total Residential Programs	\$ 163,331.48	\$ 1,375,251.12	\$ 2,214,728	62%
Education & Training (E&T)	\$ 8,935.65	\$ 17,941.33	\$ 63,450	28%
Market Evaluation	\$ -	\$ -	\$ -	
Advertising/Marketing	\$ 2,100.22	\$ 83,666.53	\$ 341,729	24%
Total Residential Non-Incentive	\$ 174,367.35	\$ 1,476,858.98	\$ 2,619,907	56%
2 Less Performance Incentives (for Pool)	\$ (30,540.82)	\$ (236,080.65)	\$ (350,000)	67%
Subtotal Residential Non-Incentive Less P I	\$ 143,826.53	\$ 1,240,778.33	\$ 2,269,907	55%
Residential Incentives				
REWH	\$ 455,120.00	\$ 2,121,670.00	\$ 3,093,610	69%
RNC	\$ 248,850.00	\$ 843,280.00	\$ 1,001,080	84%
ESH	\$ 138,010.00	\$ 1,139,655.00	\$ 3,228,943	35%
RLI	\$ -	\$ -	\$ 237,775	0%
Total Residential Incentives	\$ 841,980.00	\$ 4,104,605.00	\$ 7,561,408	54%
Performance Pool Award	\$ -	\$ -	\$ 350,000	0%
Total Residential Programs	\$ 985,806.53	\$ 5,345,383.33	\$ 10,181,315	53%
<u>Business (C&I) Programs</u>				
Business Non-Incentive				
1 Business Programs Ops and Management				
CIEE	\$ 25,151.46	\$ 329,635.52	\$ 547,784	60%
CINC	\$ 23,949.69	\$ 239,566.91	\$ 484,372	49%
CICR	\$ 43,088.98	\$ 288,195.22	\$ 662,646	43%
PV	\$ -	\$ 13,898.69	\$ 36,183	38%
Subtotal Business Programs	\$ 92,190.13	\$ 871,296.34	\$ 1,730,985	50%
Less Contractor Contribution	\$ -	\$ (50,000.00)	\$ (50,000)	100%
Total Business Programs	\$ 92,190.13	\$ 821,296.34	\$ 1,680,985	49%
Education & Training (E&T)	\$ 9,300.33	\$ 25,543.49	\$ 77,550	33%
Market Evaluation	\$ 732.98	\$ 15,026.17	\$ 64,625	23%
Advertising/Marketing	\$ -	\$ 100,091.06	\$ 417,669	24%
Total Business Non-Incentive	\$ 102,223.44	\$ 961,957.06	\$ 2,240,829	43%
2 Less Performance Incentive Fee (for Pool)	\$ (30,540.81)	\$ (236,080.64)	\$ (350,000)	67%
Subtotal Business Non-Incentive Less P I	\$ 71,682.63	\$ 725,876.42	\$ 1,890,829	38%
Business Incentives				
CIEE	\$ 222,026.00	\$ 1,495,973.00	\$ 1,888,589	79%
CINC	\$ 72,030.00	\$ 1,869,742.00	\$ 2,191,803	85%
CICR	\$ 3,844.00	\$ 61,121.00	\$ 157,806	39%
PV	\$ -	\$ -	\$ -	
New	\$ -	\$ -	\$ 1,082,117	0%
Total Business Incentives	\$ 297,900.00	\$ 3,426,836.00	\$ 5,320,315	64%
Performance Pool Award	\$ -	\$ -	\$ 350,000	0%
Total Business Programs	\$ 369,582.63	\$ 4,152,712.42	\$ 7,561,144	55%
Ramp Up Program Costs		\$ 486,054.08	\$ 486,055	100%
Less Contractor Contribution From Residential Ramp Up		\$ (50,000.00)	\$ (50,000)	100%
Total Ramp Up	\$ -	\$ 436,054.08	\$ 436,055	100%
Total Services and Initiatives	\$ 1,355,389.16	\$ 9,934,149.83	\$ 18,178,514	55%
<u>Supporting Services</u>				
GA	\$ 107,089.85	\$ 622,804.34	\$ 1,221,451	51%
IT	\$ 10,774.86	\$ 198,499.56	\$ 274,372	72%
Ramp Up GA	\$ -	\$ 165,937.53	\$ 165,938	100%
Ramp Up IT	\$ -	\$ 126,058.84	\$ 126,059	100%
Less Contractor Contribution	\$ -	\$ (100,000.00)	\$ (100,000)	100%
Total Supporting Services	\$ 117,864.71	\$ 1,013,300.27	\$ 1,687,820	60%
Sub-Total Estimated Contractor Costs	\$ 1,473,253.87	\$ 10,947,450.10	\$ 19,866,334	55%
Performance Awards in Excess of Target Levels			\$ 133,000	
Total Estimated Contractor Costs, including Performance Awards in Excess of Target Levels			\$ 19,999,333	
Total Non-Incentive ABOVE	\$ 333,373.87	\$ 3,416,009.10	\$ 6,284,611.00	
Total Incentive ABOVE	\$ 1,139,880.00	\$ 7,531,441.00	\$ 12,881,723.00	
Total Non-Incentive BILLED	\$ 333,373.87	\$ 3,416,009.10		
Total Incentive BILLED	\$ 1,139,880.00	\$ 7,531,441.00		
Total BILLED	\$ 1,473,253.87	\$ 10,947,450.10		

- 1 Program Ops and Management includes Program Management, Program Operations, Call Center, and Data Tracking; Program Management will consume approximately 30%.
- 2 The new R.W. Beck Invoice deducts the performance pool contributions prior to tax, therefore this summary now adds 4.712% to the deductions to simulate that tax is added to each line item as necessary for this summary. After 6 months (until the end of the program year), \$16,397.76 will be allocated to various line items as this tax. This tax is not required at time of invoice due to the deduction in total invoice value and causes increased "% spent" by individual line items. The total of this summary reflects the actual "% spent" for the overall program.
- 3 Reflects the revised monthly report allocation summary that was submitted on 25 May 2010.

Hawaii Energy Conservation and Efficiency Program

Monthly Performance Report – March 2010 (03/01/10 – 03/31/10)



Executive Summary

Completed negotiations with PUC on 30 March 2010 and signed contract amendment implementing the \$6 million American Recovery and Reinvestment Act (ARRA) State Energy Program. Modified Residential Low Income (RLI) activities to include deliveries of smart strips, low flow water nozzles and Compact Fluorescent Lamps (CFLs). Modified solar hot water inspections to include delivery of low flow water nozzles and CFLs. Ordered large lot CFLs for direct install programs and identified 39 RLI buildings and facilities to receive CFLs through outreach allies, including government and non-profit organizations. Coordinated with new Public Relations (PR) firm, Bennet Group to prepare for media and marketing blitz to improve our branding and rebate penetration. Soft-started neighbor island Energy Star program.

The following table is an overall summary of our performance in the month:

Key Performance Metrics	Month's Results	YTD Results	PY2009 Targets	YTD % of Target PY2009
Annual Energy Savings Impacts (Net Generation Level)				
Residential (MWh)	9,347	26,524	68,722	38.6%
Business (MWh)	2,948	31,848	57,301	55.6%
Peak Demand (kW)	2,569	12,294	20,097	61.2%
Island Equity (% of Total Incentive Dollars)				
Oahu	89%	88%	69%	127.6%
Maui County	7%	7%	19%	35.5%
Hawaii County	4%	5%	11%	47.4%
Market Transformation (Applications Completed)				
Emerging Technologies	2	3	20	15.0%
Ally Referrals	40	135	40	237.5%
Financials ¹				
Total Incentives	\$ 1,040,281	\$8,571,722	\$12,881,723	67%
Total Program Expenses (Billed)	\$173,707	\$3,589,716	\$6,284,611	57%
Total Program Costs ²	\$1,213,988	\$12,161,438	\$18,966,334	64%
¹ Includes Ramp-Up to match Attachment F				
² Total Budget reflects the deduction of \$700,000 in performance incentive fees for the award pool and \$200,000 for contractor contribution.				

Hawaii Energy Conservation and Efficiency Program

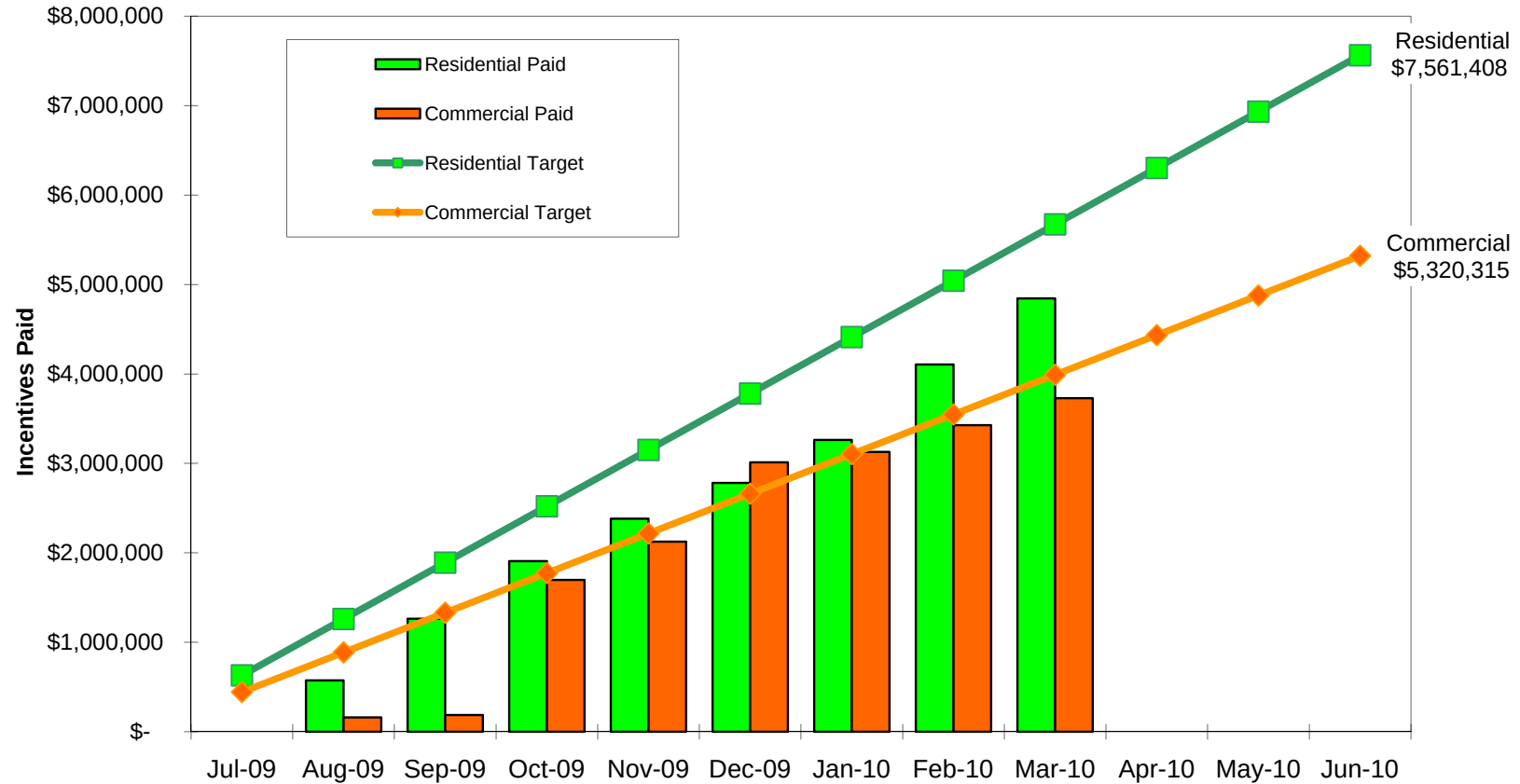
Monthly Performance Report – March 2010 (03/01/10 – 03/31/10)



Performance Charts

1. *First Year Incentive Payment Tracking* - This Chart shows the paid versus target incentives for the PY2009.

Chart 1: PY2009 Incentive Tracking



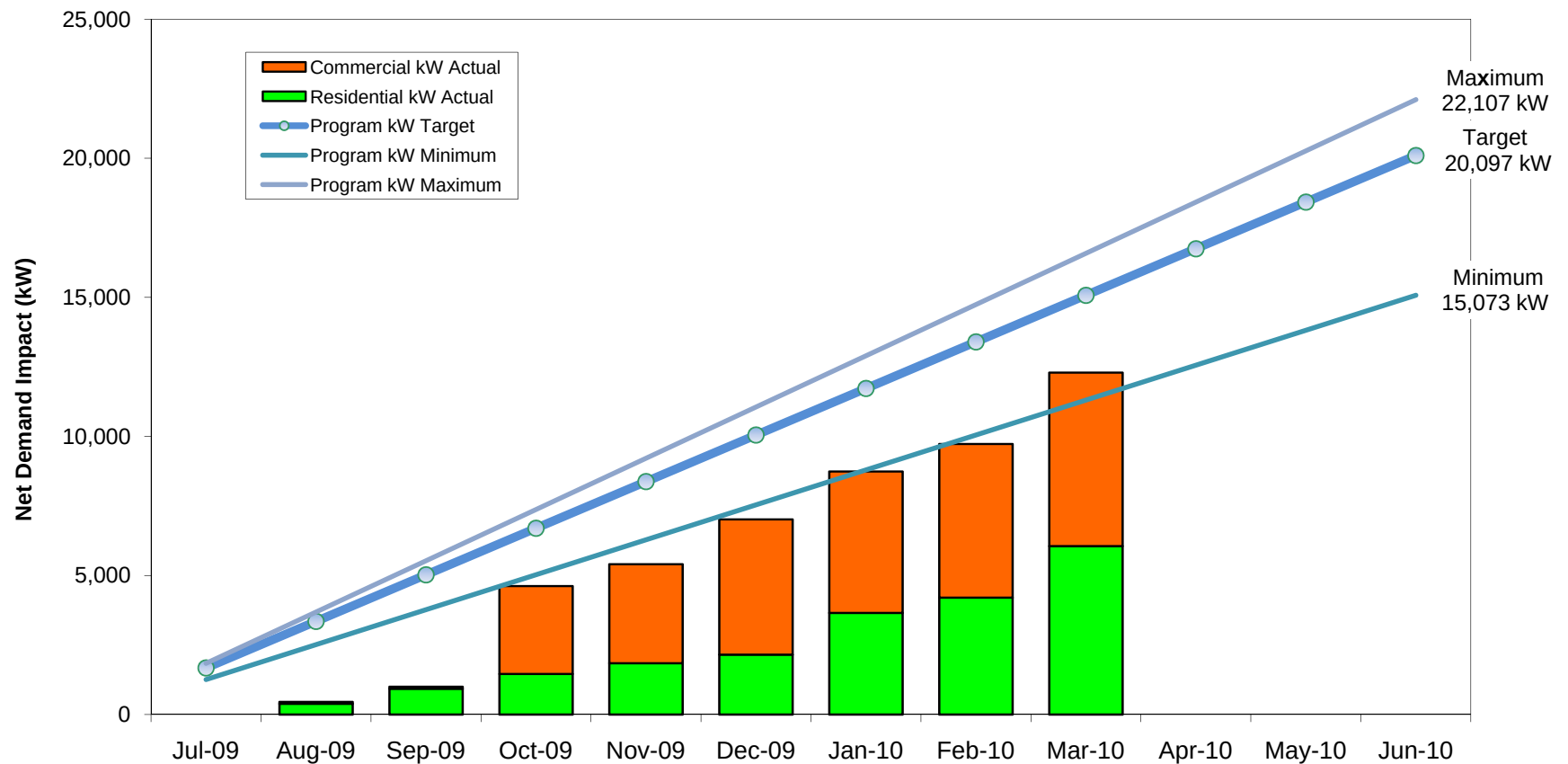
Hawaii Energy Conservation and Efficiency Program

Monthly Performance Report – March 2010 (03/01/10 – 03/31/10)



2. *First Year Demand Impact Tracking* - This Chart shows the combined demand impact versus target for PY2009.

Chart 2: PY2009 Net Demand Impact Tracking



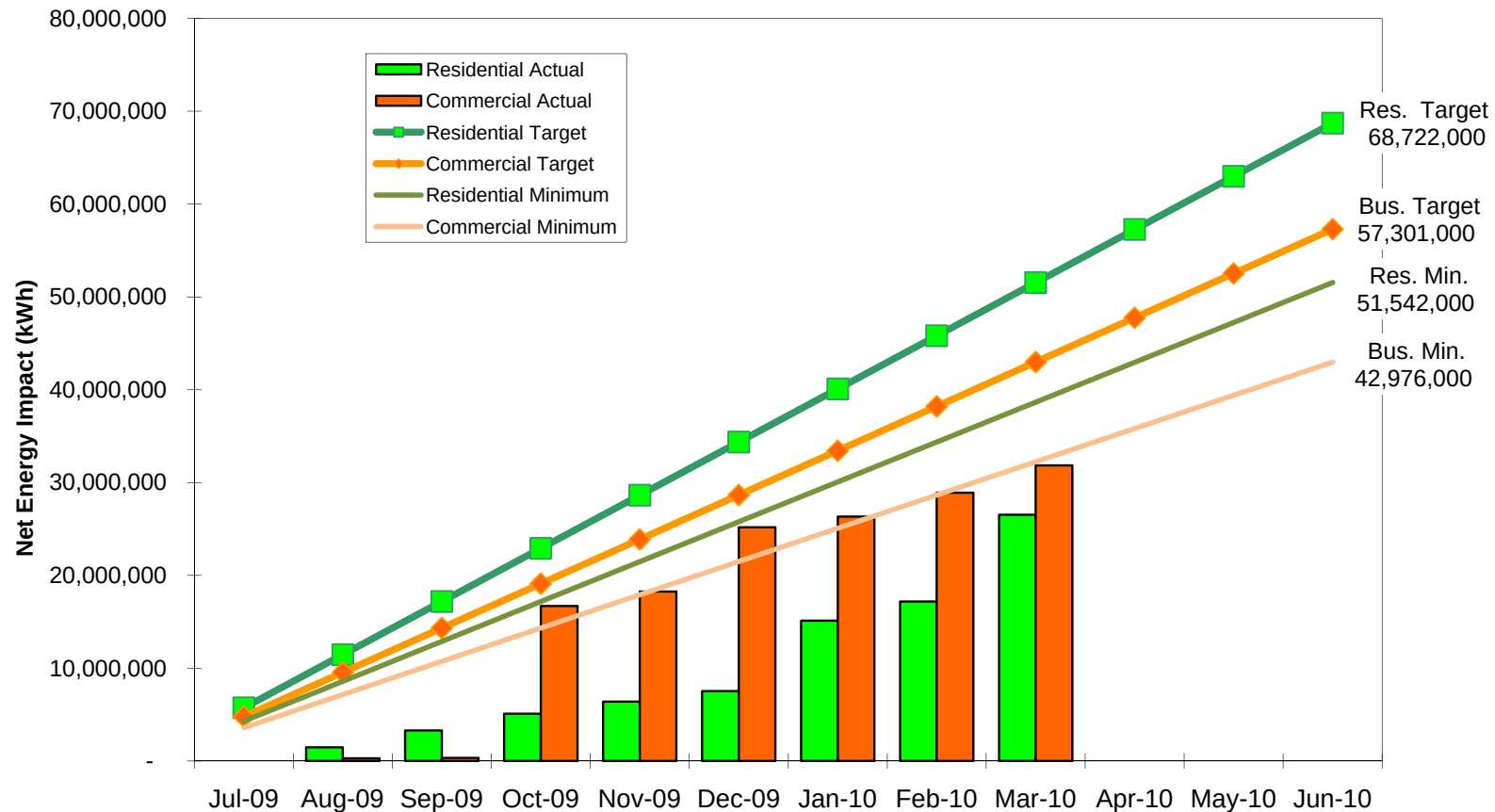
Hawaii Energy Conservation and Efficiency Program

Monthly Performance Report – March 2010 (03/01/10 – 03/31/10)



3. *First Year Energy Impact Tracking* - This Chart shows the combined demand impact versus target for PY2009.

Chart 3: PY2009 Net Energy Impact Tracking



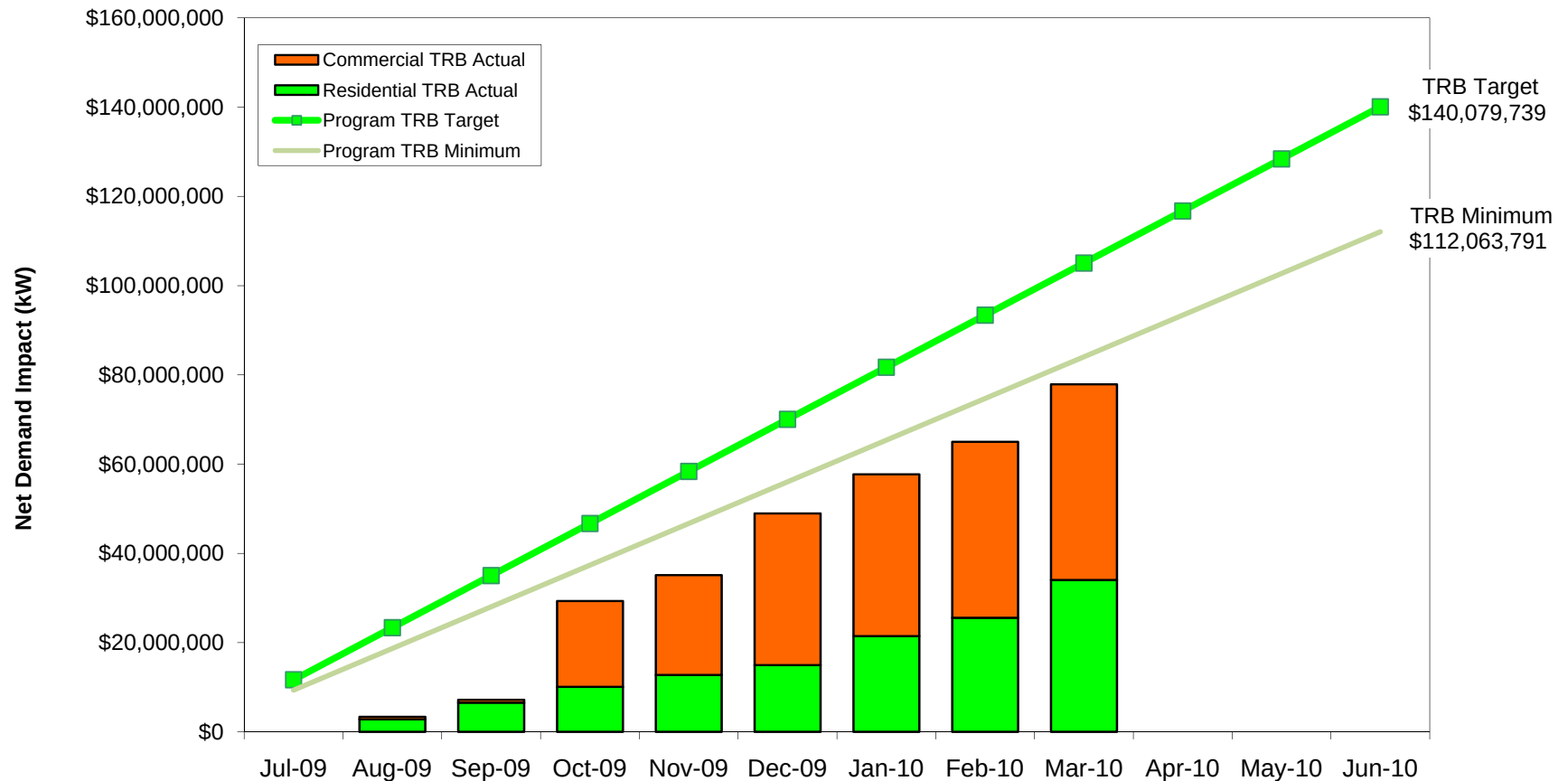
Hawaii Energy Conservation and Efficiency Program

Monthly Performance Report – March 2010 (03/01/10 – 03/31/10)



4. *First Year Total Resource Benefit (TRB)* - This Chart shows the combined TRB impact versus target for PY2009.

Chart 4: PY2009 Total Resource Benefit Impact Tracking



Hawaii Energy Conservation and Efficiency Program

Monthly Performance Report – March 2010 (03/01/10 – 03/31/10)



Marketing and Outreach Highlights

The following marketing activities took place this month.

Media Outlet or Contact	Subject	Action
Pepi Nieva dba PNPR	Website information	Meeting – Sonoda – 3/1, 3/19
Wall to Wall & The Bennet Group	Program updates	Meeting – Starling/Chang/Sonoda/Clark – 3/5
Wall to Wall	Compact Florescent Light bulbs ads Website development	Meeting – Starling/Sonoda – 3/12, 3/29, 3/30
The Bennet Group	Radio Media Scheduling	Meeting – Starling/Sonoda – 3/15
University of Hawaii – Manoa Campus – Room ICS 414	Website gadgets to imbed in website	Meeting – Starling/Sonoda – 3/16
Hawaii Home and Remodeling Magazine	Interview for Green Build	Phone Interview – Sonoda – 3/19
Trade Publishing – Barry Redmayne	Advertising discussions	Meeting – Sonoda – 3/25
Honolulu Magazine – Anne Lee	Pacific Basin	Meeting – Sonoda – 3/30

Hawaii Energy Conservation and Efficiency Program

Monthly Performance Report – March 2010 (03/01/10 – 03/31/10)



Government Highlights

The following activities with the Government took place this month.

Agency	Subject	Action
United States Pacific Command J8	Dr. George Kailiwai briefing	Meeting – Starling – 3/4
International Energy Conservation Code	2009 committee meeting	Meeting – Chang – 3/9
Housing and Urban Development		Meeting – Sonoda/Starling/Chang – 3/9
Naval Computer and Telecommunications Area Master Station	Field inspections – 3/16, 3/17	Partial payment of rebate – June
Hawaii County Mayors Energy Advisory Commission	Coordination efforts of county and Hawaii Energy activities – 3/25	Several follow-up meetings for county project reviews
Hawaii Clean Energy Initiative	Steering committee meeting	Meeting – Starling – 3/31
Department of Business, Economic Development and Tourism, Kauai Island Utility Cooperative, Honeywell, Bennet Group, Wall to Wall	American Recovery and Reinvestment Act Public Relations Planning	Meeting – Starling, Chang, Sonoda, Clark – 3/31

Hawaii Energy Conservation and Efficiency Program

Monthly Performance Report – March 2010 (03/01/10 – 03/31/10)



Education and Training Highlights

The following education and training activities took place this month.

Event	Attendees	Subject	Count	Date
Hawaii Buildings, Facilities and Property Management Expo	Contractors/Building, Facilities, Property Management/Vendors	Education on programs	80	3/10 – 11
Rebuild Hawaii Consortium Quarterly Meeting	Energy Industry	Net Zero Energy Buildings, Residential Solar Financing, Behavioral Change and Energy Conservation, and Lead by Example	60	3/10

Hawaii Energy Conservation and Efficiency Program

Monthly Performance Report – March 2010 (03/01/10 – 03/31/10)



Market Evaluation and Technology Development Highlights

The following actions were taken to obtain trade ally input on program market penetration and technology development this month.

Trade Allies	Subject	Action
Energy Industries		Lunch meeting – Sonoda – 3/1
Webco Hawaii		Dinner meeting – Sonoda – 3/1
National Renewable Energy Laboratory		Meeting – Starling/Chang/Sonoda – 3/2
Blue Planet	Making Clean Energy Accessible	Seminar – Starling & Sonoda – 3/3
Plaza at Mililani	New construction	Meeting – Akagi – 3/5
Mark Duda		Lunch meeting – Starling – 3/5
RevoluSun		Meeting – Starling – 3/8
Lithionia Lighting		Lunch meeting – Sonoda – 3/9
Mike Ross – Honu Tech		Meeting – Starling – 3/11
Michael Hallinan – SolarPro Hawaii		Meeting – Starling – 3/11
Stephanie Fo		Meeting – Sonoda – 3/12
Tommy Silva – TNT Tinting		Meeting – Sonoda – 3/12
Daniel Duval	Rock the Bulb Campaign	Phone Meeting – Sonoda – 3/15
SolarPro Hawaii		Meeting – Sonoda – 3/19
Consortium for Energy Efficiency	Orientation	Meeting – Hawaii Energy Team – 3/23

Hawaii Energy *Conservation and Efficiency Program*

Monthly Performance Report – March 2010 (03/01/10 – 03/31/10)



Budget Status

The following table captures the allocation of expenses across programs.

	March Allocations	Allocations to Date3	PY09 Budget R3 Authorization	% Spent
Residential Programs				
Residential Non-Incentive				
1 Residential Program Ops and Management				
REWH	\$ 24,696.28	\$ 865,994.70	\$ 1,207,347	72%
RNC	\$ 448.67	\$ 63,855.51	\$ 84,912	75%
ESH	\$ -	\$ 468,344.21	\$ 889,125	53%
RLI	\$ 5,282.72	\$ 7,484.37	\$ 33,344	22%
Total Residential Programs	\$ 30,427.67	\$ 1,405,678.79	\$ 2,214,728	63%
Education & Training (E&T)	\$ 8,700.81	\$ 26,642.14	\$ 63,450	42%
Market Evaluation	\$ -	\$ -	\$ -	
Advertising/Marketing	\$ 6,868.82	\$ 90,535.35	\$ 341,729	26%
Total Residential Non-Incentive	\$ 45,997.30	\$ 1,522,856.28	\$ 2,619,907	58%
2 Less Performance Incentives (for Pool)	\$ (30,540.83)	\$ (266,621.48)	\$ (350,000)	76%
Subtotal Residential Non-Incentive Less P I	\$ 15,456.47	\$ 1,256,234.80		
Residential Incentives				
REWH	\$ 384,990.00	\$ 2,506,660.00	\$ 3,093,610	81%
RNC	\$ 42,300.00	\$ 885,580.00	\$ 1,001,080	88%
ESH	\$ 311,189.00	\$ 1,450,844.00	\$ 3,228,943	45%
RLI	\$ -	\$ -	\$ 237,775	0%
Total Residential Incentives	\$ 738,479.00	\$ 4,843,084.00	\$ 7,561,408	64%
Performance Pool Award	\$ -	\$ -	\$ 350,000	0%
Total Residential Programs	\$ 753,935.47	\$ 6,099,318.80	\$ 10,181,315	60%

Business (C&I) Programs				
Business Non-Incentive				
1 Business Programs Ops and Management				
CIEE	\$ 25,139.86	\$ 354,775.38	\$ 547,784	65%
CINC	\$ 26,074.70	\$ 265,641.61	\$ 484,372	55%
CICR	\$ 35,622.19	\$ 323,817.41	\$ 662,646	49%
PV	\$ -	\$ 13,898.69	\$ 36,183	38%
Subtotal Business Programs	\$ 86,836.75	\$ 958,133.09	\$ 1,730,985	55%
Less Contractor Contribution	\$ -	\$ (50,000.00)	\$ (50,000)	100%
Total Business Programs	\$ 86,836.75	\$ 908,133.09	\$ 1,680,985	54%
Education & Training (E&T)	\$ 9,956.23	\$ 35,499.72	\$ 77,550	46%
Market Evaluation	\$ 12,094.24	\$ 27,120.41	\$ 64,625	42%
Advertising/Marketing	\$ 2,316.83	\$ 102,407.89	\$ 417,669	25%
Total Business Non-Incentive	\$ 111,204.05	\$ 1,073,161.11	\$ 2,240,829	48%
2 Less Performance Incentive Fee (for Pool)	\$ (30,540.83)	\$ (266,621.47)	\$ (350,000)	76%
Subtotal Business Non-Incentive Less P I	\$ 80,663.22	\$ 806,539.64		
Business Incentives				
CIEE	\$ 246,455.00	\$ 1,742,428.00	\$ 1,888,589	92%
CINC	\$ 47,035.00	\$ 1,916,777.00	\$ 2,191,803	87%
CICR	\$ 8,312.00	\$ 69,433.00	\$ 157,806	44%
PV	\$ -	\$ -	\$ -	
New	\$ -	\$ -	\$ 1,082,117	0%
Total Business Incentives	\$ 301,802.00	\$ 3,728,638.00	\$ 5,320,315	70%
Performance Pool Award	\$ -	\$ -	\$ 350,000	0%
Total Business Programs	\$ 382,465.22	\$ 4,535,177.64	\$ 7,561,144	60%
Ramp Up Program Costs		\$ 486,054.08	\$ 486,055	100%
Less Contractor Contribution From Residential Ramp Up		\$ (50,000.00)	\$ (50,000)	100%
Total Ramp Up	\$ -	\$ 436,054.08	\$ 436,055	100%
Total Services and Initiatives	\$ 1,136,400.69	\$ 11,070,550.52	\$ 18,178,514	61%

Supporting Services				
GA	\$ 68,997.26	\$ 691,801.60	\$ 1,221,451	57%
IT	\$ 8,590.05	\$ 207,089.61	\$ 274,372	75%
Ramp Up GA	\$ -	\$ 165,937.53	\$ 165,938	100%
Ramp Up IT	\$ -	\$ 126,058.84	\$ 126,059	100%
Less Contractor Contribution	\$ -	\$ (100,000.00)	\$ (100,000)	100%
Total Supporting Services	\$ 77,587.31	\$ 1,090,887.58	\$ 1,687,820	65%

Sub-Total Estimated Contractor Costs	\$ 1,213,988.00	\$ 12,161,438.10	\$ 19,866,334	61%
Performance Awards in Excess of Target Levels			\$ 133,000	
Total Estimated Contractor Costs, including Performance Awards in Excess of Target Levels			\$ 19,999,334	
Total Non-Incentive ABOVE	\$ 173,707.00	\$ 3,589,716.10	\$ 6,284,611.00	
Total Incentive ABOVE	\$ 1,040,281.00	\$ 8,571,722.00	\$ 12,881,723.00	
Total Non-Incentive BILLED	\$ 173,707.00	\$ 3,589,716.10		
Total Incentive BILLED	\$ 1,040,281.00	\$ 8,571,722.00		
Total BILLED	\$ 1,213,988.00	\$ 12,161,438.10		

- Program Ops and Management includes Program Management, Program Operations, Call Center, and Data Tracking; Program Management will consume approximately 30%.
- The new R.W. Beck Invoice deducts the performance pool contributions prior to tax, therefore this summary now adds 4.712% to the deductions to simulate that tax is added to each line item as necessary for this summary. After 6 months (until the end of the program year), \$16,397.76 will be allocated to various line items as this tax. This tax is not required at time of invoice due to the deduction in total invoice value and causes increased "% spent" by individual line items. The total of this summary reflects the actual "% spent" for the overall program.
- Reflects the revised monthly report allocation summary that was submitted on 25 May 2010.

Hawaii Energy Efficiency Program

Quarterly Performance Report – 3rd Quarter PY09 (01/01/10 – 03/31/10)



Executive Summary

Administration Highlights

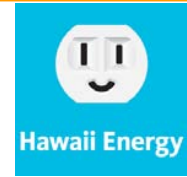
- ARRA SEP Award – Hawaii Energy was awarded \$6.4 Million in ARRA funding on March 30, 2010 that will augment and create increased interest in our program offerings.
- Rebate Tracking System – We have continued to refine our system with technical upgrades and additional functionality. During this quarter we have successfully added Honeywell's residential data to our system. We are refining dashboards to provide a quick view of our status.
- Revised 2-Year Budget – On April 5, 2010 received approval for the guidelines for moving funds as well as a revised budget (Revision 3). This revision allowed for a transfer of \$1,764,333 from business to residential rebates as well as moved funds to the ramp-up budgets (taken from supporting services). This shift was requested to meet the large demand for our residential rebates in comparison to our business rebates that we believe is due to the economic environment. To accommodate the increase in residential rebates, we also moved \$40,000 from business operations to residential operations.
- New Hires – We are interviewing potential new hires to support our current program while looking for personnel to hire for the ARRA SEP. We intend to have most team members (current and future) assisting on both programs to matrix their skill-sets and provide better support of the programs.

Activity Highlights

- Low Income/Hard to Reach (RLI) – We began implementing coordinated efforts with DHHL, HCAP and MCAP to jointly deliver direct-install high efficiency light bulbs, water flow restrictors and general energy educational material.
- Molokai Compact Fluorescent Lightbulb (CFL) distribution – We partnered with Blue Planet Foundation to distribute thousands of Compact Fluorescent Lightbulbs (CFLs) to the island of Molokai.
- Point of Sale Rebates – The Program expanded relationships with key wholesale and retail suppliers to accomplish point of sale rebates for CFLs over the quarter.
- Reduced Solar Hot Water Rebates – The recently awarded ARRA SEP program includes rebates to augment our solar rebate budget. The solar hot water rebate budget has suffered since program start due to over-commitment by the former Program Management. The reductions began in October 2009 for new military residential construction and then continued in February

Hawaii Energy Efficiency Program

Quarterly Performance Report – 3rd Quarter PY09 (01/01/10 – 03/31/10)



2010 for residential retrofits. All new solar residential construction rebates ended as of January 1, 2010. The reductions were done in order to preserve the funding viability of the entire solar rebate program for the remainder of PY09.

- Island Equity – We launched EnergyStar for the Home (ESH) to the outer islands in March 2010 with the guidance and support of our Public Relations team. We increased our number of trips to support neighbor island conferences as well as meet with interested parties during the third quarter.

Marketing Highlights

- Bennet Group Subcontract – Retained the Bennet Group Public Relations firm effective on February 17, 2010. Bennet demonstrated strong past performance with similar programs and will be a key asset to ensuring Hawaii Energy successfully demonstrates a positive image in the media and capitalizes on appropriate media outlets to generate interest in the program.
- Website Development – Significant content has been developed over the quarter to support the website design efforts. Pepi Nieva Public Relations as well as onsite staff created the content that was delivered to Wall to Wall to include in their design. The website will be fully interactive website that will feature customer class-segregated information, conservation and efficiency education materials, energy news, vendor advertising, customer forums and vendor ratings, and much more. The new website is expected to be placed in service during the 4th Quarter, with functionality and material improvements ongoing.

Report Card

- The following is a report card reflecting our performance and strategic actions we are taking to improve our performance.

Hawaii Energy Efficiency Program

Quarterly Performance Report – 3rd Quarter PY09 (01/01/10 – 03/31/10)



<i>Performance Indicator</i>	<i>Q3 Results</i>	<i>YTD Results</i>	<i>PY09 Targets</i>	<i>Status</i>	<i>Strategic Actions Taken This Quarter</i>	<i>Strategic Changes for Next Quarter</i>
Residential Savings (MWh)	19,697	27,008	68,722		- Began implementation of CFL program with point of purchase rebates - Increased the information resources on the website - Decreased the Solar hot water incentive value to accommodate demand	- Increase penetration of CFL program - Propose leveraging of stimulus funds to aid the solar industry and benefit the program
Business Savings (MWh)	6,708	31,874	57,301		Increased inspections and audits	Increase Specialists' on-site and outreach activities
Peak Demand (kW)	5,436	12,518	20,097			
Total Resource Benefits (Est. in Millions)	\$29,444,893	\$80,120,490	\$126,683,813			
Market Transformation						
-Emerging Technologies	2	2	20			Choose an internal lead to track these closely
-Ally Referrals	182	325	40			PM will monitor status weekly
Island Equity					Expanded ESH to Neighbor Islands	
-Oahu County (Est.)	81%	87%	69%			
-Maui County (Est.)	8%	6%	19%			
-Hawaii Country (Est.)	11%	7%	11%			
Budget						
-Non- Incentive Billed	\$796,504	\$3,589,716	\$6,284,611		Currently under-spending on non-incentive due to \$1 million decrease in PY10	Increase non-incentive spend slightly
-Incentive Billed	\$2,778,353	\$8,571,722	\$12,881,723			Create greater push on business incentives
-Total Billed	\$3,574,857	\$12,161,438	\$18,966,334			

25 Apr 2010

Page 3 of 3

Hawaii Energy Conservation and Efficiency Program

Monthly Performance Report – April 2010 (04/01/10 – 04/30/10)



Executive Summary

Hawaii Energy had a busy month of pursuing growth, development, and outreach for the program. Key highlights include:

- 1.) The management team participated in the quarterly Technical Advisory Group (TAG) conference that took place on April 16, 2010. At this meeting, program leaders discussed the status of the program as well as proposed preliminary changes for Program Year 2010 to the stakeholders of Hawaii Energy. Due to the learning curve of the first year as well as changing program priorities, Hawaii Energy was not able to explore new programs as we had planned; for Program Year 2010 we will dedicate more effort to new programs and expand or eliminate legacy programs of the utility.
- 2.) Hawaii Energy began to pursue additional hires to support the program in general administrative and outreach activities. We selected Ms. Kelli Miura at the end of the month to begin in May as our communication specialist. She will be dedicated to meeting with and maintaining open communication with all who can benefit or are interested in our program. Additionally, Ms. Miura is responsible for maintaining an online presence for the program with the use of multiple social media outlets.
- 3.) The office space became more welcoming with the addition of our program logo to our front entrance and an education center for those who come by our office to meet with our staff or deliver applications. We have received positive response to our new look and feel it makes our office more welcoming for customers to visit with any questions they may have.

Hawaii Energy Conservation and Efficiency Program

Monthly Performance Report – April 2010 (04/01/10 – 04/30/10)



The following table is an overall summary of our performance in the month:

Key Performance Metrics	Month's Results	YTD Results	PY2009 Targets	YTD % of Target PY2009
Annual Energy Savings Impacts (Net Generation Level)				
Residential (MWh)	1,319	27,843	68,722	40.5%
Business (MWh)	383	32,231	57,301	56.2%
Peak Demand (kW)	436	12,730	20,097	63.3%
Island Equity (% of Total Incentive Dollars)				
Oahu	81.0%	88.0%	69%	< + 20%
Maui County	11.0%	7.0%	19%	< - 20%
Hawaii County	8.0%	5.0%	11%	< - 20%
Market Transformation (Applications Completed)				
Emerging Technologies	0	3	20	15%
Ally Referrals	44	179	40	Goal Met
Financials ¹				
Total Incentives	\$639,948.63	\$9,211,670.63	\$12,881,723	71.5%
Total Program Expenses (Billed)	\$367,993.78	\$3,957,709.88	\$6,284,611	68.3%
Total Program Costs ²	\$1,007,942.41	\$13,169,380.51	\$18,676,936	70.5%
¹ Includes Ramp-Up to match Attachment F				
² Total Budget reflects the deduction of \$700,000 in performance incentive fees for the award pool and \$200,000 for contractor contribution.				

A 97% decrease in Compact Fluorescent Lamp (CFL) rebate reimbursements in April caused the dramatic reduction in energy impacts when compared to March.

Metric	March Results	April Results
CFL Units	155,521	4,977
Net Energy (MWh)	8,281	265
Net Demand (kW)	1,522	49
Net TRB (\$)	\$ 5,750,943	\$ 184,042

Hawaii Energy Conservation and Efficiency Program

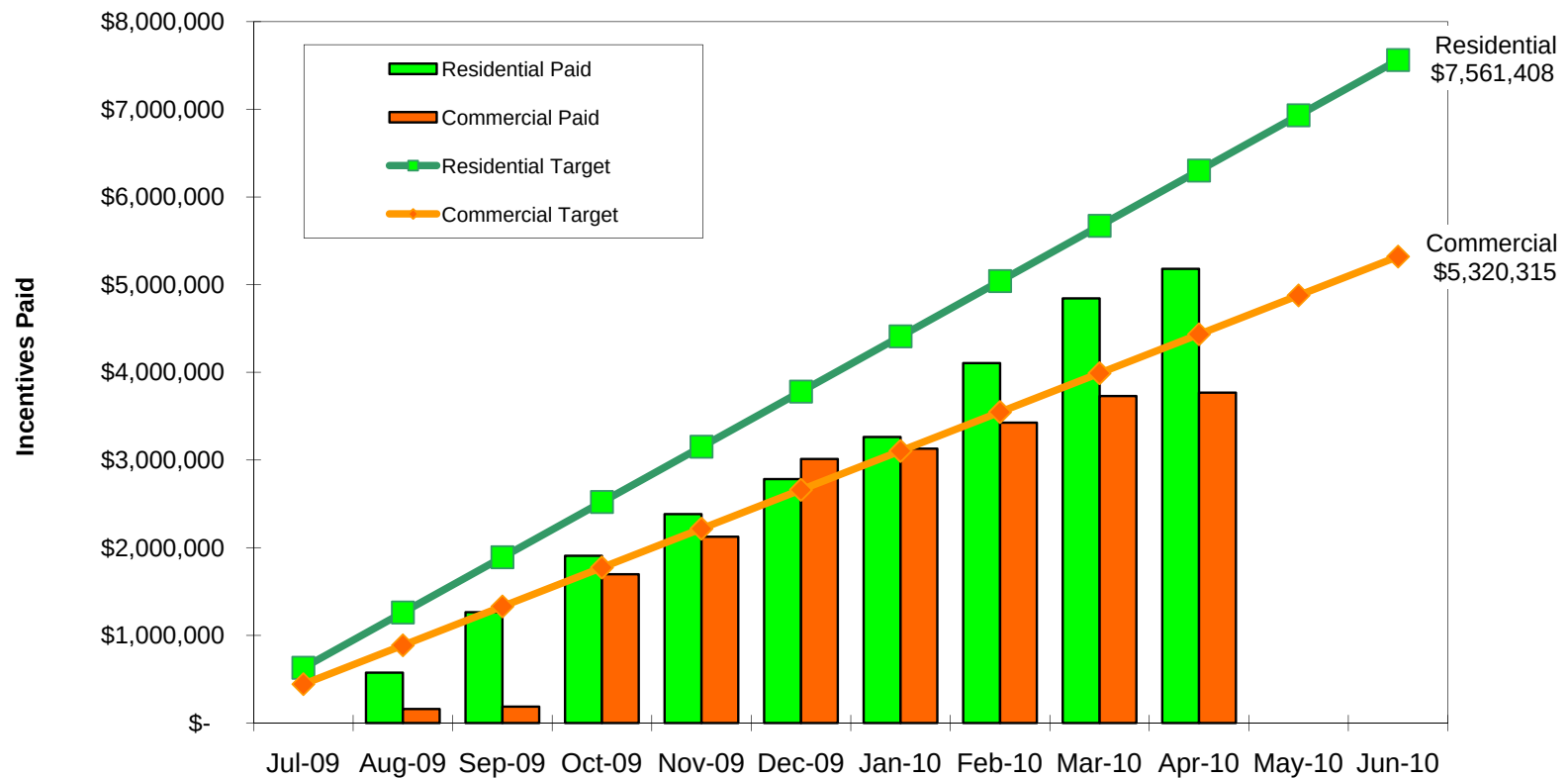
Monthly Performance Report – April 2010 (04/01/10 – 04/30/10)



Performance Charts

1. *First Year Incentive Payment Tracking* - This Chart shows the paid versus budget incentives for the PY2009.

Chart 1: PY2009 Incentive Tracking



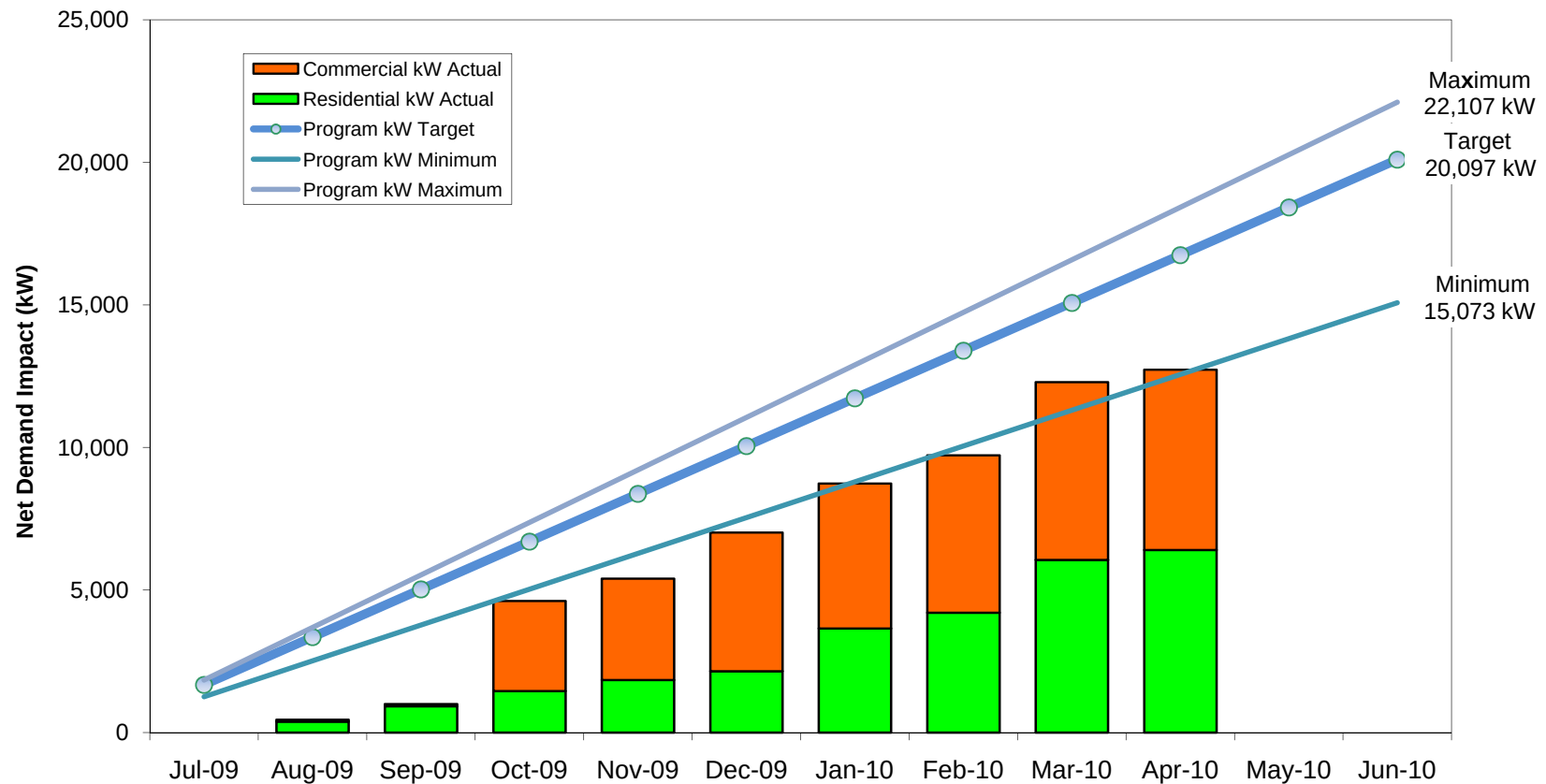
Hawaii Energy Conservation and Efficiency Program

Monthly Performance Report – April 2010 (04/01/10 – 04/30/10)



2. First Year Demand Impact Tracking - This Chart shows the combined demand impact versus target and minimum for PY2009.

Chart 2: PY2009 Net Demand Impact Tracking



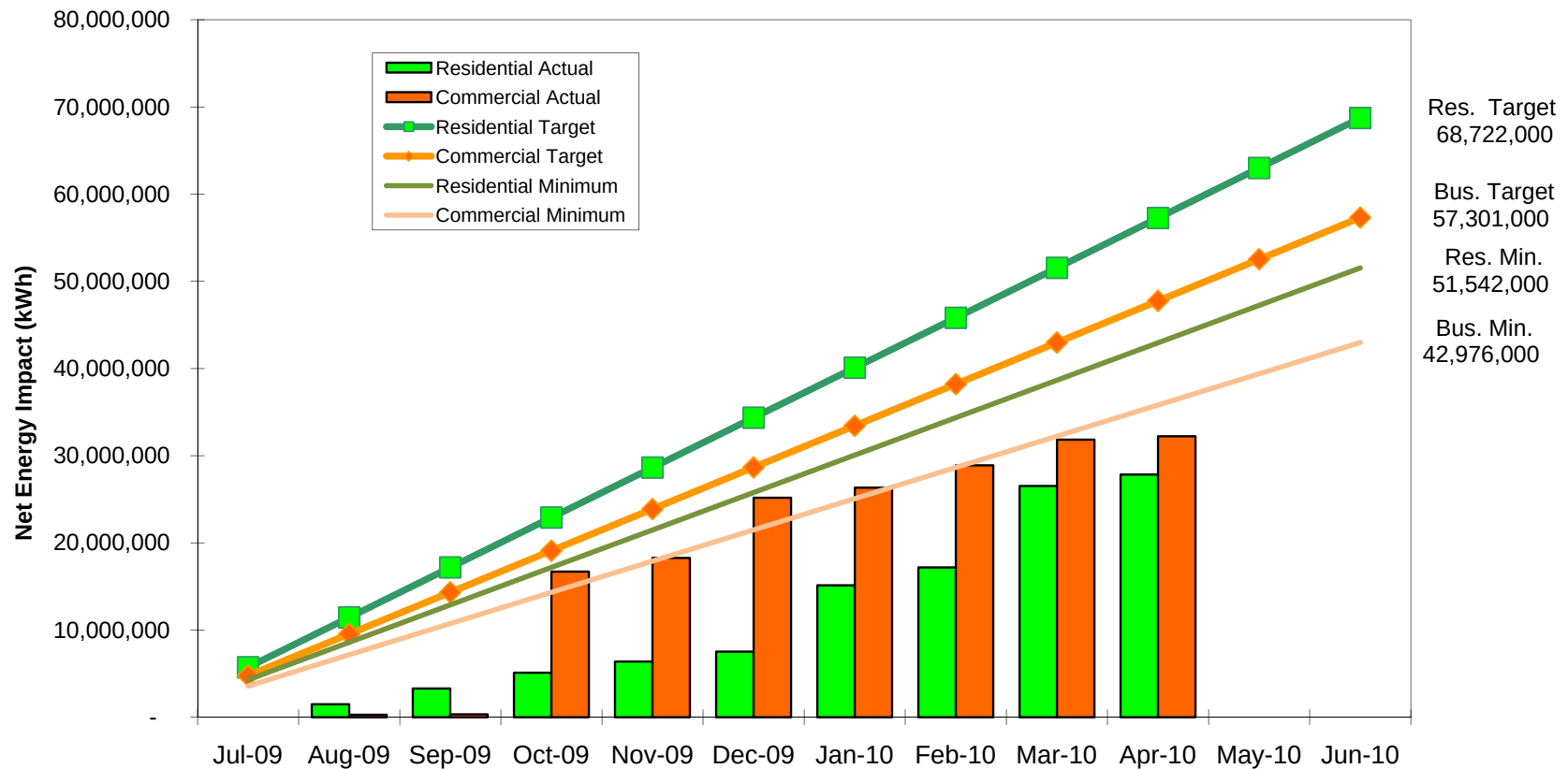
Hawaii Energy Conservation and Efficiency Program

Monthly Performance Report – April 2010 (04/01/10 – 04/30/10)



3. *First Year Energy Impact Tracking* - This Chart shows the combined energy impact versus target and minimum for PY2009.

Chart 3: PY2009 Net Energy Impact Tracking



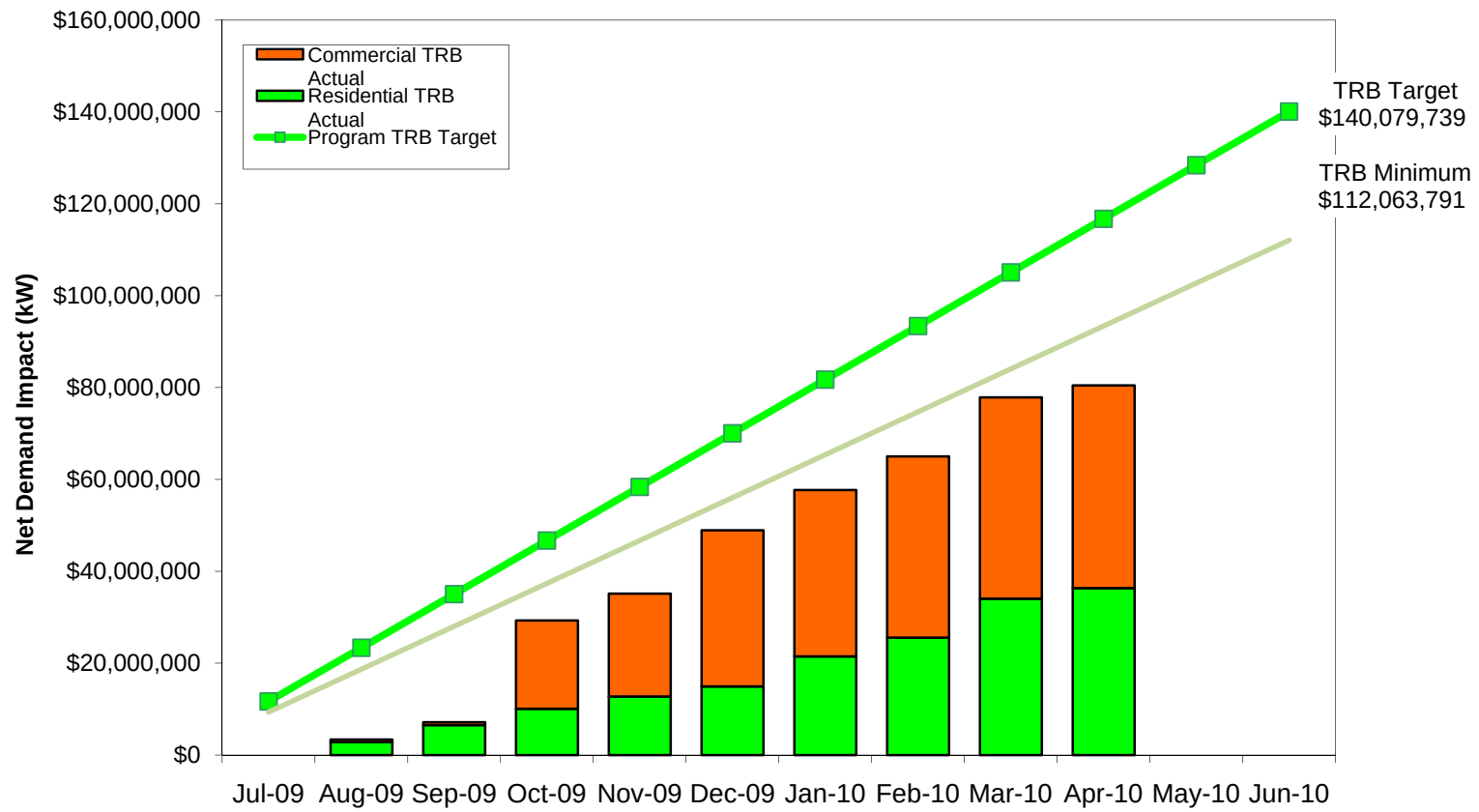
Hawaii Energy Conservation and Efficiency Program

Monthly Performance Report – April 2010 (04/01/10 – 04/30/10)



4. *First Year Total Resource Benefit (TRB)* - This Chart shows the combined TRB impact versus target and minimum for PY2009.

Chart 4: PY2009 Total Resource Benefit Impact Tracking



Hawaii Energy Conservation and Efficiency Program

Monthly Performance Report – April 2010 (04/01/10 – 04/30/10)



Marketing Highlights

The following marketing activities took place this month.

Media Outlet or Contact	Subject	Action
KHVV – Radio Taping – Mike Buck	Radio taping for Earth Day Event at Tamarind Park	Education
KHON – Laurie Legrange	Preparation for Earth Day	Education
COX Radio – Crater	Taping of Earth Day Interview	Education
KITV – Interview with Catherine Cruz	Earth Day – Compact Florescent Lamps	Education
KJKS – Radio Interview	Compact Florescent Lamps	Education
B93/B97 – Radio Interview	Compact Florescent Lamps	Education
Honolulu Weekly Magazine	Green Markets	Education

Hawaii Energy Conservation and Efficiency Program

Monthly Performance Report – April 2010 (04/01/10 – 04/30/10)



Government Highlights

The following activities with the Government took place this month.

Agency	Subject	Action
Department of Hawaiian Homes Land	Discussions on collaboration	Memorandum of Understanding
Counsel for Native Hawaiian Advancement	Low income demographics, solar water heaters, shower heads, smart strips, CFL's	Distribution of energy savings devices and solar water inspections
Public Utilities Commission	Amendments to IRP Framework	
Hawaii Energy Policy Forum	Exploratory Meeting on Hawaii Energy Data	

Hawaii Energy Conservation and Efficiency Program

Monthly Performance Report – April 2010 (04/01/10 – 04/30/10)



Education and Training Highlights

The following education and training activities took place this month.

Event	Attendees	Subject	Count	Date
Visit to Salt Lake Elementary First Grade	First Grade Students	Earth Day Energy Efficiency Resolutions (easy ways to conserve; included distribution of low-flow showerheads)	20	4/9
Visit to Lanakila Elementary Second Grade	Second Grade Students	Earth Day Energy Efficiency Resolutions	19	4/12
Food & Energy Sustainability Committee	Council members/public	Presentation on saving energy	Televised	4/19
ADMOR Presentations	Contractors	Energy Efficiency Rebate Programs	90	4/19, 4/19, 4/21
Green Now Conference – Kapiolani Community College	Kapiolani Community College Students, Faculty, Staff	Renewable energy technologies and sustainability initiatives		4/23
Earth Day at Tamarind Park	Public	Energy efficiency, energy reduction, green methods	100 +	4/23

Hawaii Energy Conservation and Efficiency Program

Monthly Performance Report – April 2010 (04/01/10 – 04/30/10)



Market Evaluation and Technology Development Highlights

The following actions were taken to obtain trade ally input on program market penetration and technology development this month.

Trade Allies	Subject	Action
Heliodyne	Solar water heaters monitoring system	Review initial installation
Energy Industries, EMCC, Lighting Services	Small Business Lighting Direct Install Program	Feedback on direct install design
Asia Yeary & Shannah Trevenna	University of Hawaii at Manoa Student Sustainability Internship Program (SSIP)	Potential internships
Longs/Webco	Compact fluorescent lamps sales efforts	Assist with promotions
New Home Developers – Gentry, Pacific Building, Mark Development,	New Development Programs	Revise new home energy efficiency incentives

Hawaii Energy *Conservation and Efficiency Program*

Monthly Performance Report – April 2010 (04/01/10 – 04/30/10)



Budget Status

The following table captures the allocation of expenses across programs.

	April Allocations	Allocations to Date	PY09 Budget R3 Authorization3	% Spent
Residential Programs				
Residential Non-Incentive				
1 Residential Program Ops and Management				
REWH	\$ 108,582.73	\$ 974,577.43	\$ 1,207,347.00	81%
RNC	\$ 6,814.05	\$ 70,669.56	\$ 84,912.00	83%
ESH	\$ 75,866.39	\$ 544,210.60	\$ 889,125.00	61%
RLI	\$ 2,511.10	\$ 9,995.47	\$ 33,344.00	30%
Total Residential Programs	\$ 193,774.27	\$ 1,599,453.06	\$ 2,214,728.00	72%
Education & Training (E&T)	\$ 7,643.59	\$ 34,285.73	\$ 63,450.00	54%
Market Evaluation	\$ -	\$ -	\$ -	
Advertising/Marketing	\$ -	\$ 90,535.35	\$ 341,729.00	26%
Total Residential Non-Incentive	\$ 201,417.86	\$ 1,724,274.14	\$ 2,619,907.00	66%
2 Less Performance Incentives (for Pool)	\$ (30,540.83)	\$ (297,162.31)	\$ (350,000.00)	85%
Subtotal Residential Non-Incentive Less P I	\$ 170,877.03	\$ 1,427,111.83	\$ 2,269,907.00	63%
Residential Incentives				
REWH	\$ 181,905.00	\$ 2,688,565.00	\$ 3,093,610.00	87%
RNC	\$ 50,350.00	\$ 935,930.00	\$ 1,001,080.00	93%
ESH	\$ 105,599.00	\$ 1,556,443.00	\$ 3,228,943.00	48%
RLI	\$ 17,966.63	\$ 17,966.63	\$ 237,775.00	8%
Total Residential Incentives	\$ 355,820.63	\$ 5,198,904.63	\$ 7,561,408.00	69%
Performance Pool Award	\$ -	\$ -	\$ 350,000.00	0%
Total Residential Programs	\$ 526,697.66	\$ 6,626,016.46	\$ 10,181,315.00	65%

Business (C&I) Programs

Business Non-Incentive				
1 Business Programs Ops and Management				
CIEE	\$ 26,345.46	\$ 381,120.84	\$ 547,784.00	70%
CINC	\$ 26,955.71	\$ 292,597.32	\$ 484,372.00	60%
CICR	\$ 36,298.41	\$ 360,115.82	\$ 662,646.00	54%
PV	\$ -	\$ 13,898.69	\$ 36,183.00	38%
Subtotal Business Programs	\$ 89,599.58	\$ 1,047,732.67	\$ 1,730,985.00	61%
Less Contractor Contribution	\$ -	\$ (50,000.00)	\$ (50,000.00)	100%
Total Business Programs	\$ 89,599.58	\$ 997,732.67	\$ 1,680,985.00	59%
Education & Training (E&T)	\$ 6,020.85	\$ 41,520.57	\$ 77,550.00	54%
Market Evaluation	\$ 14,293.19	\$ 41,413.60	\$ 64,625.00	64%
Advertising/Marketing	\$ -	\$ 102,407.89	\$ 417,669.00	25%
Total Business Non-Incentive	\$ 109,913.62	\$ 1,183,074.73	\$ 2,240,829.00	53%
2 Less Performance Incentive Fee (for Pool)	\$ (30,540.83)	\$ (297,162.30)	\$ (350,000.00)	85%
Subtotal Business Non-Incentive Less P I	\$ 79,372.79	\$ 885,912.43	\$ 1,890,829.00	47%
Business Incentives				
CIEE	\$ 143,246.00	\$ 1,885,674.00	\$ 1,888,589.00	100%
CINC	\$ 135,497.00	\$ 2,052,274.00	\$ 2,191,803.00	94%
CICR	\$ 150.00	\$ 69,583.00	\$ 157,806.00	44%
PV	\$ 5,235.00	\$ 5,235.00	\$ -	
New	\$ -	\$ -	\$ 1,082,117.00	0%
Total Business Incentives	\$ 284,128.00	\$ 4,012,766.00	\$ 5,320,315.00	75%
Performance Pool Award	\$ -	\$ -	\$ 350,000.00	0%
Total Business Programs	\$ 363,500.79	\$ 4,898,678.43	\$ 7,561,144.00	65%
Ramp Up Program Costs	\$ -	\$ 486,054.08	\$ 486,055.00	100%
Less Contractor Contribution From Residential Ramp Up	\$ -	\$ (50,000.00)	\$ (50,000.00)	100%
Total Ramp Up	\$ -	\$ 436,054.08	\$ 436,055.00	100%

Total Services and Initiatives	\$ 890,198.45	\$ 11,960,748.97	\$ 18,178,514.00	66%

Supporting Services

GA	\$ 99,189.53	\$ 790,991.13	\$ 1,221,451.00	65%
IT	\$ 18,554.43	\$ 225,644.04	\$ 274,372.00	82%
Ramp Up GA	\$ -	\$ 165,937.53	\$ 165,938.00	100%
Ramp Up IT	\$ -	\$ 126,058.84	\$ 126,059.00	100%
Less Contractor Contribution	\$ -	\$ (100,000.00)	\$ (100,000.00)	100%
Total Supporting Services	\$ 117,743.96	\$ 1,208,631.54	\$ 1,687,820.00	72%

Sub-Total Estimated Contractor Costs	\$ 1,007,942.41	\$ 13,169,380.51	\$ 19,866,334.00	66%
Performance Awards in Excess of Target Levels	\$ -	\$ -	\$ 133,000.00	

Total Estimated Contractor Costs, including Performance Awards in Excess of Target Levels	\$ 19,999,333.00			

Total Non-Incentive ABOVE	\$ 367,993.78	\$ 3,957,709.88	\$ 6,284,611.00	
Total Incentive ABOVE	\$ 639,948.63	\$ 9,211,670.63	\$ 12,881,723.00	
Total Non-Incentive BILLED	\$ 367,993.78	\$ 3,957,709.88		
Total Incentive BILLED	\$ 639,948.63	\$ 9,211,670.63		
Total BILLED	\$ 1,007,942.41	\$ 13,169,380.51		

- Program Ops and Management includes Program Management, Program Operations, Call Center, and Data Tracking; Program Management will consume approximately 30%.
- The new R.W. Beck Invoice deducts the performance pool contributions prior to tax, therefore this summary now adds 4.712% to the deductions to simulate that tax is added to each line item as necessary for this summary. After 6 months (until the end of the program year), \$16,397.76 will be allocated to various line items as this tax. This tax is not required at time of invoice due to the deduction in total invoice value and causes increased "% spent" by individual line items. The total of this summary reflects the actual "% spent" for the overall program.
- Includes Budget R3 which was Approved on 9 April 2010 (prior to the due date of this report - 25 April 2010).

Hawaii Energy Conservation and Efficiency Program

Monthly Performance Report – May 2010 (05/01/10 – 05/31/10)



Executive Summary

During May, Hawaii Energy focused on hiring new talent and developing ideas for PY2010.

- *Communications Specialist Hired* - Ms. Kelli Miura, began work on 3 May 2010 and has helped us have a presence at key sustainability events as well as a presence on Facebook and Twitter social media.
- *Additional Staff Identified* - This month, we also sought and found a Program Analyst, Technical Project Manager, and a Project Assistant that will begin at various times over the next two months and will provide necessary skills and depth to our team.
- *Annual Plan Development* - In addition to the workforce expansion, we spent considerable time and effort designing, drafting and vetting our Annual Plan for 2010.
- *New Programs Implementation* – The two of the three new programs were rolled out this month.
 - o The Small Business Lighting Retrofit program has been designed and is under review by the lighting contractors.
 - o The Energy Project Catalyst Studies were solicited and selections to be made next month.

Finally, we spent May making refinements to our budget, strategies and program execution in order to accelerate the achievement of savings needed to meet our goals for PY2009. We are pressing hard to bring all of our numbers closer to our target goals.

Hawaii Energy Conservation and Efficiency Program

Monthly Performance Report – May 2010 (05/01/10 – 05/31/10)



The following table is an overall summary of our performance in the month:

Key Performance Metrics	Month's Results	YTD Results	PY2009 Targets	YTD % of Target PY2009
Annual Energy Savings Impacts (Net Generation Level)				
Residential (MWh)	14,862	42,705	68,722	62.1%
Business (MWh)	8,821	41,052	57,301	71.6%
Peak Demand (kW)	4,279	17,009	20,097	84.6%
Island Equity (% of Total Incentive Dollars)				
Oahu	98.9%	89.0%	69.0%	= +20%
Maui County	0.6%	6.0%	19.0%	< - 20%
Hawaii County	0.5%	5.0%	11.0%	< - 20%
Market Transformation (Applications Completed)				
Emerging Technologies ³	5	8	20	40.0%
Ally Referrals	5	184	40	Met
Financials ¹				
Total Incentives	\$687,452.21	\$9,899,122.84	\$12,881,723	76.8%
Total Program Expenses (Billed)	\$420,505.07	\$4,378,214.95	\$6,284,611	69.7%
Total Program Costs ²	\$1,107,957.28	\$14,277,337.79	\$18,966,334	76.4%
¹ Includes Ramp-Up to match Attachment F ² Total Budget reflects the deduction of \$700,000 in performance incentive fees for the award pool and \$200,000 for contractor contribution. ³ There are over 18 Emerging Technologies in process awaiting installation and documentation. The program has lowered the customized payback to 6 months to push LED projects and are working on variable refrigerant split system savings methodology to complete applications for the technology.				

Hawaii Energy Conservation and Efficiency Program

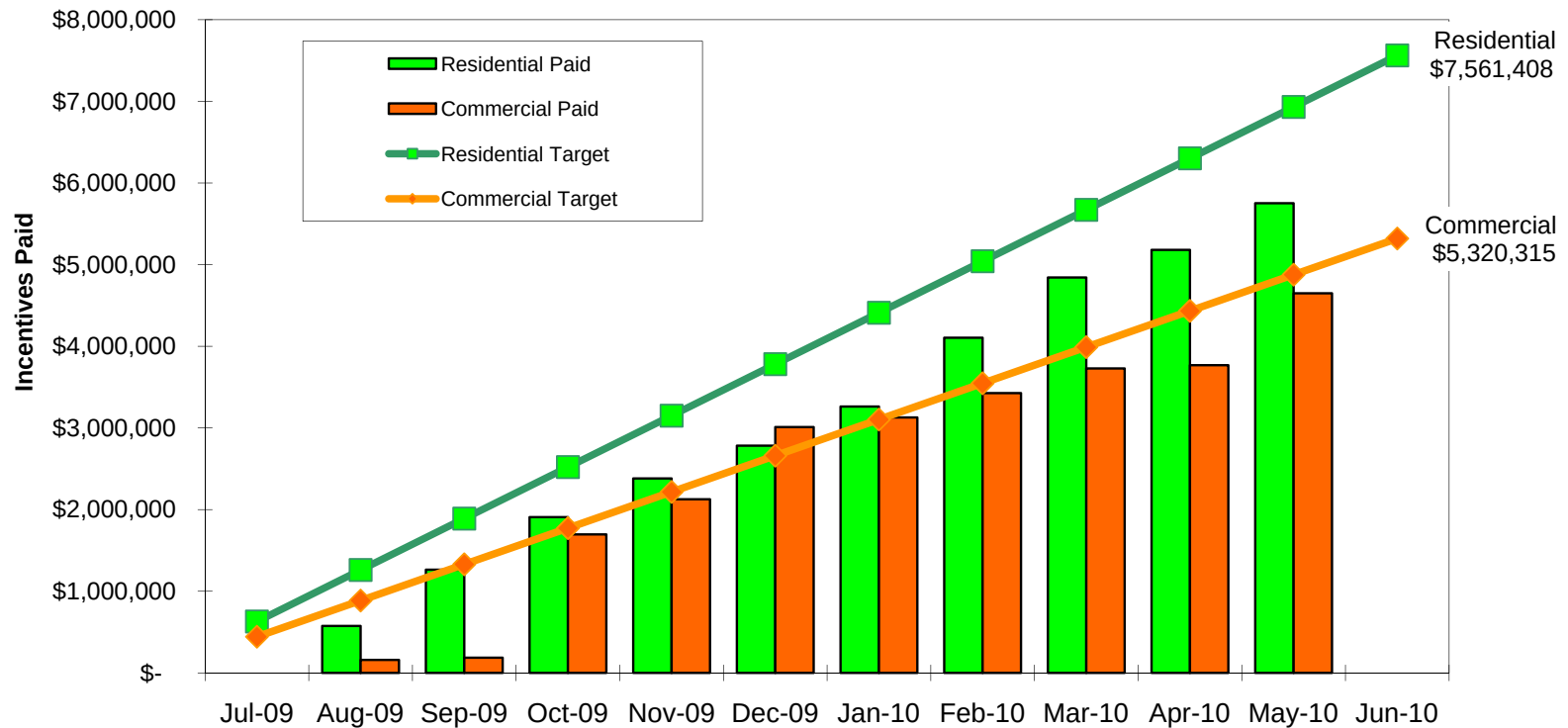
Monthly Performance Report – May 2010 (05/01/10 – 05/31/10)



Performance Charts

1. *First Year Incentive Payment Tracking* - This Chart shows the paid versus target incentives for the PY2009.

Chart 1: PY2009 Incentive Tracking



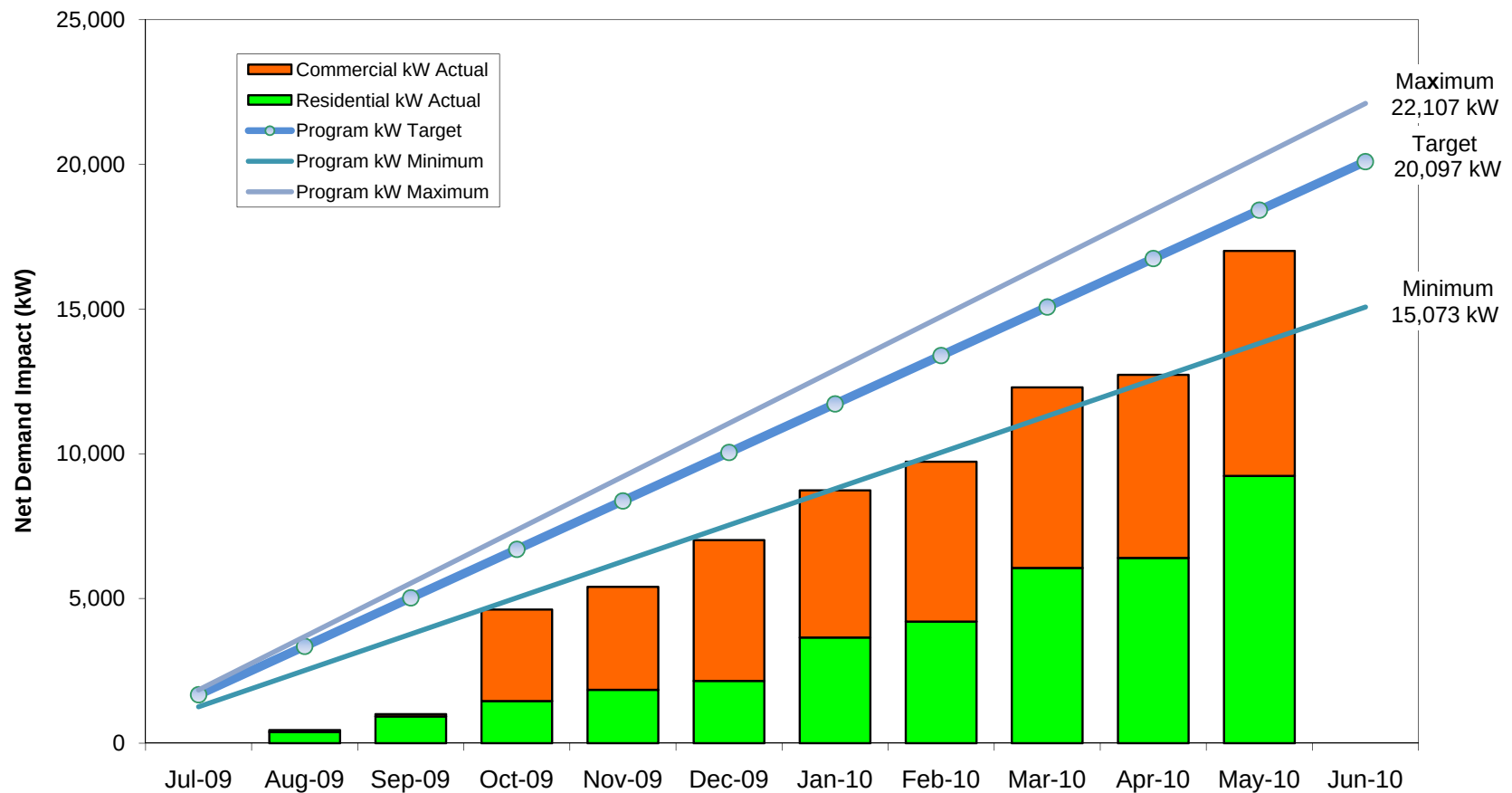
Hawaii Energy Conservation and Efficiency Program

Monthly Performance Report – May 2010 (05/01/10 – 05/31/10)



2. *First Year Demand Impact Tracking* - This Chart shows the combined demand impact versus target for PY2009.

Chart 2: PY2009 Net Demand Impact Tracking



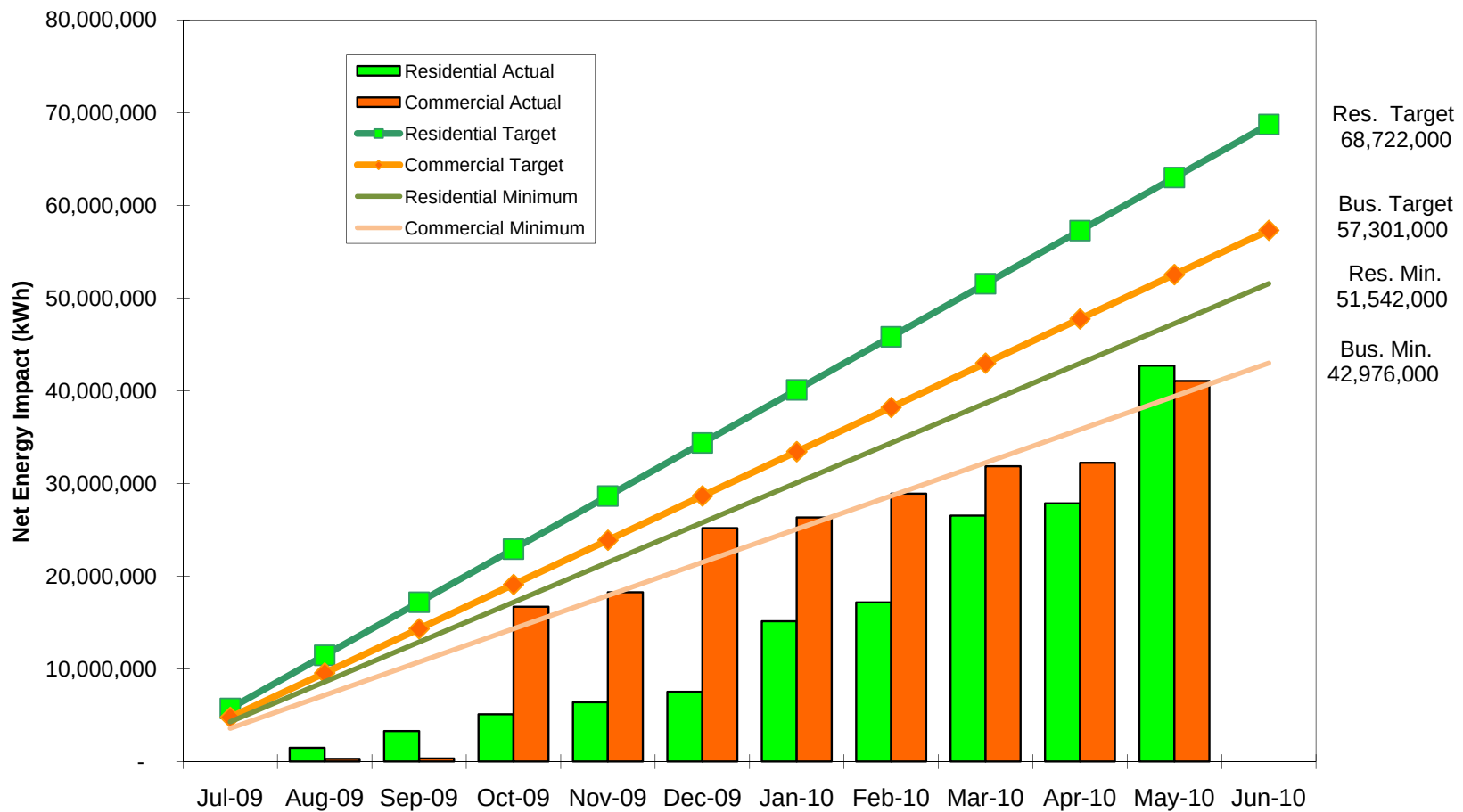
Hawaii Energy Conservation and Efficiency Program

Monthly Performance Report – May 2010 (05/01/10 – 05/31/10)



3. *First Year Energy Impact Tracking* - This Chart shows the combined demand impact versus target for PY2009.

Chart 3: PY2009 Net Energy Impact Tracking



Hawaii Energy Conservation and Efficiency Program

Monthly Performance Report – May 2010 (05/01/10 – 05/31/10)



Marketing and Outreach Highlights

The following marketing activities took place this month.

Hired Kelli Miura as Communications Specialist to increase public contact with Hawaii Energy.

Media Outlet or Contact	Subject	Action
Pacific Business News	Energy incentives and savings article	Education Article interview and photo taking 5/11, 5/14
Press conference – Hawaii press	Announcement for “Trade Up for Cool Cash” program and other energy efficiency programs.	Press conference with Hawaii media to announce program 5/13
KPOA – Radio interview	Announcement for “Trade Up for Cool Cash” program and other energy efficiency programs.	Education 5/19
KSSK – Radio interview	Announcement for “Trade Up for Cool Cash” program and other energy efficiency programs.	Education 5/20
KJKS – Radio interview	Announcement for “Trade Up for Cool Cash” program and other energy efficiency programs.	Education 5/20

Government Highlights

The following activities with the Government took place this month.

Agency	Subject	Action
Hawaii Clean Energy Initiative	Steering Committee, Plenary Session and End Use Efficiency Working Group meetings	Attended and participated in week-long meetings

Hawaii Energy Conservation and Efficiency Program

Monthly Performance Report – May 2010 (05/01/10 – 05/31/10)



Education and Training Highlights

The following education and training activities took place this month.

Event	Attendees	Subject	Count	Date
2010 Pacific Peer Exchange Meeting	Energy Offices of the Territories of American Samoa, Guam, State of Hawaii, Hawaii Counties, and representatives from the mainland, U.S. Department of Energy.	Energy Savings	35	5/3
HELCO Meeting at Hapuna Beach Hotel	Chang/Wong	Energy conservation and efficiency	100	5/5
2010 Small Business Fair at Kapolei High School/Bank of Hawaii	Public	Learn about incentives and tax credits to help business.	30	5/5
10 th Annual Hawaii Build and Buy Green Conference & Expo	Contractors	Green resources and energy efficiency	200	5/5
Council for Native Hawaiian Advancement	Sonoda/Koo	Hawaii Energy Educational Training	14	5/6
Building Owners & Management Association	Chang	Energy efficiency for buildings	30	5/11
Windward Community College	Chang	Energy efficiency measures in the home	25	5/17
Moanalua Elementary School	Sonoda	Energy savings in the household using compact florescent lightbulbs	65	5/18
Honolulu Boys & Girls Club	Miura	Collaboration on energy conservation and efficiency efforts	12	5/25

Hawaii Energy Conservation and Efficiency Program

Monthly Performance Report – May 2010 (05/01/10 – 05/31/10)



Market Evaluation and Technology Development Highlights

The following actions were taken to obtain trade ally input on program market penetration and technology development this month.

Trade Allies	Subject	Action
LSI Lighting	Customized rebates and LED canopy lighting	Akagi – 5/4
Forest City and Actus Lend Lease	Collaboration on energy savings efforts in Public-Private Venture (PPV) military housing	Starling – 5/4
Sears	Hawaii Federal stimulus funds program with Sears.	Sonoda - 5/12
Blue Planet	Future energy savings programs and ideas	Chang/Miura - 5/12, 5/20
Hawaii Solar Energy Association	Meeting to discuss collaboration in Energy Efficiency Portfolio Standards (EEPS)	Starling – 5/14
Energy Efficiency Program Sponsors	Meeting with Hawaii Solar Energy Association and Blue Planet Foundation	Starling - 5/17
Les & Jan Taniyama	Training on the importance of energy measurement	Hawaii Energy group – 5/18
Hawaiian Electric Company	Cooperative communication opportunities	Starling, Miura, Sonoda – 5/19

Hawaii Energy *Conservation and Efficiency Program*

Monthly Performance Report – May 2010 (05/01/10 – 05/31/10)



Budget Status

The following table captures the allocation of expenses across programs.

	May Allocations	Allocations to Date	PY09 Budget R3 Authorization3	% Spent
Residential Programs				
Residential Non-Incentive				
1 Residential Program Ops and Management				
REWH	\$ 84,777.99	\$ 1,059,355.42	\$ 1,207,347.00	88%
RNC	\$ 4,288.79	\$ 74,958.35	\$ 84,912.00	88%
ESH	\$ 64,620.80	\$ 608,831.40	\$ 889,125.00	68%
RLI	\$ 11,650.84	\$ 21,646.31	\$ 33,344.00	65%
Total Residential Programs	\$ 165,338.42	\$ 1,764,791.48	\$ 2,214,728.00	80%
Education & Training (E&T)	\$ 819.26	\$ 35,104.99	\$ 63,450.00	55%
Market Evaluation	\$ -	\$ -	\$ -	
Advertising/Marketing	\$ 47,486.05	\$ 138,021.40	\$ 341,729.00	40%
Total Residential Non-Incentive	\$ 213,643.73	\$ 1,937,917.87	\$ 2,619,907.00	74%
2 Less Performance Incentives (for Pool)	\$ (30,540.83)	\$ (327,703.14)	\$ (350,000.00)	94%
Subtotal Residential Non-Incentive Less P I	\$ 183,102.90	\$ 1,610,214.73	\$ 2,269,907.00	71%
Residential Incentives	\$ -	\$ -	\$ -	
REWH	\$ 170,885.00	\$ 2,859,450.00	\$ 3,093,610.00	92%
RNC	\$ 8,500.00	\$ 944,430.00	\$ 1,001,080.00	94%
ESH	\$ 394,506.00	\$ 1,950,949.00	\$ 3,228,943.00	60%
RLI	\$ 4,947.21	\$ 22,913.84	\$ 237,775.00	10%
Total Residential Incentives	\$ 578,838.21	\$ 5,777,742.84	\$ 7,561,408.00	76%
Performance Pool Award	\$ -	\$ -	\$ 350,000.00	0%
Total Residential Programs	\$ 761,941.11	\$ 7,387,957.57	\$ 10,181,315.00	73%
Business (C&I) Programs				
Business Non-Incentive				
1 Business Programs Ops and Management				
CIEE	\$ 21,403.40	\$ 402,524.24	\$ 547,784.00	73%
CINC	\$ 23,053.85	\$ 315,651.17	\$ 484,372.00	65%
CICR	\$ 35,510.30	\$ 395,626.12	\$ 662,646.00	60%
PV	\$ 120.94	\$ 14,019.63	\$ 36,183.00	39%
Subtotal Business Programs	\$ 80,088.49	\$ 1,127,821.16	\$ 1,730,985.00	65%
Less Contractor Contribution	\$ -	\$ (50,000.00)	\$ (50,000.00)	100%
Total Business Programs	\$ 80,088.49	\$ 1,077,821.16	\$ 1,680,985.00	64%
Education & Training (E&T)	\$ 8,507.11	\$ 50,027.68	\$ 77,550.00	65%
Market Evaluation	\$ 8,795.81	\$ 50,209.41	\$ 64,625.00	78%
Advertising/Marketing	\$ 58,038.55	\$ 160,446.44	\$ 417,669.00	38%
Total Business Non-Incentive	\$ 155,429.96	\$ 1,338,504.69	\$ 2,240,829.00	60%
2 Less Performance Incentive Fee (for Pool)	\$ (30,540.83)	\$ (327,703.13)	\$ (350,000.00)	94%
Subtotal Business Non-Incentive Less P I	\$ 124,889.13	\$ 1,010,801.56	\$ 1,890,829.00	53%
Business Incentives				
CIEE	\$ 2,325.00	\$ 1,887,999.00	\$ 1,888,589.00	100%
CINC	\$ 77,384.00	\$ 2,129,658.00	\$ 2,191,803.00	97%
CICR	\$ 28,905.00	\$ 98,488.00	\$ 157,806.00	62%
PV	\$ -	\$ 5,235.00	\$ -	
New	\$ -	\$ -	\$ 1,082,117.00	0%
Total Business Incentives	\$ 108,614.00	\$ 4,121,380.00	\$ 5,320,315.00	77%
Performance Pool Award	\$ -	\$ -	\$ 350,000.00	0%
Total Business Programs	\$ 233,503.13	\$ 5,132,181.56	\$ 7,561,144.00	68%
Ramp Up Program Costs	\$ -	\$ 486,054.08	\$ 486,055.00	100%
Less Contractor Contribution From Residential Ramp Up	\$ -	\$ (50,000.00)	\$ (50,000.00)	100%
Total Ramp Up	\$ -	\$ 436,054.08	\$ 436,055.00	100%
Total Services and Initiatives	\$ 995,444.23	\$ 12,956,193.21	\$ 18,178,514.00	71%
Supporting Services				
GA	\$ 104,846.43	\$ 895,837.56	\$ 1,221,451.00	73%
IT	\$ 7,666.61	\$ 233,310.65	\$ 274,372.00	85%
Ramp Up GA	\$ -	\$ 165,937.53	\$ 165,938.00	100%
Ramp Up IT	\$ -	\$ 126,058.84	\$ 126,059.00	100%
Less Contractor Contribution	\$ -	\$ (100,000.00)	\$ (100,000.00)	100%
Total Supporting Services	\$ 112,513.04	\$ 1,321,144.58	\$ 1,687,820.00	78%
Sub-Total Estimated Contractor Costs	\$ 1,107,957.28	\$ 14,277,337.79	\$ 19,866,334.00	72%
Performance Awards in Excess of Target Levels	\$ -	\$ -	\$ 133,000.00	
Total Estimated Contractor Costs, including Performance Awards in Excess of Target Levels			\$ 19,999,333.00	
Total Non-Incentive ABOVE	\$ 420,505.07	\$ 4,378,214.95	\$ 6,284,611.00	
Total Incentive ABOVE	\$ 687,452.21	\$ 9,899,122.84	\$ 12,881,723.00	
Total Non-Incentive BILLED	\$ 420,505.07	\$ 4,378,214.95		
Total Incentive BILLED	\$ 687,452.21	\$ 9,899,122.84		
Total BILLED	\$ 1,107,957.28	\$ 1,107,957.28		

- Program Ops and Management includes Program Management, Program Operations, Call Center, and Data Tracking; Program Management will consume approximately 30%.
- The new R.W. Beck Invoice deducts the performance pool contributions prior to tax, therefore this summary now adds 4.712% to the deductions to simulate that tax is added to each line item as necessary for this summary. After 6 months (until the end of the program year), \$16,397.76 will be allocated to various line items as this tax. This tax is not required at time of invoice due to the deduction in total invoice value and causes increased "% spent" by individual line items. The total of this summary reflects the actual "% spent" for the overall program.
- Includes Budget R3 which was Approved on 9 April 2010 (prior to the due date of this report - 25 April 2010).

Hawaii Energy Conservation and Efficiency Program

Monthly Performance Report – June 2010 (06/01/10 – 06/30/10)



Executive Summary

In June, Hawaii Energy closed the year with a final push of PY09 incentives and the following activities:

- *Annual Plan Development* – We submitted a draft version of our Program Year 2010 annual plan for contract manager and PUC review.
- *Received Approval to Reallocate Program Budgets* – \$914,000 in Incentive budget was transferred from the “New” Business Program budget to the “CICR” (Commercial and Industrial Customized Rebate), “CIEE” (Commercial and Industrial Energy Efficiency), and “CINC” (Commercial and Industrial New Construction) allowing the maximum use of commercial incentives for the last month of the program year 2009-10.
- *Interviewed and Selected an Engineering Intern* – Begins work in July and will assist with the small business direct install lighting program.
- *Requested to Carryover PY09 funds* – We forecast that we will have approximately \$1.25 million non-incentive and \$1.03 million incentive carryover that we request be added to the PY10 budget. This is approximately \$185 thousand greater than 10% of the total Public Benefits Fee Funds and therefore requires Public Utilities Commission (PUC) approval.

Program	Budget R3	Transfer Budget
CICR	\$ 157,806	\$67,000
CIEE	\$ 1,888,589	\$417,000
CINC	\$ 2,191,803	\$430,000
New	\$ 1,082,117	(\$914,000)

Hawaii Energy Conservation and Efficiency Program

Monthly Performance Report – June 2010 (06/01/10 – 06/30/10)



The following table is an overall summary of our performance in the month:

Key Performance Metrics	Month's Results	YTD Results	PY2009 Targets	YTD % of Target PY2009
Annual Energy Savings Impacts (Net Generation Level)				
Residential (MWh)	17,256	60,416	68,722	88%
Business (MWh)	11,141	46,787	57,301	82%
Peak Demand (kW)	5,333	21,663	20,097	108%
Island Equity (% of Total Incentive Dollars)				
Oahu	80%	85%	69.00%	0.2
Maui County	9%	7%	19.00%	< - 20%
Hawaii County	11%	8%	11.00%	< - 20%
Market Transformation (Applications Completed)				
Emerging Technologies	19	22	20	110%
Ally Referrals	74	423	40	Met
Financials¹				
Total Incentives (Billed)	\$1,951,304.62	\$9,211,670.63	\$12,881,723	71.5%
Total Program Expenses (Billed)	\$648,074.36	\$3,957,709.88	\$6,284,611	63.0%
Total Program Costs ²	\$2,599,378.98	\$13,169,380.51	\$18,966,334	69.4%
¹ Includes Ramp-Up to match Attachment F				
² Total Budget reflects the deduction of \$700,000 in performance incentive fees for the award pool and \$200,000 for contractor contribution.				

Hawaii Energy Conservation and Efficiency Program

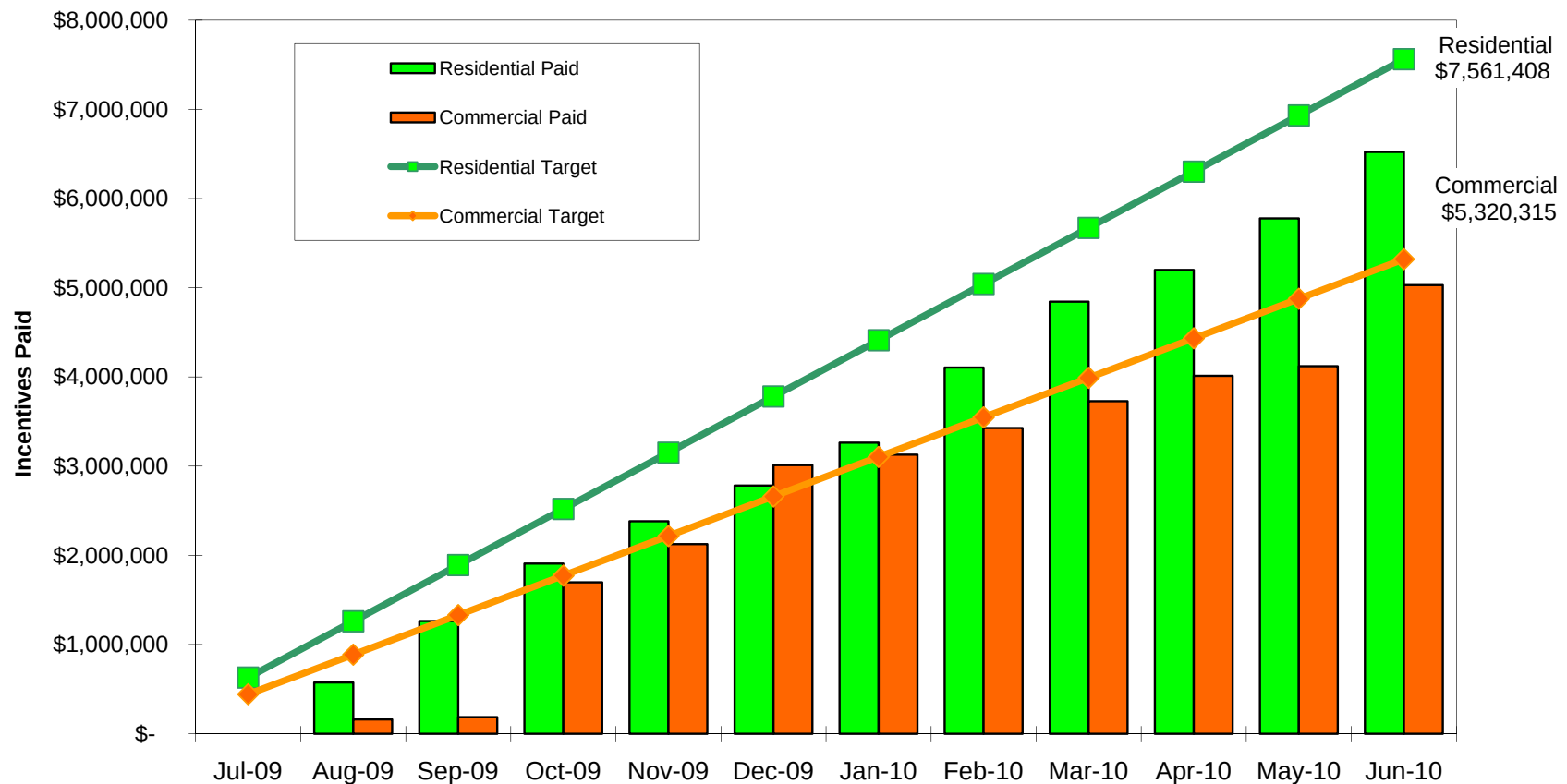
Monthly Performance Report – June 2010 (06/01/10 – 06/30/10)



Performance Charts

1. *First Year Incentive Payment Tracking* - This Chart shows the paid versus target incentives for the PY2009.

Chart 1: PY2009 Incentive Tracking



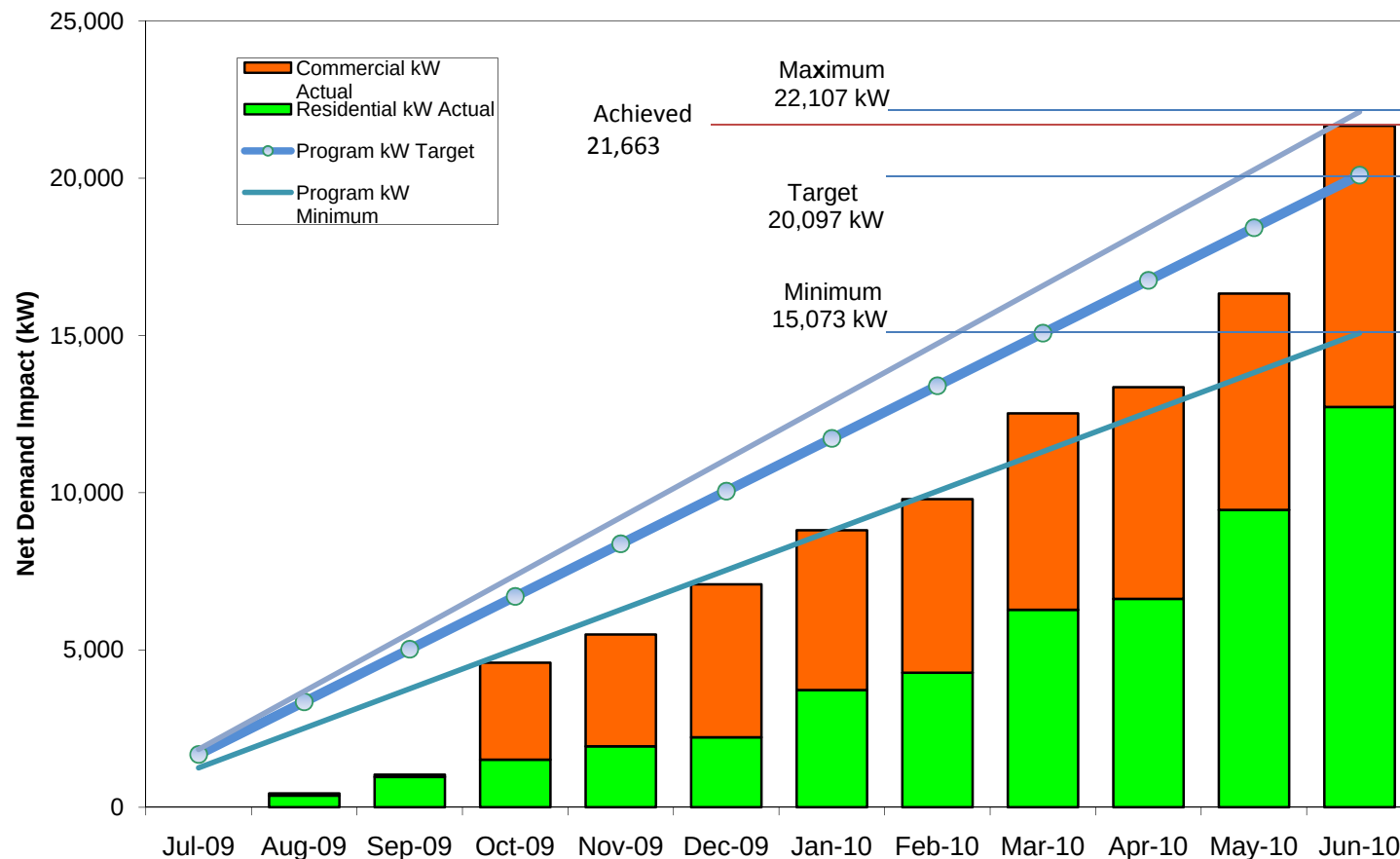
Hawaii Energy Conservation and Efficiency Program

Monthly Performance Report – June 2010 (06/01/10 – 06/30/10)



2. *First Year Demand Impact Tracking* - This Chart shows the combined demand impact versus target for PY2009.

Chart 2: PY2009 Net Demand Impact Tracking



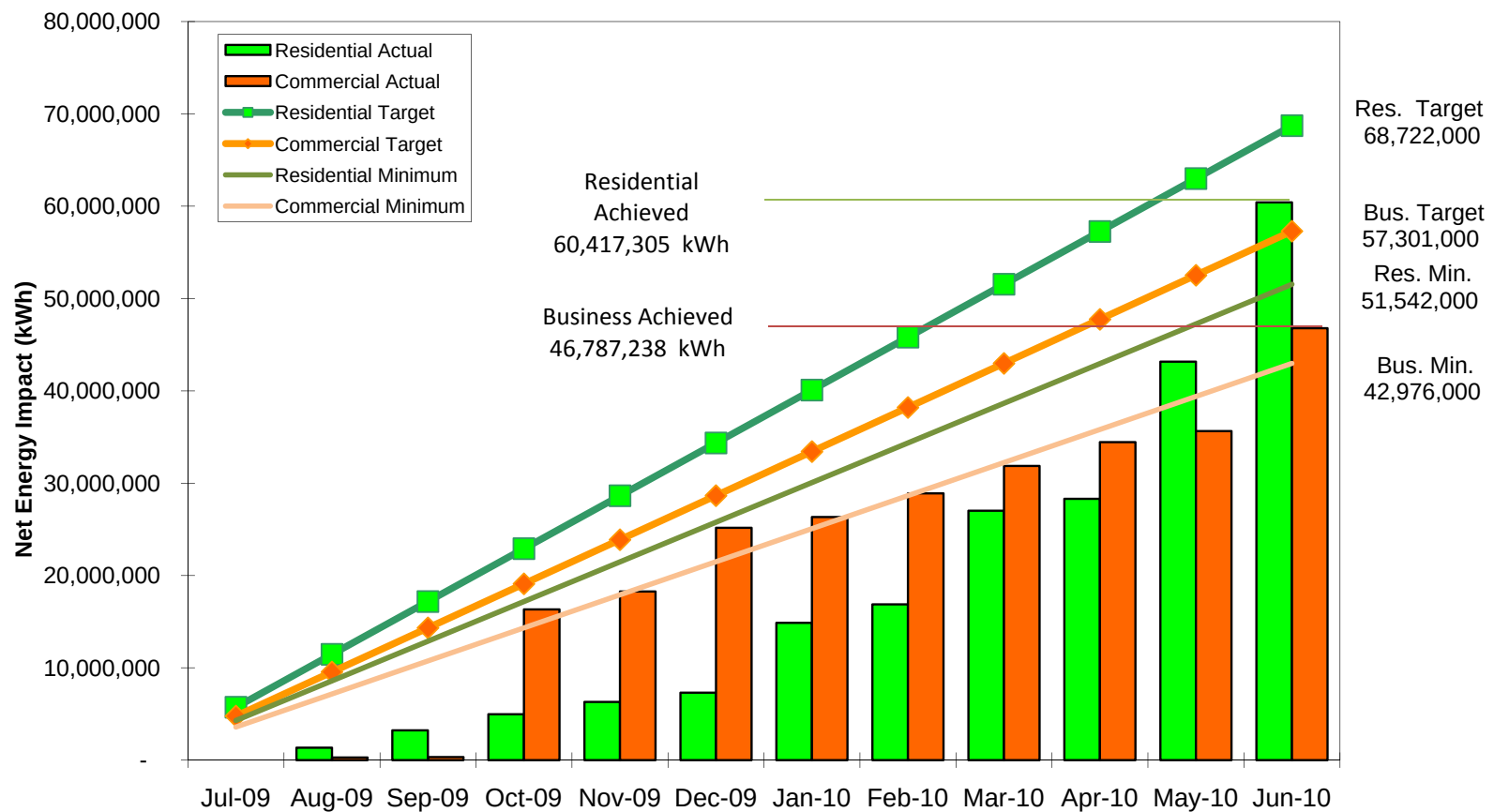
Hawaii Energy Conservation and Efficiency Program

Monthly Performance Report – June 2010 (06/01/10 – 06/30/10)



3. *First Year Energy Impact Tracking* - This Chart shows the combined demand impact versus target for PY2009.

Chart 3: PY2009 Net Energy Impact Tracking



Hawaii Energy Conservation and Efficiency Program

Monthly Performance Report – June 2010 (06/01/10 – 06/30/10)



Marketing and Outreach Highlights

The following Marketing and Outreach activities took place this month:

Media Outlet	Subject
Press Conference at Hawaii State Rotunda	Press Conference on Comprehensive Climate and Clean Energy Bill - 6/8
COX Radio	Informative meeting of program and potential future public relations opportunity - 6/14
Live Twitter Updates	Hawaii Clean Energy Day at the Laniakea YWCA
Live Twitter Updates	Press conference to urge U.S. Senate to pass climate and clean energy bill at state capitol

Outreach	Subject
Kuhio Park Terrace	CFL distribution with Blue Planet Foundation
Maui Community College	Program and Energy Efficiency Q&A with Building Operator's Certification (BOC) class
Ke Nani Kai Condo Association	Program introductions and feedback from Customer about energy efficiency actions.
Castle Molokai Shores & Castle Kaluakoi Villas Hotel	Program introductions and feedback from Customer about energy efficiency actions.
Aqua Hotel Molokai	Program introductions and feedback from Customer about energy efficiency actions.
New Kailua-Kona Ross Store	Program introductions and feedback from Customer about energy efficiency actions.
KTA stores	Energy study and audit
King Kamehameha Kona Beach Hotel	Program introductions and feedback from Customer about energy efficiency actions.
West Hawaii Community Center	Status of construction project
ACS (Air Conditioning Specialist Inc.)	Discussed upcoming AC project at shopping mall

Hawaii Energy Conservation and Efficiency Program

Monthly Performance Report – June 2010 (06/01/10 – 06/30/10)



Government Highlights

The following activities with the Government took place this month.

Agency	Subject	Date
Committee for City & County of Honolulu Sustainability Task Force	Participation	6/8
PUC Energy Efficiency Portfolio Standards (EEPS) Docket	Participation and planning	6/24

Education and Training Highlights

The following education and training activities took place this month.

Event	Attendees	Subject	Count	Date
Hawaii Clean Energy Day II	General Public	Energy efficiency, living green	100	6/4
Hawaii Medical Service Association (HMSA) Building Lunch & Learn Session	HMSA employees and building tenants	Hawaii Energy programs and energy efficient practices	20	6/15
Hawaii Youth Conservation Corps	Hawaii Youth Conservation Corps	Environmental Fair	150	6/18

Market Evaluation and Technology Development Highlights

Hawaii Energy Conservation and Efficiency Program

Monthly Performance Report – June 2010 (06/01/10 – 06/30/10)



The following actions were taken to obtain trade ally input on program market penetration and technology development this month.

Trade Allies	Subject	Action
Blue Planet	Blue Agents Orientation and Training	Participate in future Blue Planet training sessions and events - 6/3, 6/7, 6/16
University of Hawaii - UHERO/Energy Greenhouse Gas Solutions Project	Energy Trends	Future discussion and collaboration - 6/9
Cooper Lighting	Light Emitting Diode (LED) technical training	Training

Residential Low Income Development Highlights

The following activities were performed to develop residential low income participation:

- Compact Florescent Lamp (CFL) Distribution: Identified 114 low income housing locations. Distributed 94,080 CFL bulbs to Oahu, Big Island, Lanai and Maui on target. Coordinated CFL exchange efforts with Blue Planet for 36,600 CFL bulbs to other non-profit organizations and low incoming housing.
- Smart Strip SCG 3 and 2.0 Gallons Per Minute (GPM) Showerhead Distribution:

Agency	Smart Strips	Showerheads
Hawaii County Economic Opportunity (HCEO)	200 smart strips	400 showerheads
Honolulu Community Action Program (HCAP)	240 smart strips	260 showerheads
Blue Planet Foundation	300 smart strips	140 showerheads
Maui Economic Development :	250 smart strips	200 showerheads

Hawaii Energy Conservation and Efficiency Program

Monthly Budget Status – June 2010 (06/01/10 – 06/30/10)



PY09 Budget Status					
	June Allocations	Allocations to Date	PY09 Budget R4 Authorization3	% Spent	
Residential Programs					
Residential Non-Incentive					
1 Residential Program Ops and Management					
REWH	\$ 147,518.56	\$ 1,206,873.98	\$ 1,207,347.00	100%	
RNC	\$ 7,347.59	\$ 82,305.94	\$ 84,912.00	97%	
ESH	\$ 137,234.02	\$ 746,065.42	\$ 889,125.00	84%	
RLI	\$ 10,149.59	\$ 31,795.90	\$ 33,344.00	95%	
Total Residential Programs	\$ 302,249.76	\$ 2,067,041.24	\$ 2,214,728.00	93%	
Education & Training (E&T)	\$ 3,708.26	\$ 38,813.25	\$ 63,450.00	61%	
Market Evaluation	\$ -	\$ -	\$ -		
Advertising/Marketing	\$ 38,569.05	\$ 176,590.45	\$ 341,729.00	52%	
Total Residential Non-Incentive	\$ 344,527.07	\$ 2,282,444.94	\$ 2,619,907.00	87%	
2 Less Performance Incentives (for Pool)	\$ (30,542.92)	\$ (358,246.06)	\$ (350,000.00)	102%	
Subtotal Residential Non-Incentive Less P I	\$ 313,984.15	\$ 1,924,198.88	\$ 2,269,907.00	85%	
Residential Incentives					
REWH	\$ 154,195.00	\$ 3,013,645.00	\$ 3,093,610.00	97%	
RNC	\$ 14,900.00	\$ 959,330.00	\$ 1,001,080.00	96%	
ESH	\$ 715,111.55	\$ 2,666,060.55	\$ 3,228,943.00	83%	
RLI	\$ 96,360.97	\$ 119,274.81	\$ 237,775.00	50%	
Total Residential Incentives	\$ 980,567.52	\$ 6,758,310.36	\$ 7,561,408.00	89%	
Performance Pool Award	\$ -	\$ -	\$ 350,000.00	0%	
Total Residential Programs	\$ 1,294,551.67	\$ 8,682,509.24	\$ 10,181,315.00	85%	
Business (C&I) Programs					
Business Non-Incentive					
1 Business Programs Ops and Management					
CIEE	\$ 22,270.36	\$ 424,794.60	\$ 547,784.00	78%	
CINC	\$ 21,231.09	\$ 336,882.26	\$ 484,372.00	70%	
CICR	\$ 41,486.28	\$ 437,112.40	\$ 662,646.00	66%	
PV	\$ 366.49	\$ 14,386.12	\$ 36,183.00	40%	
Subtotal Business Programs	\$ 85,354.22	\$ 1,213,175.38	\$ 1,730,985.00	70%	
Less Contractor Contribution	\$ -	\$ (50,000.00)	\$ (50,000.00)	100%	
Total Business Programs	\$ 85,354.22	\$ 1,163,175.38	\$ 1,680,985.00	69%	
Education & Training (E&T)	\$ 6,536.26	\$ 56,563.94	\$ 77,550.00	73%	
Market Evaluation	\$ 2,931.94	\$ 53,141.35	\$ 64,625.00	82%	
Advertising/Marketing	\$ 46,469.90	\$ 206,916.34	\$ 417,669.00	50%	
Total Business Non-Incentive	\$ 141,292.32	\$ 1,479,797.01	\$ 2,240,829.00	66%	
2 Less Performance Incentive Fee (for Pool)	\$ (30,542.92)	\$ (358,246.05)	\$ (350,000.00)	102%	
Subtotal Business Non-Incentive Less P I	\$ 110,749.40	\$ 1,121,550.96	\$ 1,890,829.00	59%	
Business Incentives					
CIEE	\$ 322,325.00	\$ 2,210,324.00	\$ 1,888,589.00	117%	
CINC	\$ 511,235.00	\$ 2,640,893.00	\$ 2,191,803.00	120%	
CICR	\$ 137,177.10	\$ 235,665.10	\$ 157,806.00	149%	
4 PV	\$ -	\$ -	\$ -		
4 New	\$ -	\$ 5,235.00	\$ 1,082,117.00	0%	
Total Business Incentives	\$ 970,737.10	\$ 5,092,117.10	\$ 5,320,315.00	96%	
Performance Pool Award	\$ -	\$ -	\$ 350,000.00	0%	
Total Business Programs	\$ 1,081,486.50	\$ 6,213,668.06	\$ 7,561,144.00	82%	
Ramp Up Program Costs	\$ -	\$ 486,054.08	\$ 486,055.00	100%	
Less Contractor Contribution From Residential Ramp Up	\$ -	\$ (50,000.00)	\$ (50,000.00)	100%	
Total Ramp Up	\$ -	\$ 436,054.08	\$ 436,055.00	100%	
Total Services and Initiatives	\$ 2,376,038.17	\$ 15,332,231.38	\$ 18,178,514.00	84%	
Supporting Services					
GA	\$ 195,267.52	\$ 1,091,105.08	\$ 1,221,451.00	89%	
IT	\$ 28,073.29	\$ 261,383.94	\$ 274,372.00	95%	
Ramp Up GA	\$ -	\$ 165,937.53	\$ 165,938.00	100%	
Ramp Up IT	\$ -	\$ 126,058.84	\$ 126,059.00	100%	
Less Contractor Contribution	\$ -	\$ (100,000.00)	\$ (100,000.00)	100%	
Total Supporting Services	\$ 223,340.81	\$ 1,544,485.39	\$ 1,687,820.00	92%	
Sub-Total Estimated Contractor Costs	\$ 2,599,378.98	\$ 16,876,716.77	\$ 19,866,334.00	85%	
Performance Awards in Excess of Target Levels	\$ -	\$ -	\$ 133,000.00		
Total Estimated Contractor Costs, including Performance Awards in Excess of Target Levels			\$ 19,999,333.00		
Total Non-Incentive ABOVE	\$ 648,074.36	\$ 4,010,221.17	\$ 6,284,611.00	64%	
Total Incentive ABOVE	\$ 1,951,304.62	\$ 9,259,174.21	\$ 12,881,723.00	72%	
Total Non-Incentive BILLED	\$ 648,074.36	\$ 3,957,709.88	\$ 6,284,611.00	63%	
Total Incentive BILLED	\$ 1,951,304.62	\$ 9,211,670.63	\$ 12,881,723.00	72%	
Total BILLED	\$ 2,599,378.98	\$ 13,169,380.51	\$ 19,166,334.00	69%	

- 1 Program Ops and Management includes Program Management, Program Operations, Call Center, and Data Tracking; Program Management will consume approximately 30%.
- 2 The new R.W. Beck Invoice deducts the performance pool contributions prior to tax, therefore this summary now adds 4.712% to the deductions to simulate that tax is added to each line item as necessary for this summary. After 6 months (until the end of the program year), \$16,397.76 will be allocated to various line items as this tax. This tax is not required at time of invoice due to the deduction in total invoice value and causes increased "% spent" by individual line items. The total of this summary reflects the actual "% spent" for the overall
- 3 Includes Budget R4.
- 4 \$5,235 in New incentives was mistakenly added to PV incentives in April 2010, it is corrected in the cumulative column this month.

Attachment D

**Contractor Budget
(Attachment F from Contract)**

Attachment F
Contractor Budget
For the Period beginning March 3, 2009 through June 30, 2011

	3/3/09 to 6/30/10	7/1/10 to 6/30/11	Total
<u>Services and Initiatives</u>			
Residential Program			
Program Management	804,482	695,254	1,499,736
Program Operations	898,875	635,969	1,534,844
Education & Training	63,450	67,837	131,287
Advertising	211,500	211,990	423,490
Evaluation	52,875	101,755	154,630
Call Center	21,150	12,719	33,869
Data Tracking	31,725	25,439	57,164
Customer Energy Efficiency Incentives	5,796,775	6,186,320	11,983,095
Total Residential Programs	7,880,832	7,937,283	15,818,115
C&I Programs			
Program Management	983,255	849,753	1,833,008
Program Operations	1,098,625	777,296	1,875,921
Education & Training	77,550	82,911	160,461
Advertising	258,500	259,098	517,598
Evaluation	64,625	124,367	188,992
Call Center	25,850	15,546	41,396
Data Tracking	38,775	31,092	69,867
Customer Energy Efficiency Incentives	7,084,948	7,561,060	14,646,008
Total Commercial & Industrial Programs	9,632,128	9,701,123	19,333,251
Ramp-Up Program costs	321,000	-	321,000
Total Services and Initiatives	17,833,960	17,638,406	35,472,366
<u>Supporting Services</u>			
General Administration	1,245,222	1,131,088	2,376,310
Information Technology	85,350	74,038	159,388
Ramp-Up Costs - General Administration	493,554	-	493,554
Ramp-Up Costs - Information Technology	118,850	-	118,850
Less: Contractor Contribution	(200,000)	-	(200,000)
Total Supporting Services	1,742,976	1,205,126	2,948,102
Sub-Total Estimated Contractor Costs	19,576,936	18,843,532	38,420,468
Performance Awards in Excess of Target Levels	133,000	133,000	266,000
Total Estimated Contractor Costs, including Performance Awards in Excess of Target Level	19,709,936	18,976,532	38,686,468

Note 1: Includes energy efficiency incentives of \$12,881,723 and \$13,747,380 for Program Years 2009 and 2010 respectively

Attachment E

Performance Incentive Mechanism (Attachment C from Contract)

ATTACHMENT C PERFORMANCE INCENTIVE MECHANISM

I. Overview

The *Contractor* and the *Commission* agree that a portion of payments to the *Contractor* shall be based on the *Contractor's* performance in achieving the *Commission's* objectives and successfully delivering the strategies and initiatives described in the *Scope of Work*. The performance incentive mechanism is designed to reward superior performance by the *Contractor* in the overall administration and delivery of energy efficiency services which achieve specific resource acquisition outcomes and market transformation goals.

For the period July 1, 2009 through June 30, 2010 (Program Year 2009) and July 1, 2010 through June 30, 2011 (Program Year 2010), a proportional holdback of direct billings (exclusive of incentives or payments made directly to participants, customers, and allies) will be set aside to fund the performance payment. This performance payment pool (Performance Pool) shall be in the amount of \$700,000 for each year. For each Program Year, the *Contractor* can earn up to \$700,000 in Performance Awards for meeting the *Target Level* for program Performance Indicators that are defined in this Attachment.

If the *Contractor* does not meet the Minimum Performance Level, no Performance Award shall be paid for that Performance Indicator. Tables C-2 through C-4 lists the Minimum Performance Level and the award amount allocated to that level. The Minimum Performance for the Market Transformation and Island Equity Performance Indicators is at the *Target Level*. The total performance payment for meeting the Minimum Performance Level in each category is \$567,000 for each Program Year.

For the same period, the *Contractor* can earn additional Performance Awards if the *Contractor* exceeds the *Target Level* for performance indicators as identified in Tables C-2 through C-4. The *Maximum Performance Award* that the *Contractor* can earn in Program Year 2009 or Program Year 2010 is capped at \$833,000 for each Program Year. The Market Transformation and Island Equity Performance indicators do not allow additional awards for exceeding the *Target Level*.

Performance Awards for the Energy, Peak Demand and Total Resource Benefits are calculated on a sliding scale based on *Contractor's* yearly achievements. For achievements falling between the *Minimum* and *Maximum Performance Level* the performance award shall be calculated as the sum of the *Minimum Performance Level* award plus the product of the Performance Indicator times the Performance Incentive Rate as specified in Tables C-2 through C-4. The Performance Indicators for Market Transformation goals do not provide for scaling.

Each performance award is a stand-alone payment and can be awarded regardless of achievements in other Performance Indicators.

The schedule and processes for documenting and verifying achievement of performance indicators is outlined in Section III of this Attachment. The *Contractor* shall submit claims

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Attachment C_Performance Incentive Mechanism.2009-03-03.doc

for Performance Awards. The *Commission* and/or the *Contract Manager* will verify the *Contractor's* claims. The *Contract Manager* will make recommendations regarding all Performance Awards to the *Commission*.

Payment of any earned Performance Awards for Program Year 2009 and Program Year 2010 shall be made upon completion and approval of the Annual Report.

The performance award mechanism is subject to meeting *Commission* goals in four major areas: Resource Acquisition (Energy and Demand), Cost Effectiveness (Total Resource Benefits), Market Transformation, and Broad Participation (Island Equity), which are incorporated in Tables C-1 through C-4. The final amount of Performance Awards granted to *Contractor* will be subject to achievement of these minimum performance requirements and will be adjusted in accordance with Section C-III should the *Contractor* fail to meet any of the minimum performance requirements.

II. Description of Performance Indicators

The *Contractor* is eligible to earn an incentive for superior performance in certain specified areas. This section provides a more detailed description of Individual Performance Indicators, their weights as a percentage of the total Performance Award at the *Target Level*, their Minimum and Maximum Performance Levels, and the scaling between the two. The total *Performance Pool* is the same for Program Years 2009 and 2010; however, the Performance Indicators and awards for each year are unique. The Performance Indicators as described in Table C-1 below and in subsequent tables are:

Table C-1: Performance Indicators and Relative Awards

Table Number	Performance Indicator	% of 2009 Performance Pool	% of 2010 Performance Pool
C-1	Residential and Business Energy (kwh)	40%	40%
C-2	Peak Demand (kW)	15%	10%
C-3	Total Resource Benefits (\$)	30%	30%
C-4,C-5	Market Transformation (PY 2009/10)	10%	10%
C-6	Broad Participation (Equity across each island)	5%	10%

The goals, threshold and scaling for each Performance Indicator are summarized in Tables C-2 through C-4.

A. Cumulative Annual Electric Energy Savings

1. Weighting

The overall weight for this performance indicator in the Residential and Business sectors is **40%** of the *Contractor's* total Performance Award at the *Target Level* ($\$700,000 * 0.40 = \$280,000$) in Program Year 2009 and in Program Year 2010.

2. Target Level

For the 2009 Program Year, the *Target Level* for this indicator (also known as the Electric Energy Savings Target) is **68,722 MWh for the Residential Sector** and **57,301 MWh for the Business Sector**.

For Program Year 2010, the *Target Level* for this indicator (also known as the Electric Energy Savings Target) is **71,245 MWh for the Residential Sector** and **61,370 MWh for the Business Sector**.

The Electric Energy Savings Target measures the sum of annualized first-year savings (at generation and net of free riders) achieved by implementation of all *Program* strategies and initiatives, during each *Program Year*.

3. Scaling from Minimum to Maximum Performance

The *Contractor* shall be eligible to receive a Performance Award for this indicator only if the *Commission* determines that the *Contractor* successfully achieves and documents Electric Energy Savings above the Minimum Performance level.

If the *Contractor* achieves the Minimum Performance level in either the Residential or Business Sector, it can earn **\$105,000** in Program Year 2009 and the same incentive in Program Year 2010. If the *Contractor* exceeds the Minimum Performance Level, the Performance Award Amount shall be scaled between the Minimum Performance and Maximum Performance level of the actual Electric Energy Savings as detailed in Table C-2.

4. Performance Award Cap at Maximum Performance level

The Total Electric Energy Savings Performance Award is capped at **\$175,000** for each of the Residential and Business Sectors in both Program Year 2009 and Program Year 2010. The maximum combined performance award for Annual Electric Energy Savings in either Program Year is **\$350,000**.

5. Performance Award Calculation

The *Contractor's* Performance Award shall be the sum of:

- **\$0** if verified cumulative annual Electric Energy Savings are less than Minimum Performance levels listed in Table C-2.
- **\$105,000** for achieving the Minimum Performance Level plus **\$2.04** per MWh for verified cumulative annual Electric Energy Savings between **51,542 MWh** and **68,722 MWh** and **\$5.09** per MWh for verified savings between **68,723 MWh** and **75,594 MWh** in the Residential Sector in Program Year 2009.
- **\$105,000** for achieving the Minimum Performance Level plus **\$1.97** per MWh for verified cumulative annual Electric Energy Savings between **53,434 MWh** and **71,245 MWh** and **\$4.91** per MWh for verified savings between **71,246 MWh** and **78,370 MWh** in the Residential Sector in Program Year 2010.

- **\$105,000** for achieving the Minimum Performance Level plus **\$2.44** per MWh for verified cumulative annual Electric Energy Savings between **42,976 MWh** and **57,301 MWh** and **\$6.11** per MWh for verified savings between **57,302 MWh** and **63,031 MWh** in the Business Sector in Program Year 2009.
- **\$105,000** for achieving the Minimum Performance Level plus **\$2.28** per MWh for verified cumulative annual Electric Energy Savings between **46,028 MWh** and **61,370 MWh** and **\$5.70** per MWh for verified savings between **61,371 MWh** and **67,507 MWh** in the Business Sector in Program Year 2010.

Table C-2: Annual Electric Energy Savings Performance Award Schedule

	Energy	Award	Rate
Res PY 2009	MWh	Amount	\$/MWh
Target	68,722	\$140,000	
Minimum Performance	51,542	\$105,000	\$ 2.04
Maximum Performance	75,594	\$175,000	\$ 5.09
Res PY 2010			
Target	71,245	\$140,000	
Minimum Performance	53,434	\$105,000	\$ 1.97
Maximum Performance	78,370	\$175,000	\$ 4.91
Bus PY 2009			
Target	57,301	\$140,000	
Minimum Performance	42,976	\$105,000	\$ 2.44
Maximum Performance	63,031	\$175,000	\$ 6.11
Bus PY 2010			
Target	61,370	\$140,000	
Minimum Performance	46,028	\$105,000	\$ 2.28
Maximum Performance	67,507	\$175,000	\$ 5.70

B. Total Resource Benefits

This Performance Indicator is designed to encourage the *Contractor* to maximize energy-related and other resource benefits by implementing energy-efficiency measures and projects that provide persistent energy and demand savings.

1. Weighting

The overall weight for this performance indicator is **30%** of the *Contractor's* total Performance Award at the *Target Level* ($\$700,000 \times 0.30 = \$210,000$) in Program Year 2009 and in Program Year 2010.

2. 100% Target Level

The Total Resource Benefits ("TRB") Target Level shall be determined by the *Contractor* and approved by *Contract Manager* and the *Commission* before the beginning of each Program Year as part of the Annual Plan.

The TRB Performance Indicator includes cumulative savings over each Program Year as achieved by implementation of all *Program* services and initiatives. The TRB for any given service is defined as the present value of lifetime net resource savings in electricity, and demand that are valued at current projections of avoided resource costs.¹ Avoided costs do not include environmental or any other externalities (e.g., indirect economic benefits).

3. Scaling from Minimum to Maximum Performance

The *Contractor* shall be eligible to receive a Performance Award for this indicator only if the *Commission* determines that the *Contractor* successfully achieves and documents TRB above the Minimum Performance level.

If the *Contractor* achieves the Minimum Performance level, it can earn \$175,000 in Program Year 2009 and the same incentive in Program Year 2010. If the *Contractor* exceeds the Minimum Performance Level, the Performance Award Amount shall be scaled linearly between the Minimum Performance and Maximum Performance level of the actual Total Resource Benefits as detailed in Table C-3.

4. Performance Award Cap at Maximum Performance level

The TRB Performance Award is capped at \$245,000 for each Program Year.

5. Performance Award Calculation

The *Contractor's* Performance Award shall be:

- \$0 if verified cumulative annual Total Resource Benefits are less than Minimum Performance levels listed in Table C-3.
- \$175,000 for achieving the Minimum Performance Level plus \$1,750 per each one percentage point of verified TRB between 80% and 120% of the Target in Program Year 2009 and 2010.

Table C-3: Total Resource Benefit Award Schedule

	TRB	Award	Rate/%
		Amount	
Target	100%	\$ 210,000	\$ 1,750
Minimum Performance	80%	\$ 175,000	
Maximum Performance	120%	\$ 245,000	

C. Summer Peak Demand Savings

This Performance Indicator is designed to encourage the *Contractor* to achieve superior levels of peak summer demand savings in addition to annual energy savings and total

¹ TRB does not include measure costs, or any other costs or benefits to customers (e.g., productivity increases, changes in Operation & Maintenance costs).

resource benefits. Target goals for this Performance Indicator includes combined savings from both Residential and Business Sectors.

1. Weighting

The overall weight for this performance indicator is **15%** of the *Contractor's* total Performance Award at the *Target Level* ($\$700,000 * 0.15 = \$105,000$) for Program Year 2009 and **10%** of the *Contractor's* total Performance Award at the *Target Level* ($\$700,000 * 0.05 = \$70,000$) for Program Year 2010.

2. Target Level

For Program Year 2009, the combined *Target Level* for this indicator (also known as the Summer Peak Demand Savings Target) is **20,098 kW**. For Program Year 2010, the combined *Target Level* for this indicator is **23,126 kW**. The Summer Peak Demand Savings Target measures the cumulative annual summer peak demand savings achieved by implementation of all *Contractor* services and initiatives.

Summer Peak Demand is defined as the sum across all measures of the energy savings occurring weekdays between the hours of 5pm and 9pm during the months of August through November divided by the number of hours in that period. Peak is based on units installed in each year, regardless of the actual date of installation.

3. Scaling from Minimum to Maximum Performance

The *Contractor* shall be eligible to receive a Performance Award for this indicator only if the *Commission* determines that the *Contractor* successfully achieves and documents Summer Peak Demand Savings above the Minimum Performance Level.

If the *Contractor* achieves the Minimum Performance level, it can earn **\$105,000** in Program Year 2009 and **\$77,000** in Program Year 2010. If the *Contractor* exceeds the Minimum Performance Level, the Performance Award Amount shall be scaled between the Minimum Performance and Maximum Performance level of the actual Electric Energy Savings as detailed in Table C-4.

4. Performance Award Cap at Maximum Performance level

The Summer Peak Demand Savings Performance Award is capped at **\$133,000** for Program Year 2009 and **\$98,000** Program Year 2010.

5. Performance Award Calculation

The *Contractor's* Performance Award shall be:

- **\$0** if verified Summer Peak Demand Savings are less than Minimum Performance levels listed in Table C-4.
- **\$77,000** for achieving Summer Peak Demand Savings of **15,073 kW** plus **\$5.57** per kW for verified cumulative annual Summer Peak Demand Savings between **15,074 kW** and **20,097 kW** and **\$13.93** per kW for verified annual Summer Peak Demand Savings between **20,098 kW** and **22,107 kW** in Program Year 2009.

- **\$42,000** for achieving Summer Peak Demand Savings of 17,345 kW plus **\$4.84** per kW for verified cumulative annual Summer Peak Demand Savings between 17,345 kW and 23,126 kW and **\$12.11** per kW for verified annual Summer Peak Demand Savings between 23,127 kW and 25,439 kW in Program Year 2010.

Table C-4: Peak Demand Performance Award Schedule

Combined Peak Demand Performance Goals			
	kW	Award	Rate
PY 2009 Target		Amount	\$/kW
Target	20,097	\$105,000	
Minimum Performance	15,073	\$ 77,000	\$ 5.57
Maximum Performance	22,107	\$133,000	\$ 13.93
PY 2010 Target			
Target	23,126	\$ 70,000	
Minimum Performance	17,345	\$ 42,000	\$ 4.84
Maximum Performance	25,439	\$ 98,000	\$ 12.11

D. Market Transformation

Market Transformation goals vary by Program Year and are designed to encourage lasting change with regard to how energy is used in State businesses and homes. For the 2009 Program Year, Market Transformation goals include the introduction of new and emerging technologies and the development of a trade ally network of contractors and service providers. For the 2010 Program Year, Market Transformation goals support the installation of maximum efficiency demonstration projects at State buildings, the launch of a Retro-commissioning (RCx) Program and development of partnerships with non-profits and community organizations that can carry efficiency goals into the community.

The Market Transformation Performance Awards are fixed at the Target Level. No incentives shall be paid in the event that the Target Level is not met and no additional incentive shall be paid for exceeding the Target Level.

1. Weighting

The overall weight for this Performance Indicator is **10%** of the *Contractor's* total Performance Award at the *Target Level* ($\$700,000 * 0.10 = \$70,000$) in each Program Year.

2. Target Level

To reach the *Target Level* for this indicator in Program Year 2009, the *Contractor* must achieve the following:

- **Emerging Technologies:** *Contractor* must initiate and complete installation of twenty (20) or more projects that incorporate a unique emerging technology application. A list of approved emerging technologies can be found in Section III.B.2. New technologies can be added to the list by mutual agreement of both the *Contractor* and the *Commission*.

- **Ally Referrals:** Contractor shall develop a list of trained trade allies that can assist with the development of program applications. A minimum of forty (40) Program application forms referred by trade allies from this list must be submitted.

To reach the *Target Level* for this indicator in Program Year 2010, the Contractor must achieve the following:

- **State Buildings Demonstration Projects:** Contractor must complete comprehensive retrofits at ten (10) State owned demonstration buildings.
- **Launch RCx Program:** Contractor must design and launch a commercial RCx program by January 1, 2011.
- **Community Partnership:** Contractor must establish and sign four (4) or more Community Partnership agreements.

1. Performance Award Calculation

The Contractor's Performance Award shall be the sum of:

- **\$0** if fewer than twenty (20) Emerging Technology Projects are completed in Program Year 2009.
- **\$0** if fewer than forty (40) completed Program Applications are received from trained Program Allies in Program Year 2009.
- **\$0** if the RCx Program kickoff is not completed by January 1, 2011.
- **\$0** if fewer than ten (10) State Building retrofits are completed in Program Year 2010.
- **\$0** if fewer than four (4) Community Partnerships agreements are signed in Program Year 2010.
- **\$35,000** for completing installation of twenty (20) or more Emerging Technology projects in Program Year 2009.
- **\$35,000** for submittal of forty (40) or more completed Program Applications from trained Program Allies in Program Year 2009.
- **\$35,000** for completing ten (10) or more State Building Retrofits in Program Year 2010.
- **\$17,500** for completing the RCx Program design and kickoff on or before January 1, 2011.
- **\$17,500** for completing four (4) or more Community Partnership agreements in Program Year 2010.

B. Island Equity:

This indicator is designed to ensure program benefits accrue to each Island commensurate with contributions from each Island to the PBF fund.

The Island Equity Performance Incentives are fixed at the 100% level. No incentives shall be paid in the event that the Target Level is not met and no additional incentive shall be paid for exceeding the Target Level.

1. Weighting

The overall weight for this performance indicator is 5% of the *Contractor's* total Performance Award at the *Target Level* ($\$700,000 * 0.05 = \$35,000$) in Program Year 2009 and 10% of the *Contractor's* total Performance Award at the *Target Level* ($\$700,000 * 0.10 = \$70,000$) in Program Year 2010.

2. Target Level

The *Contractor's* Island Equity Target for this performance indicator is to keep Customer Incentives within 20% of each Islands relative PBF contribution (as defined in Section III.G below) in Program Year 2009 and to deliver Energy Savings within 20% of each Islands relative PBF contribution (as defined in Section III.G below) in Program Year 2010.

3. Performance Incentive Calculation

The *Contractor's* Performance Award shall be:

- \$0 if the *Contractor* does not keep Customer Incentives within a minimum of 20% of the PBF contribution ratio of all Islands in Program Year 2009.
- \$0 if the *Contractor* does not achieve delivery of Energy Savings within a minimum of 20% of the PBF contribution ratio of all Islands in Program Year 2010.
- \$35,000 if the *Contractor* keeps Customer Incentives within 20% of relative PBF contribution ratio for all Islands in Program Year 2009.
- \$70,000 if the *Contractor* achieves Energy Savings within 20% of relative PBF contribution ratio for all Islands in Program Year 2010.

III. Documentation and Verification

A. Cumulative Annual Electric Energy Savings, Total Resource Benefits, Summer Peak Demand Savings

In order to establish and validate achievements for the Performance Awards for these three indicators, the *Contractor* and the *Commission* agree to the following documentation and verification process.

1. Verification Process

By October 1 following each Program Year, the *Contractor* will submit a report to the *Commission*, *Contract Manager* and the *Program Evaluator* that establishes its claim for Annual Electric Energy Savings by Sector, and Total Resource Benefits by Sector and Summer Peak Demand Savings for the previous Program Year.

The *Contract Manager* and the *Program Evaluator* will review the *Contractor's* report and, at their own discretion, review the *Contractor's* project files in order to assess savings estimates for custom measures, comprehensive projects, or key input assumptions. The *Contract Manager* and the *Program Evaluator* will then meet with the *Contractor* in an attempt to resolve any differences on claimed savings.

By December 1 following each Program Year, the *Program Evaluator* will provide a technical report or memorandum to the *Contract Manager* with its recommendation on Annual Electric Energy Savings, Total Resource Benefits, and Summer Peak Demand Savings for each Program Year. Following receipt of this report, the *Contract Manager* will provide a recommendation to the *Commission* regarding Annual Electric Energy Savings, Total Resource Benefits, and Summer Peak Demand Savings for the associated Program Year.

Following receipt of the *Program Evaluators* report for each Program Year, the *Contract Manager* will also provide a recommendation to the *Commission* on the appropriate Performance Award for each category. Each year the *Commission* will make a final determination regarding Annual Electric Energy Savings, Total Resource Benefits, and Summer Peak Demand Savings from the previous year. By January 1 following each Program Year, the *Commission* will make a final determination regarding cumulative Annual Electric Energy Savings by sector, Total Resource Benefits, and Summer Peak Demand Savings by Sector and the appropriate Performance Award for each category.

2. Establishment and Documentation of Savings Estimates

The *Contractor* shall work with the *Contract Manager* and the *Program Evaluator* to establish and maintain reasonable savings estimates for prescriptive energy efficiency measures offered. The *Contractor* shall maintain its documentation of all prescriptive measure savings assumptions in the *Technical Reference Manual (TRM)*. For custom measures or projects, where prescriptive measure savings assumptions have not been established or do not apply, the *Contractor* shall maintain in its files documentation of all assumptions and calculations used to establish its claim for Electric Energy Savings, Total Resource Benefits, and Summer Peak Demand Savings. All information on savings assumptions and calculations used shall be available for review by the *Program Evaluator* and *Contract Manager*.

Net-to-Gross assumptions and values used to calculate Electric Energy Savings, Total Resource Benefits, and Summer Peak Demand Savings shall be documented in the *TRM* before the start of each Program Year. These same net-to-gross values and assumptions shall be used for the calculation of year-end performance awards.

3. Updating of Estimates

As part of its ongoing management and planning, the *Contractor* shall review and update, as appropriate, its estimates of Electric Energy Savings, Total Resource Benefits, and Summer Peak Demand Savings for measures, technologies and projects in order to reflect information obtained from measurement and evaluation studies, experiences gained from implementation of energy efficiency services and initiatives, and changes in building and appliance standards and codes. Revisions to these estimates shall be incorporated into the *TRM* at the start of each Program Year. The *Contractor* shall use these revised estimates of Annual Electric Energy Savings, Total Resource Benefits, and Summer Peak Demand Savings on a prospective basis for measures installed in reporting claims of Annual Electric Energy Savings, Total Resource Benefits, and Summer Peak Demand Savings for the remainder of the Program Year.

B. Emerging Technologies Market Transformation

In order to establish and validate achievements for the Performance Awards for this indicator, the *Contractor* and the *Commission* agree to the following documentation and verification process.

1. Verification Process

Emerging Technologies Market Transformation performance indicators shall be tracked and reported in the Annual Report. To meet the targeted performance goal of twenty (20) projects in this category, at least four (4) unique Emerging Technologies must be utilized. Each emerging technologies project size shall provide a minimum annual gross energy savings of 25,000 kWh. Review and final determination of Performance Awards shall be based on the process parallel to the one described above in Section III.A.1.

2. Establishment and Documentation of Savings Estimates

Contractor shall track and report Emerging Technologies that are installed as a result of customer participation in the *Program*. Emerging Technologies are defined as energy saving measures that are new or not yet commercialized. Additions or deletions to the following list of Emerging Technologies can be made only upon mutual agreement of both the *Contractor* and the *Commission*.

Approved Emerging Technologies:

- a. Fresh water pumping,
- b. Wastewater processing,
- c. Data Centers – airflow optimization,
- d. Data Centers – server virtualization and related technologies,
- e. Parking Garages – perimeter dimming,
- f. Parking Garages - ventilation control,
- g. Non residential demand control ventilation (CO2 sensors in return airstream),
- h. LED refrigeration case lighting,
- i. LED interior lights
- j. LED traffic lights,
- 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 (<0.5w/sf)
- p. Bi-level stairwell and parking garage lighting

C. Ally Referrals

In order to establish and validate achievements for the Performance Awards for this indicator, the *Contractor* and the *Commission* agree to the following documentation and verification process.

1. Verification Process

Ally Referral performance indicators shall be tracked and reported in the Annual Report. Review and final determination of Performance Awards shall be based on the process parallel to the one described above in Section III.A.1.

2. Establishment and Documentation of Savings Estimates

Contractor shall document the date and attendance of Ally trainings in order to make any claims for this Performance Indicator. Each Ally training shall cover standards for equipment installation and program procedures for commercial or industrial *Program* incentive programs. Applications that are referred by a trained Ally count towards this Performance Indicator only if the contractor has attended and completed an Ally training previous to the application submittal date.

D. State Buildings

In order to establish and validate achievements for the Performance Awards for this indicator, the *Contractor* and the *Commission* agree to the following documentation and verification process.

1. Verification Process

State Building performance indicators shall be tracked and reported in the Annual Report. Review and final determination of Performance Awards shall be based on the process parallel to the one described above in Section III.A.1.

2. Establishment and Documentation of Savings Estimates

This Performance Indicator is intended to help facilitate retrofit of buildings owned or occupied by the State of Hawaii or local government buildings to maximum levels of efficiency. Eligible buildings shall contain a minimum of 10,000 square feet of conditioned space. To promulgate savings and techniques from these projects they may act as case studies or be used as promotional examples. In order for a facility retrofit to qualify towards this Performance Indicator, total project savings shall be greater than 10% of yearly electric consumption or greater than 100,000 gross kWh/year. In the event that constraints imposed by the State impede the completion of *Program* sponsored energy efficiency projects, privately owned buildings by be substituted with the approval of *Contract Manager*.

E. RCx Program Launch

In order to establish and validate achievements for the Performance Awards for this indicator, the *Contractor* and the *Commission* agree to the following documentation and verification process.

1. Verification Process

This Performance Indicator is based on the design and kickoff of a Retro-Commissioning Program for commercial buildings. The target goal for this Performance Indicator is to have all program collateral produced and available for potential participants, all program application materials available and program procedures and incentives finalized and approved by the *Contract Manager*. Upon completion of these tasks, the *Contractor* shall submit written documentation of completion to the *Contract Manager* for approval. The *Contract Manager* shall approve the request or document lack of compliance within 2 weeks of submittal.

F. Community Partnership

In order to establish and validate achievements for the Performance Awards for this indicator, the *Contractor* and the *Commission* agree to the following documentation and verification process.

1. Verification Process

Community Partnership performance indicators shall be tracked and reported in the Annual Report. Review and final determination of Performance Awards shall be based on the process as described above in Section III.A.1.

2. Establishment and Documentation of Savings Estimates

The goal of this Performance Indicator is to leverage community groups, agencies and associations to maximize savings from limited program budgets and to encourage lasting change with respect to energy efficiency. Relationships between contractor and community organizations shall be evidenced by a signed agreement upon which each party has obligations or commitments that result in measureable energy savings.

G. Island Equity

In order to establish and validate achievements for the Performance Awards for this indicator, the *Contractor* and the *Commission* agree to the following documentation and verification process.

1. Verification Process

Island Equity performance indicators shall be tracked and reported in the Annual Report. Review and final determination of Performance Awards shall be based on the process as described above in Section III.A.1.

2. Establishment and Documentation of Savings Estimates in Program Year 2009

Contractor shall offer *Program* services and incentives in a geographically equitable manner. To track this Performance Indicator, program Customer Incentives shall be reported by each HECO utility service area or Island. Customer Incentives include incentives or payments made directly to *Program* participants, customers, and allies.

The total Customer Incentive expenditures for each island shall be reported for each Program Year. To be eligible for a Performance Award in this category, contractor must establish that Customer Incentive expenditures or the *Program* energy savings are within 20% of yearly PBF contribution ratios for all participating islands. Table C-5 below demonstrates an example of this Performance Indicator.

3. **Establishment and Documentation of Savings Estimates in Program Year 2010**
Contractor shall offer *Program* services and incentives in a geographically equitable manner. To track this Performance Indicator, program savings shall be reported by each HECO utility service area or Island. The total energy savings for each island shall be reported for each Program Year. To be eligible for a Performance Award in this category, contractor must establish that energy savings are within 20% of yearly PBF contribution ratios for all participating islands. Table C-5 below illustrates an example of this calculation:

Table C-5: Island Equity Performance Calculation

Island	PBF Contribution (x1,000)	PBF %	Target MWh	Target (x1,000)
HECO	\$ 10,000	69%	79,167	\$ 8,611
HELCO	\$ 1,600	11%	12,667	\$ 1,378
MECO	\$ 2,800	19%	22,167	\$ 2,411
Total	\$ 14,400			
Total energy savings (MWh):				114,000
Customer Incentive Budget (x1,000):				\$12,400

In this example the total energy savings as reported and verified in the Annual Report is 114,000 MWh. The contribution to the PBF fund by Island is shown in the first two columns. To be eligible for either Performance Award, the *Program* energy savings or Customer Incentive expenditures must be within 20% of the Target amount shown for each Island.

Attachment F

PY2009 Annual Plan

Hawaii Energy Efficiency Program Annual Plan Program Year 2009



Submitted to:

Hawaii Public Utilities Commission

Submitted by:

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1.0 INTRODUCTION

The Hawai'i Public Utilities Commission (Commission or PUC) has selected SAIC as the Program Administrator for the full portfolio of energy efficiency programs under the Hawai'i Energy Efficiency Program (HEEP) that are currently operated by, and funded through, HECO's electric rates. These programs are a portion of the overall Hawai'i Clean Energy Initiative (HCEI) that is encouraging the adoption of efficiency and renewable energy resources throughout the State. Beginning July 1, 2009 SAIC will take over full administration of the existing portfolio of HEEP programs and will, during the first program year, introduce new programs and program elements to expand upon the State's past efficiency activities and to respond to the state's increasing need to reduce its reliance on fossil fuel generation and other HCEI and Commission-identified goals.

This first Annual Plan 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 we will set forth our overall strategies to increase program participation, maximize energy savings from projects, and encourage the development of energy efficiency and renewable solar energy markets. The major elements of our program execution to be addressed in this Plan are detailed below.

- **Successful transition** of existing HECO programs to SAIC. SAIC will work in concert with HECO to ensure that existing program participants are served in a timely fashion. A successful transition will minimize confusion in the marketplace.
- **Well-designed program offerings** that will supplement existing program components. SAIC will establish a strong technical advisory boards that include local stakeholders with a detailed and long-term understanding of State energy, economic, and regulatory issues. We will integrate input from local providers of services, including local subcontractors, to ensure that program offerings not only meet the State's needs, but integrate well with other services – including the incoming federal stimulus dollars.
- **Outreach and marketing strategies** that use local markets, associations and channel partners to maximize participation and develop programs that complement, not compete with, business activities in the energy arena.
- **Streamlined management and IT systems** that will allow SAIC to deliver program savings at a lower cost; thus maximizing the impact of all program dollars.

This Plan represents a roadmap of SAIC's anticipated activities during PY2009 and may change in response to economic conditions, market forces, and legislative or Commission requirements. In total, the HEEP portfolio will provide significant benefits to the State that may be augmented with additional investments made possible by federal stimulus dollars that will be available to a variety of sectors.

Exhibit 1-1, below, summarizes the benefits of our delivery of the HEEP portfolio of programs to the State. In addition to the benefits that the Commission anticipates by selecting SAIC as the Program Administrator, such as higher savings at a lower cost, our program provides added value through the benefits noted below.

Exhibit 1-1: Benefits to the State

Benefits	
Social	• Improved environment • More disposable income for low income and other residents • Building communities strength & cohesion – increased participation, self-reliance, and innovation
Environmental	• Less fossil emissions, better health • Protect land and natural resources • Less greenhouse gases emitted
Economic	• Increased local energy reliance, less price/supply risk • More consumer choice • Less power plant investment • Lower energy bills • More energy efficiency, renewable & other jobs • Higher productivity and GDP • Green and Eco-Tourism

The focus of our first-year is the successful transition of programs that will result in the benefits outlined above. Our program design plan overall will incorporate elements that will encourage the achievement of the State's policy goals, including: protecting the environment, contributing to climate solutions, generating renewable energy industries, and creating well-paying jobs.

As further demonstrated through this Plan, SAIC's program delivery will increase the overall program cost effectiveness through streamlining processes, maximizing IT integration, and redesigning quality assurance processes.

2.0 PORTFOLIO DESIGN APPROACH

As an island state, Hawai'i has a unique set of energy circumstances that present challenges and opportunities for optimizing the impact of energy efficiency programs. SAIC's portfolio design approach integrates proven program processes that we have successfully employed in other states with approaches to target issues specific to Hawai'i. For instance, the rapidly rising cost of its primary fuel and subsequent electricity cost fluctuation is one unique characteristic that needs consideration for successful program design. As demonstrated through this Plan, SAIC will provide early adoption of many new technologies and programs that recognize the urgency of controlling the rise in energy prices and the resulting environmental impacts from the use of electricity.

Our design approach also includes the flexibility to respond to both a strained economy and to the upcoming infusion of federal stimulus dollars to the State. With regards to the potential federal stimulus funds targeted for energy efficiency promotion we believe it is critical to coordinate efforts throughout the state to offer complimentary approaches. Without this

coordination with the HEEP program from potential other state, city and county agency energy efficiency programs the overall effectiveness for the state will be greatly reduced in part from a potentially high level of market confusion. SAIC's overall strategic approach to portfolio design will provide the structure to best optimize the needed shift in program evolution and capture the marketing opportunities and the leveraging of funds that will maximize the outcome of the investments of all residents of Hawai'i.

2.1 Energy Optimization Goals and Objectives

SAIC's overall strategy is to bring the proven program solutions that have worked in other states together with the innovative solutions that local market providers understand will work best in Hawai'i. Our strategy captures and combines the embedded knowledge of the local markets while infusing the program with creative, yet proven approaches that we have successfully implemented in other programs across the country. As a result, our Annual Plan includes aggressive goals for energy savings throughout the HECO service territory. Table 2-1 summarizes our energy savings goals for each sector for the first two program years.

**Table 2-1
Energy Savings Goals**

Net Savings Goal				
	PY 2009		PY 2010	
	kW	MWh	kW	MWh
Residential	n/a	68,722	n/a	71,245
Business	n/a	57,301	n/a	61,370
Total	20,097	126,023	23,126	132,615

We will be reaching these goals while using only 6% of the budget for administration of the programs. Implementing the programs will use 25% of the budget while 69% of the budget will be used to provide direct incentives to the customer to influence their decisions to buy more efficient products. The use of 69% of the budget for direct incentives is one of the highest levels in the country for these types of programs.

Overarching Objectives

All efficiency programs have the standard goal to reduce energy use and demand for electricity as cost-effectively as possible, although some programs place more importance on energy use reduction than demand reduction. The Commission's overall objectives are incorporated in SAIC's goals for the programs. We have exceeded similar goals with many other programs throughout the country. The overall objectives that the programs will serve are discussed below.

1) Maximize net benefits with cost-effective and comprehensive energy programs

SAIC is working in cooperation with the PUC's Contract Manager to develop a mutually agreed upon target for Total Resource Benefit (TRB) goals for the program. TRB is the estimated total net present value (PV) of the avoided cost for the utility from the reduced kW capacity and kWh energy from energy efficiency projects over the life of the projects. See Section 4.3 for details on the TRB calculations. Included with SAIC's goals are the cost-

effective delivery of energy savings as identified in Table 2-1. Table 2-2, below, provides the estimated Total Resource Benefit that we estimate that we will achieve during the first program year. These figures represent the present value of program benefits derived from avoided generation of electricity.

Table 2-2
Present Values of Total Resource Benefits

	PV Avoided Energy	PV Avoided Capacity	Total Resource Benefit
REWH	\$ 4,716,102	\$ 2,883,580	\$ 7,599,682
RNC	\$ 4,980,672	\$ 2,541,642	\$ 7,522,314
ESH	\$ 54,285,857	\$ 22,330,821	\$ 76,616,678
RLI	\$ 2,102,281	\$ 1,160,903	\$ 3,263,184
CIEE	\$ 13,918,180	\$ 7,976,760	\$ 21,894,940
CINC	\$ 25,393,291	\$ 15,269,310	\$ 40,662,601
CICR	\$ 25,500,592	\$ 12,751,813	\$ 38,252,404
New C&I	\$ 8,430,420	\$ 4,100,607	\$ 12,531,027
Total All Programs			\$ 208,342,831

Final adoption of a TRB goal will depend on a number of factors, including the accepted HECO values for avoided energy and capacity costs throughout the life of measures incentivized through the programs.

2) Work with all key markets to increase their energy efficiency activity

SAIC will employ an approach that requires the participation and feedback of the markets. This approach is the use of “channels” for market providers and “clusters” for end-users. Each channel (i.e., lighting) and cluster (i.e., office buildings) has its own unique market barriers and opportunities. As discussed in detail below, by using channel and cluster approaches, we optimally engage the key markets to provide multiple program benefits. These include:

- Continual feedback to provide better program offerings.
- Engaging the market providers and end-use cluster associations (i.e., BOMA) to communicate and market the program intent and offerings to the customers.
- Using the market providers and end-use cluster groups to support modification and design of new programs.
- Building a sense of ownership of the programs by market providers and cluster associations.

To quantify our market transformation activities, SAIC includes the following goals for Program Year 2009 as provided in our contract:

- 20 emerging technology projects completed
- 40 program applications received from Program Allies

These goals are chosen specifically to encourage market participation and to increase the adoption of non-standard efficiency upgrades throughout the State.

3) Capturing “lost opportunity” markets

Potential lost opportunities are particularly possible in an energy market place as dynamic as Hawai'i. Energy costs are rising quickly causing efficiency project economics to also change rapidly. It is important to track continually what types of measures and in which markets new incentives may be desirable. SAIC will work closely with the local markets to target projects in their early stages to maximize the potential for energy savings and to identify opportunities for new or innovative energy solutions.

4) Broad and fair distribution of program funds across customer classes and regions

The Commission requires that SAIC provide an equitable distribution of incentives and savings across the three participating utility service territories. Our design approach includes methods of reaching customers throughout the participating service territories as cost-effectively as possible. During PY 2009 we will deploy a combination of local hires and subcontract labor strategically across the islands to achieve this goal of island equity. To ensure all areas are receiving equitable funding, we will track the payments for incentives by utility. This practice will provide information to support changes to program strategies and program emphasis to correct any regional or demographic inequities.

The geographic distribution of program funds can be more straightforward and controllable; however, it is important for each sector and island to have a marketing strategy in place that best fits its needs. These tailored and targeted marketing strategies which fit with the cluster and channel approaches will help ensure that sufficient customer classes in a region will participate.

**Figure 2-1
HECO Companies and Distribution of Savings**

	MWh	Incentives	% of Total
HECO	97,472	\$ 9,000,898	69%
HELCO	15,932	\$ 1,471,243	11%
MECO	27,179	\$ 2,509,798	19%
Total	140,584	\$ 12,981,939	

As part of this overarching goal of broad and fair distribution of funds, SAIC is cognizant that we must ensure that the low-income and hard-to-reach customers will have access to program incentives. SAIC will include in its design several program features that target those sectors. Specific features are included within this Plan in Section 7.

5) Consumer Marketing, Public Information and Education

One of the largest potential energy efficiency and energy reduction opportunities is through behavioral changes. There is considerable wasted energy through behaviors such as leaving lights on when no one is in the room, using space heaters in offices to compensate for unbalanced air-conditioning systems, and using air-conditioning systems during unoccupied times. Some of this wasted energy can be corrected by using automatic controls such as an occupancy sensor. But the potentially most cost effective approach is to change actual consumer behavior around energy use. With Hawaii's unique energy

situation including the high use of oil to generate electricity and our isolated geography we feel that there is an opportunity to further inspire consumers on behavioral changes they can and should make to “be a part of the solution” for the islands. Our approach to nurture this inspiration is through targeted marketing, educational information, and piloting the use of technology that can give the consumer instant feedback on their use of energy. Once customers have this instant feedback on their energy use it opens up many opportunities to inspire and influence their consumption decisions by making the use of energy a visual, tangible, and meaningful part of their lives. Impacting behavioral changes is a newer approach for DSM programs, but because of the significant potential we will continue to develop methods to impact behavior and may develop this into a separate formal program offering.

2.2 Deemed Savings Assumptions

In developing this plan, SAIC, in consultation with the Contract Manager, has used HECO’s assumptions for energy savings as presented in their Evaluation Report for 2005 to 2007¹. For new measures, we have referenced the California DEER database for San Diego. Summary information is included in Appendix A.

2.3 Portfolio Risk Management

Hawaii’s limited energy resource mix and its resultant price volatility, combined with the negative economic impact of a troubled tourist industry provides a unique backdrop to the design and delivery of efficiency programs. SAIC’s task is to balance the need to introduce new program elements and encourage alternative energy resources with cost-effective implementation of measures that will limit negative impact on electric rates. SAIC recognizes this challenge and is developing a balanced portfolio of programs to provide opportunities for broad participation and incorporate new or innovative technologies for all customer classes.

SAIC will use the following strategies to minimize the risks associated with its portfolio of energy efficiency programs:

- Implementing primarily “tried and true” programs that have been successfully implemented by utilities and state-operated programs across the country.
- Using measures quantified in the Evaluation Report as the starting point for estimating program savings.
- Initiating program evaluation activities during the program design phase to ensure that appropriate data is gathered throughout implementation to get appropriate feedback on program progress, and to allow any needed fine-tuning to occur as soon as possible.

2.4 HECO Program Transition

HECO currently administers efficiency programs for its ratepayers. Those currently existing programs represent the “core” programs that SAIC will administer effective July 1, 2009. The Core programs consist of the following initiatives:

- Residential Programs
 - o Residential Water Heater Program

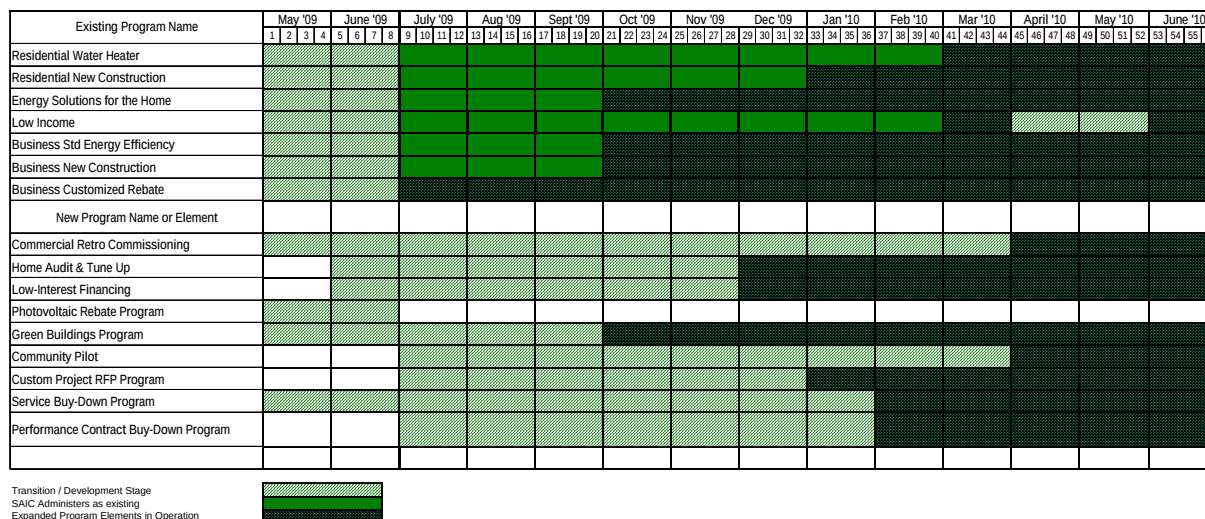
¹ *Energy and Peak Demand Impact Evaluation Report of the 2005-2007 Demand Side Management Programs*. KEMA, December, 2008.



- o Residential New Construction
- o Energy Solutions for the Home
- Business Programs
 - o Business Standard Energy Efficiency (CIEE)
 - o Business New Construction (CINC)
 - o Business Customized Rebate (CICR)
- Low-Income/Hard to Reach Customer Programs

SAIC's short-term goal for PY2009 is the smooth hand-off of program administration from HECO to SAIC. To focus on the administrative details required to execute that transition, SAIC will keep the core programs largely intact and at existing incentive levels on the July 1 date. Beginning July 1 and for the remainder of PY2009 SAIC will phase in the introduction of enhanced program elements and new programs to the HEEP portfolio. Figure 2-2 shows the planned transition of the major program elements.

Figure 2-2
Timeline of Program Development and Transition



The accomplishment of this transition schedule is dependent on the successful transfer of information and data from the HECO and Honeywell systems to SAIC. We anticipate that we will receive the necessary information and data to test our systems by June 1, 2009 with the required updates through July 1. Knowledge to be transferred includes:

- Program guidelines for each of the core programs,
- Detailed listing of all applications pending and commitments in place,
- Program leads or project "pipeline."

Concurrent with the transfer of administrative duties to SAIC, we will also develop new programs and elements that will enhance the existing core programs. Elements to be designed during PY2009 include:

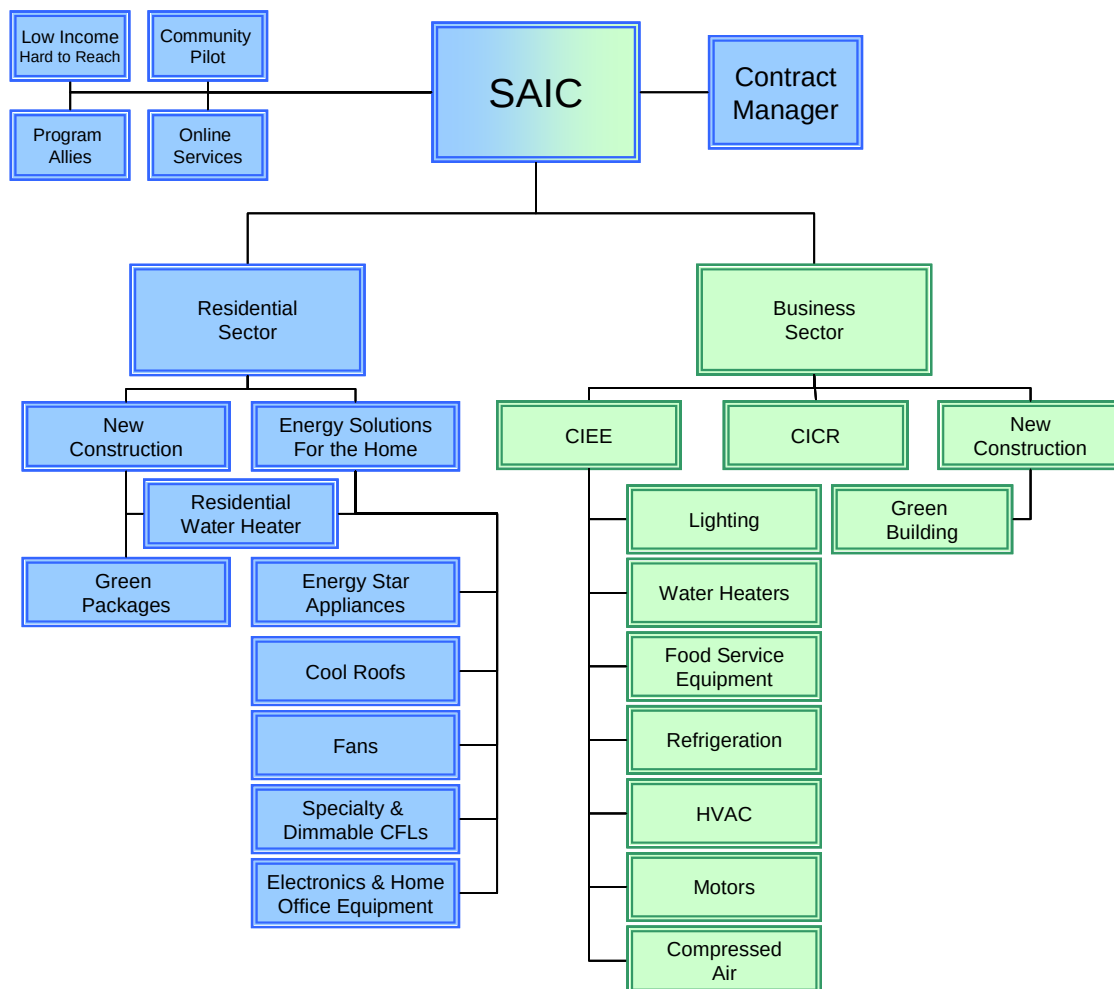
- **Commercial Retro-Commissioning** will provide trained HVAC contractors to provide tune-ups and offer low-cost upgrades to building systems that will improve their overall operating efficiency.
- **Home Audit and Tune Up** will be provided as an enhancement to Energy Solutions for the Home. This program element will provide homeowners with a holistic approach to their home's energy consumption and will offer comprehensive guidance to prioritize energy capital improvements.
- **Residential and Small Business Low Interest Financing** will help homeowners and small business owners finance energy improvements.
- **Photovoltaic Rebate Program** will reduce the up-front cost to install PV systems. SAIC will design and analyze a potential program. The current PUC plan is for inclusion of a PV Program in Program Year 2011. Feedback from suppliers indicates a strong need to provide a program much earlier if possible for them to maintain their businesses.
- **Green Buildings Program** will be an enhancement to the New Construction Program that will encourage the inclusion of green and sustainable design features into both commercial and residential construction projects.
- **Community Pilot Project** will provide an innovative approach to program delivery by engaging entire communities in neighborhood energy efficiency.
- **Custom Project RFP Program** will allow special and unique opportunities to receive funding through a competitive process.
- **Service Buy-Down Program** will reduce the cost of energy efficiency services such as air-conditioning tune-ups, compressed air leak surveys, etc.
- **Performance Contract Buy-Down Program** will encourage the participation of third-party energy project implementation through savings-based performance contracts.

SAIC will actively engage HECO staff during the program transition period to ensure smooth transfer of programs. We anticipate for the initial months of delivery under SAIC many of the core programs will be unchanged or receive only minor adjustments. SAIC will ensure that all program delivery systems (e.g., data, forms, incentive processing, etc.) are working as planned before introducing significant program changes.

3.0 PROGRAM PORTFOLIO SUMMARY

SAIC's Plan includes a mix of programs for residential and business customers, while including large end-use customers in the government and institutional sectors. Figure 3-1 depicts the overall structure of the HEEP program portfolio.

**Figure 3-1
Structure of HEEP Portfolio of Programs**



Our overall plan for portfolio delivery includes a program shift from the existing focus on prescriptive rebates to the introduction of holistic approaches to building energy efficiency for both the business and residential sectors. For example, program additions or changes will include audits and system tune-ups, financial incentives to service equipment, and an increased focus on green building and sustainable energy features. The remainder of this Section includes a brief overview of the individual program elements and a transition timeline with major events and due dates for each sector.

3.1 RESIDENTIAL PROGRAMS

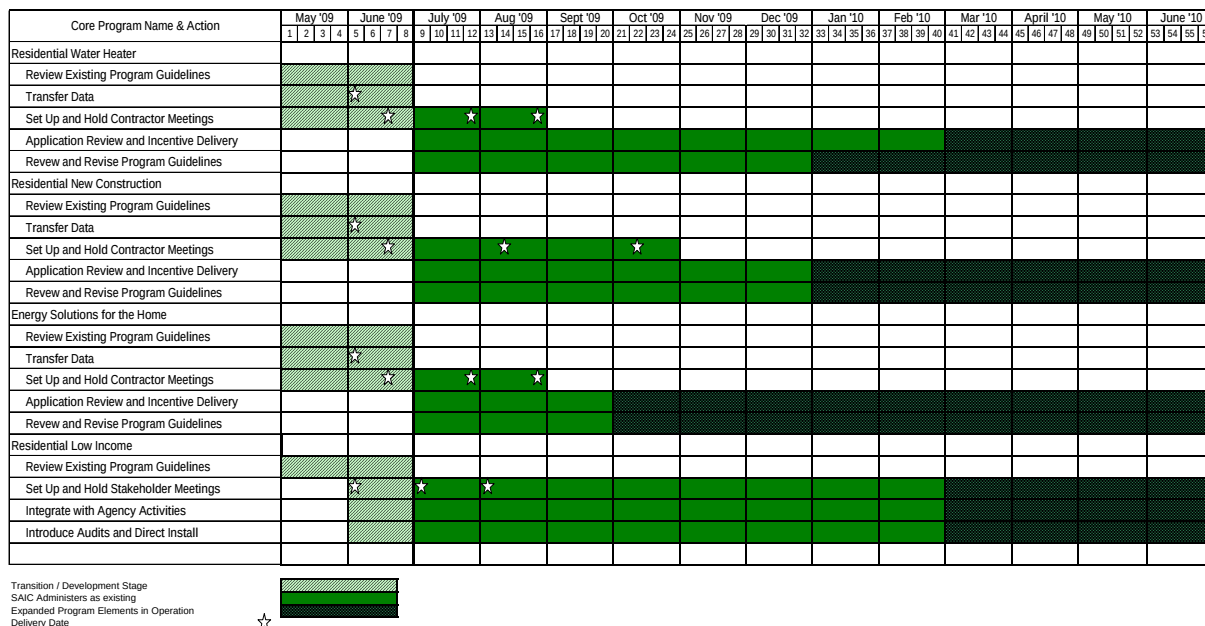
SAIC will work with, and maximize the impact of, existing local resources to encourage participation across the entire residential sector through coordination with groups and organizations that serve this sector. We will form partnerships with neighborhood boards, condominium associations, community action agencies, and the Office of Community Services in the Hawai'i Dept of Labor and Industrial Relations and Hawai'i's Housing and Urban

Development (HUD) office to maximize the benefit of both the program dollars and federal stimulus money that will be targeted to Hawai'i's low income residences. Further, we will coordinate with the business programs to reach military housing projects in a cost-effective manner.

As noted above, our portfolio of programs will shift away from standard rebate programs to incorporate audits and tune ups. SAIC will create a bridge between our residential and business programs by targeting specific towns or neighborhoods for a community-wide tune-up. That tune-up will include audits and direct installations for both residences and small businesses. These activities will increase public awareness and foster the idea that energy efficiency, protection and conservation of resources, and reduced dependence on foreign oil are public benefits necessary to the well being of Hawai'i. Details and explanation regarding our projected marketing and customer information strategies are included in Sections 5 through 9 of this Plan.

During the transition period, SAIC will work closely with HECO to learn existing program procedures and protocols. To facilitate a smooth transfer of administration, SAIC intends to maintain all programs in their current state on July 1, 2009 and make program adjustments, changes, and/or enhancements in a three to six month timeframe. Our estimated transition plan for the residential sector is described in Figure 3-1, below.

Figure 3-1
Transition of Residential Programs



A brief description of each of the initially proposed residential programs with key additions or changes is included below.

Residential Water Heater Program (REWH). The objective of the Residential Water Heater Program is to promote the use of solar water heating and high efficiency electric water heaters to customers in existing residential dwellings. There are two separate components to the



existing HECO program. They are:

Solar Water Heaters - Customers select an installer from an extensive list of HECO pre-approved contractors. That contractor receives a \$1,000 incentive that is passed on to the end-use customer as an instant rebate.

High Efficiency Electric Water Heaters – HECO provides a rebate for the purchase of a qualifying model after receipt of a mail-in application.

SAIC will use the existing network of program allies to market and deliver the program. We will attempt to maintain current incentive levels as much as possible. However, the high level of incentive and the past levels of participation severely impact the portfolio's cost effectiveness. At a simple cost effectiveness of \$0.48/(annual kWh saved) to continue with the current Solar Water Heater program our plan would need to use 27% of our incentive budget to only achieve 4% of the savings goal. To maintain the \$1,000 level of incentive and provide this incentive at the historical levels of participation, it is imperative that we also provide significant savings from the promotion of very cost effective (\$0.01/kWh) screw-in CFL's. We will further discuss the promotion of screw-in CFL's in the section on residential ESH program. Even with the promotion of screw-in CFL's we may need to place a limit on the number of applications accepted for Solar Water Heater incentives at their current level. We are also considering the program option of reducing the incentive level in 6 to 12 months to more closely align the cost effectiveness with other measures in the programs. Any adjustments to incentive levels will be vetted with the market in advance.

Further programmatic enhancements may include changes to eligibility criteria to increase savings, and opportunities for providing low-interest financing for measure installation. Outreach and coordination efforts with key allies will include the Solar Technical Advisory Group (Solar TAG); solar contractors; suppliers; government and housing agencies; financial institutions; housing, apartment, and contractor associations.

Residential New Construction (RNC). SAIC proposes to keep HECO's current delivery mechanism and water heating incentives in place for the first three months of program operations and will review the costs and benefits of adding a number of additional financial incentives. Among the ENERGY STAR® rated technologies that will be reviewed for program inclusion are:

- Compact fluorescent indoor and outdoor fixtures,
- Decorative and dimmer CFL lamps,
- Refrigerators, dishwashers, washers, dryers,
- Foundation insulation,
- Cool roofs,
- Attic and whole house fans,
- Windows and/or reflective film,
- Heat pumps, and central air conditioning systems.

With input from housing and builders associations, trade allies and industry players to determine the appropriate modifications to the program, SAIC will offer a menu of incentives that can provide builders (or homeowners that build their own homes) a flexible approach to incorporating some or all of these technologies. If necessary, SAIC will work with product manufacturers to ensure availability of high efficiency products and appliances.



SAIC will incorporate an incentive mechanism to reward builders who achieve one, two, three or four stars under the Hawai'i Built Green Program or LEED Certification.

Energy Solutions for the Home (ESH). SAIC plans to shift the program's focus from an entirely prescriptive rebate program to one that includes whole building approaches to energy efficiency and service buy-downs for residential customers. We will continue the existing rebate structure for the first three to six months of the program and evaluate incentive levels and additional measures for program inclusion in October 2009. At that time, SAIC will also begin to offer a residential audit pilot and a service buy-down component to the program. If successful, we plan to offer that audit pilot as a stand-alone program in PY 2010.

During the period leading up to October, SAIC will explore the economic feasibility of expanding residential incentives for a number of cost-effective high efficiency measures, including whole house and attic fans, high reflectivity roofs, ENERGY STAR® home electronics, office equipment and appliances that are not currently included in the rebate program.

Air conditioner tune-ups would be provided through a list of pre-approved heating, ventilation and air conditioning (HVAC) contractors. Scope of work and cost schedules would be negotiated with the contractors, and provided on a cost-shared basis with participants. Low-income customers would receive tune-ups at no cost.

3.2 Business Programs

SAIC will incorporate a delivery process that includes working with local program allies networking with customer-based groups to develop cost-effective programs that will meet program energy goals for the business sector. This approach is defined in greater detail in Section 10 (Implementation and Delivery Approach).

As in the residential programs, SAIC will move existing offerings from standard prescriptive rebates to more comprehensive services that include retrocommissioning services, service buy-downs for tune ups, building energy audits, and custom rebates.

In recognition of the infusion of federal stimulus money for efficiency programs and building projects, SAIC will work cooperatively with state and local governments to ensure that we do not duplicate services available through the Energy Efficiency and Conservation Block Grants and other sources; instead, we seek to maximize the impact of this unique opportunity to leverage funds for energy investments.

During the transition period, SAIC will work closely with HECO to learn existing program procedures and protocols. To facilitate a smooth transfer of administration, SAIC intends to maintain all programs in their current state on July 1, 2009 and make program adjustments, changes, and/or enhancements in a three to six month timeframe. Our estimated transition plan for the business sectors is described in Figure 3-2, below.

Figure 3-2
Transition of Business Programs

[illegible]

Transition / Development Stage
SAIC Administers as existing
Expanded Program Elements in Operation
Delivery Date

The following business efficiency programs are described in more detail in Section 6.

Commercial and Industrial Energy Efficiency (CIEE). SAIC will continue HECO's prescriptive rebates for the business sector beginning July 1 and will evaluate program activity and cost-effectiveness after a three-month period. After that time, we will add new measures and technologies for incentives and may adjust existing incentive levels. Additional prescriptive technologies will include

- compressed air systems,
- variable frequency drives (VFDs),
- Guest Room Energy Management (GREM) systems and
- lighting controls.

SAIC will determine cost-effective incentive amounts for potential new measures and incorporate them into the existing program by October 2009.

Although all commercial, institutional, government and industrial sector customers will be eligible under this program, SAIC will target markets that have high energy savings potential in lighting, cooling, and ventilation such as offices, hotels/resorts, retail, restaurants, and schools. We will also target similar industry sector businesses with high savings potential in motors, pumping and processes. SAIC will coordinate with government entities to ensure that projects undertaken through federal stimulus dollars are taking advantage of incentives to increase project efficiency.

SAIC will develop a pool of program allies who will be trained in program requirements and who will be the primary delivery mechanism for this program. These allies will consist of equipment vendors and installers who will benefit from their customers' participation in the program through increased sales and customer goodwill. We anticipate that HECO account representatives will also assist in identifying large customers with the potential for significant energy savings.

Commercial and Industrial New Construction (CINC). The New Construction Program (CINC) will provide technical project assistance, financial incentives and training opportunities to



building owners and design teams. This program will offer a combination of prescriptive and custom incentives and design assistance to ensure that new construction and expansion projects take advantage of opportunities to achieve the highest achievable energy efficiency potential, and may include assistance to achieve a recognized green building standard (e.g., LEED, GreenGlobes, etc.).

SAIC will adjust the program baseline energy use to coincide with new Hawai`ian energy code that will be in effect within the next few months. This new baseline will be in effect for the program beginning July 1. We will use a combination of prescriptive and comprehensive, or whole building, incentives for eligible projects. While the prescriptive incentives will likely line up with those for existing buildings (see the CIEE program), the actual energy savings for those measures may differ because of the change in the baseline. Whole building incentives will be offered on a tiered basis to encourage higher levels of building efficiency. We anticipate developing tiered incentive levels based on increased levels of performance above an established baseline.

SAIC will seek local energy simulation modelers to analyze building designs and calculate potential energy savings and incentives. Those services will be made available to building owners on a cost-shared basis. However, SAIC may also offer those services to program participants if we are unable to identify a sufficient pool of experienced modelers locally.

As is the case with the other business programs, all commercial, institutional, government and industrial sector customers will be eligible under this program. The program targets specific new construction markets with high energy savings potential in lighting, cooling and ventilation for commercial market segments such as offices, hotels/resorts, retail, restaurants, and schools; and with high savings potential in motors, pumping, and industrial processes for the industrial sector. Potential measures to be included for incentives through this program include compressed air systems, heat recovery, variable frequency drives (VFDs), controls, and renewable energy systems such as photovoltaic, solar thermal, SWACS, and biogas recovery.

SAIC will network and develop relationships with the key market players, generally architects and developers, to understand the markets and decision points, and how to leverage program incentives and design assistance for their customers. In addition, we will look for opportunities to leverage federal stimulus money in new construction projects.

Commercial and Industrial Customized Rebate (CICR). This program will provide a custom application for businesses to receive incentives for installing non-standard energy efficiency technologies. The intent of this program is to enable customers to invest in energy efficiency improvements that may require calculations of energy savings for specific, unique applications. Incentive awards will be based on calculated savings that will be established to ensure program cost-effectiveness. We anticipate that common custom technologies will include Variable Frequency Drives (VFDs), for process applications; air conditioning system upgrades, such as controls and change-outs; process heat recovery, booster pumps, and process efficiency.

All commercial, institutional, government and industrial sector customers will be eligible under this program, but we will target specific markets with high energy savings potential. SAIC plans to use this program framework as a mechanism to provide incentives for opportunities that are identified under whole building, retro-commissioning, or other comprehensive services for existing facilities. We believe that it is important to maintain a flexible avenue to access incentives for non-standard or advanced technologies.



SAIC will recruit allies and energy service providers who typically serve these markets to deliver the Program incentives to their customers. We will require pre-approval of incentives prior to equipment installation to ensure program cost-effectiveness. We will actively train program allies and service providers in program processes and requirements through various training approaches including local breakfast and lunch meetings. SAIC will also investigate the feasibility of providing sales allies direct incentives, based on performance. Where possible, SAIC will seek out and develop synergistic relationships with relevant associations that have a strong market presence.

SAIC will establish an application and review procedure for full program rollout on July 1. Future program changes may include a change in the incentive level from \$0.05/kWh to \$0.07/kWh.

3.3 Low Income/Hard to Reach Program

Members of the low-income and hard-to-reach population are eligible to participate in other programs designed for their overall sectors. To encourage participation, SAIC will make many of the services available to these targeted population at no cost. For example, audits that will be available at a fee to residential customers will be offered free-of-charge to income-qualifying households.

SAIC will also make a targeted effort to reach out to hard-to-reach populations through community-based outreach activities and through cooperation with agencies that serve Hawai'i's low-income households.

A brief description of programs serving these groups is provided below, with a detailed description of each program in Section 7.

Residential Low Income Program (RLI). SAIC will work with the Office of Community Services and other agencies or stakeholders to develop an infrastructure for delivery of services to the low-income population. Initial discussions with local providers indicate that statewide weatherization efforts have not been supplemented by utility funding in the past and limited budgets have afforded a small level of service to end users. SAIC is awaiting further information on the disposition of over \$4 million in federal stimulus money that will be targeted to the WAP in Hawai'i. The Office of Community Services has issued an RFP to CAP agencies and other public entities that is due on 5/7/09. After that date, SAIC will have the necessary information to develop a robust program for Hawai'i's low-income customers. We anticipate that program options may include:

- Funding proposals made to the Office of Community Services (i.e., only those in excess of their funding capabilities);
- Introducing discrete additions to the WAP program (e.g., audits and auditor training, direct installation of measures such as CFLs, water heater blankets, refrigerator change-outs, etc.)

SAIC anticipates supplementing current low-income program activities through March 2010 and developing a full, stand-alone low-income program for roll-out beginning June, 2010.

Renters of Individually Metered Housing Units. SAIC's residential offerings (Residential Low Income and Energy Solutions for Homes (ESH) programs) will be made available to this sub-sector. We will encourage participation through aggressive outreach campaigns to renters,



including the neighborhood efficiency campaigns and through program allies and local housing associations. The ESH program will offer incentives for select prescriptive products that will reduce energy consumption and still be readily transported to a new unit if the program applicant relocates. Eligible equipment targeted to this customer class will generally be ENERGY STAR® rated and may include:

- Dimmable and specialty CFLs
- Room air conditioners
- LED lighting
- Home office and electronic equipment

SAIC will target this portion of the residential market through cooperation with neighborhood, apartment and housing associations, community groups, direct mailings, participation in local events, etc.

Individually metered low-income, multi-family customers will be eligible for services through the targeted neighborhood energy program and possibly through the Residential Low Income Program.

Master-Metered Low-Rise, Multi-Family Housing. This subsector of residential customers offers many of the same challenges and barriers to participation that renters in individually metered units provide. In this case, however, the tenants do not pay their own utility bills and, therefore, do not always have a direct incentive to participate. For this group, SAIC can provide assistance and incentives to the building owners directly through ESH and the Residential Efficient Water Heating (REWH) programs.

We will use the programs and delivery strategies as identified above (Renters of Individually Metered Housing Units) to reach this customer sub-sector. Additionally, SAIC will explore during PY 2009 the potential energy savings and cost effectiveness that can be achieved through switching units to either submeters or individual meters. Our experience in other states has shown significant (sometimes 30 percent) energy savings when the energy users pay for their consumption directly.

Small Commercial Direct-Installation Program. SAIC will develop a program to target the hard-to-reach market of small businesses (one with fewer than 50 employees). This program will produce, long-term annual demand and energy savings by providing no-cost energy-efficient equipment retrofits to small business owners. This program will also provide training and jobs for individuals in economically disadvantaged areas. The program will target underserved communities by using a community-based approach that coordinates with local organizations to package a customized program delivery plan that fits the specific needs of the communities. This delivery plan will reduce market barriers to adoption of energy efficiency alternatives in the small businesses of the community. This program would provide lighting audits and no-cost/low-cost lighting fixture installation projects to very small business using local labor and contractors. Up to three fixtures would be installed at no charge by pre-approved electrical contractors who had received program training. If there were vending machines in place, the business owner would be eligible to have an Energy Miser installed on one machine that can save 40-80% of the vending machine's annual energy usage.

Direct install programs for Small Commercial customers have had successful results. In a sampling analysis of 3,350 direct customer visits from Southern California Edison's Direct Install



program, penetration rates of nearly 90% were identified when measures were installed at no cost to the customer.

SAIC will also explore the possibility of including a direct installation of Guest Room Energy Management systems for small hotels and motels that are part of this hard-to-reach market. A reduced interest financing component would be developed by SAIC in cooperation with local banks and the SAIC Team partner Bostonia to provide owners with access to needed capital for energy efficiency improvements. Bostonia is providing similar services for the Cambridge Energy Alliance among other programs.

3.4 Renewable Energy Program

SAIC is required to develop a Photovoltaic Rebate program for inclusion in the program during PY 2011. Because of the availability of federal stimulus money, SAIC will develop the program early in PY 2009 for possible delivery in the latter part of that program year or in PY 2010. The program is further described below.

Photovoltaic (PV) Rebate Program. The PV Rebate program will support the installation of photovoltaic panels through the use of:

- rebate-style incentives,
- installer-education programs, (possibly in coordination with local colleges or trade schools), and
- technical and financial information tools for consumers.

The PV Rebate program will be designed to encourage building owners to invest in PV applications by providing the appropriate tools to help in their decision making and potentially offering sufficient incentives to reduce the large up-front capital investment and low-interest financing through our partnership with Bostonia.

In addition to financial incentives for building owners and the program's educational component that would further develop the workforce of skilled installers to meet the growing demand for PV systems, optional "bonus" offerings for the PV program could include:

- Scholarships for installer training
- Network of independent solar site assessors
- Materials for making buildings solar ready
- Funding assistance for third party solar electric system owners to enter the Hawai'i market
- Suggested methods for reducing the regulatory hurdle of governmental zoning and permitting processes.

SAIC has engaged the Wisconsin Energy Conservation Corporation (WECC) to provide a program design for photovoltaic rebates for delivery by June, 2009.

3.5 Program Additions and Innovative Strategies

SAIC will incorporate the addition of new technologies that are not included in the existing C&I and residential programs during PY 2009. Further, we will expand the total program offerings to include new programs for launch during PY 2010.

New technologies to be introduced into existing programs include:

- Compressed air systems,
- Heat recovery,
- Variable frequency drives (VFDs),
- Guest Room Energy Management (GREM) systems,
- Lighting control systems,
- Renewable energy systems such as photovoltaic, solar thermal, sea water air conditioning systems (SWACS),
- LED traffic lights,
- Natural ventilation,
- Daylight harvesting, and
- Photovoltaic generation.

While SAIC will use the existing efficiency programs as a base for expansion and integration of more advanced energy saving technologies, our plan is to introduce most of the additional programs at the beginning of the second year of the contract. It is anticipated that some new programs will be piloted in the first year after the transition is complete. These programs will contain some of the elements that are already present in the existing portfolio, but will also include new features not currently available through the HECO programs. These new programs are described throughout the proposal both within the context of the existing portfolio and separately. They include:

1. **Commercial Retro-Commissioning.** SAIC will design and deliver a retro-commissioning program for delivery by April 2010 through which trained HVAC contractors will provide tune-ups and offer low-cost upgrades to systems to improve the overall operating efficiency of energy using systems in a variety of commercial building types.
2. **Home Audit and Tune-Up.** SAIC may ultimately offer our proposed audit component of the ESH program as a stand-alone offering. The intent of the program is to provide homeowners with the holistic information that they need to make decisions and prioritize energy capital improvements that impact home energy use.
3. **Residential and Small Business Low Interest Financing.** As described within our program offerings for ESH, SAIC will explore low-interest financing made available through our partnership with Bostonia to help homeowners finance energy improvements and renewable energy installations.
4. **Photovoltaic Rebate Program.** As described earlier, the PV Rebate program will be designed and analyzed for inclusion with the public benefits programs. SAIC anticipates that we will have a full program available for implementation during PY 2010.
5. **Green Buildings Programs.** SAIC will include green and sustainable design features into its new construction programs for both residential and commercial buildings. Because of Hawai'i's unique climate conditions and energy supply issues as compared to the remainder of the U.S., we anticipate that our new construction programs will feature components that are not typically seen elsewhere in the country even among buildings with sustainable design features. Elements such as natural ventilation to reduce the need for mechanical cooling, vegetated roofs to reduce storm water runoff and lower the need for cooling, and advanced daylight harvesting systems to minimize the need for artificial lighting are among the many features that we envision for these programs.

6. **Community Pilot Project.** As described in Section 9, this program will provide an innovative approach to program delivery and outreach by engaging entire communities in neighborhood energy efficiency.
7. **Custom Project RFP Program** to solicit special and unique opportunities that do not readily fall with the scope of other programs.
8. **Service Buy-Down Program** to provide incentives that reduce the cost of energy efficiency services such as air-conditioner tune-ups, compressed air leak surveys, etc.
9. **Performance Contract Buy-Down Program** to provide incentives to encourage the participation of third-parties in the implementation of energy projects on a savings-based performance contract.

4.0 PORTFOLIO OPTIMIZATION

4.1 Portfolio Summary

SAIC will accelerate savings objectives and achieve a higher level of energy and demand savings building on what the Hawai`ian utilities have already achieved. SAIC strategies will provide a step change in energy savings based upon enhanced programs, new programs, and a far-reaching marketing campaign that leverages the Islands' urgency to become more energy self-reliant in today's volatile energy marketplace. Our experience and program delivery methods enable us to hit the ground running to develop cost-effective program enhancements that are customized both to utilize and develop the existing Hawai`ian energy market infrastructure.

Total Program Savings Objectives

Figure 4-1 summarizes the saving goals (net) for each of the portfolio programs for each sector for PY 2009 and the targeted incentive levels on a per-kWh basis.

**Figure 4-1: Program Minimum Savings Target
Residential Sector**

	MWh	Incentive	\$/kWh
REWH	5,784	\$ 3,525,000	0.609
RNC	3,474	\$ 980,001	0.282
ESH	61,173	\$ 1,980,500	0.032
RLI	2,369	\$ 276,500	0.117
Total - Res.	72,800	\$ 6,762,001	0.093

**Figure 4-2 Program Minimum Savings Target
Business Sector**

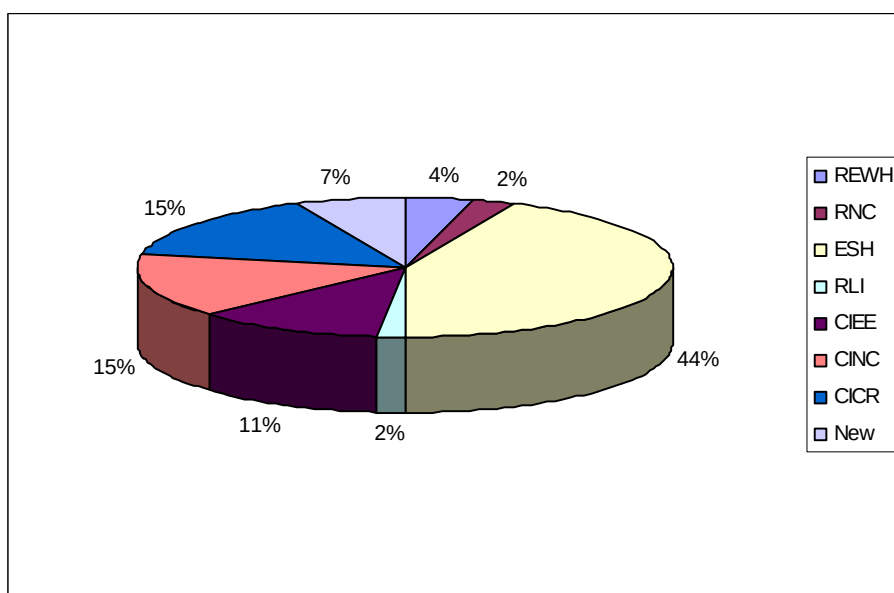
	MWh	Incentives	\$/kWh
CIEE	15,684	\$ 1,664,045	0.106
CINC	21,255	\$ 1,471,412	0.069
CICR	21,345	\$ 2,134,481	0.100
New	9,500	\$ 950,000	0.100
Total - Bus.	67,784	\$ 6,219,938	0.092

Our strategy is to provide a delivery and incentive structure that will result in net energy savings that exceed those represented in the above table. Based on our predicted net-to-gross ratio of 0.73, we are designing the programs with a gross incentive level of \$0.075/kWh to result in the net incentive level of \$0.10/kWh. Based on this plan, and depending on PUC approval, we will be using more incentive funds for Residential programs than is in the present contract because we are looking to maintain the Solar Water Heater incentive at \$1,000 for at least 6 months. Therefore, we will need to shift some incentive funds from the Business program to the Residential program. The total incentive budget is the same. We discuss further program delivery strategies to meet this goal throughout this Plan.

A further objective of portfolio optimization is to deliver the entire package of programs at a favorable Total Resource Cost. Based on the agreed-upon schedule of utility avoided costs, SAIC anticipates delivering all programs at a Total Resource Benefit of \$208 million (see Table 2-2). This plan does not address a full Total Resource Cost analysis as we do not include a study of participant costs. We anticipate that a TRC analysis will be included in the program's evaluation.

Figure 4-2, below, illustrates the estimated distribution of energy savings between the various programs for PY2009. The program with the largest projected savings is the enhanced Energy\$olutions for Homes, followed by the Commercial/Industrial Custom Rebate, the Commercial/Industrial Energy Efficiency, and New Commercial/Industrial programs. They account for nearly 90 percent of all savings. This distribution provides a reasonable mix for the first year, based on both opportunity and customer equity.

Figure 4-3
Allocation of Savings by Program
All Sectors



Savings Objectives by Markets and End-Uses

In order to estimate savings by market segment and end-use, we relied on the *HECO Evaluation Report for 2005 to 2007* prepared for the utility by KEMA and used market segments, related end-uses, and market shares for the existing group of programs. We supplemented data for new program offerings from the California DEER database with data for San Diego.

4.2 Benefit-Cost Background

SAIC has estimated the energy savings, costs and net benefits associated with each of the programs included in the proposed portfolio of programs based on agreed-upon utility avoided cost estimates. Although the primary measurement of SAIC's program cost-effectiveness will be the Total Resource Cost test, the following section presents an overview of the benefit-cost tests that may be could be used to evaluate the program design and implementation.

Each of the tests examines the costs and benefits from a different perspective. The following is a brief overview of each of the tests.

The Utility, or System Resource Cost, Test measures the net benefits of a demand-side management (DSM) program as a resource option based on the costs and benefits incurred by the utility (including incentive costs). This test excludes net costs incurred by the customer participating in the efficiency program. The benefits include the avoided supply costs of energy and demand, the reduction in transmission, distribution, generation and capacity valued at the utility's avoided costs or marginal costs for the periods when there is a load reduction. The costs are the program costs incurred by the utility, the incentives paid to the customers, and the increased supply costs for the periods in which load is increased.

The Total Resource Cost (TRC) is a test that measures the total net resource expenditures of a DSM program from the point of view of the utility, and its ratepayers. Resource costs include changes in supply and participant costs. A DSM program, that passes the TRC test (i.e., a ratio greater than 1) is viewed as beneficial to the utility and its customers because the savings in electric costs outweigh the DSM costs incurred by the utility and its customers.

The Participant Cost Test illustrates the relative magnitude of net benefits that go to participants compared to net benefits achieved from other perspectives. While called a "participant" perspective, it is not necessarily a perspective indicating whether customers participate directly. The benefits derived from this test reflect reductions in a customer's bill and energy costs plus any incentives received from the utility or third parties, and any tax credit. Savings are based on gross revenues. Costs are based on out-of-pocket expenses from participating in a program, plus any increases in the customer's utility bill(s).

The Rate Impact Measure (RIM) Test measures the change in utility energy rates resulting from changes in revenues and operating costs. The higher the RIM test, the less impact on increasing energy rates. While the RIM results provide a guide as to which technology has more impact on rates, generally it is not considered a pass/fail test. Typically any program activity that reduces energy consumption will not fare well under the RIM test. Load management programs that shift demand may pass the RIM test, however.

The Societal Cost Test is similar to the TRC test. The test accounts for the effects of externalities (such as reductions in carbon dioxide (CO₂), nitrogen oxides (NO_x), and sulfur dioxide (SO₂). A societal test was not calculated as part of this plan given the uncertain values of environmental externalities, which were not monetized for purposes of estimating a societal benefit costs.

4.3 Benefit-Test Methodology

SAIC used a spreadsheet analysis to determine the cost effectiveness of the HEEP portfolio. We used average avoided cost data for energy and capacity that was provided for us by HECO and adjusted under the advice of the Contract Manager (see Appendix B for more details). Because hourly avoided cost data is typically determined to be proprietary data, we used average data that approximates typical load shapes for all sectors.

Further assumptions used throughout the analysis are described below.

Discount Rate

The time value of money is represented by a discount rate (analogous to an interest rate). We use the discount rate in our economic equations to convert all costs and benefits to a “present value” for comparing alternative costs and benefits in the same year’s dollars. For the purposes of this analysis, SAIC used a uniform discount rate of six percent for both energy efficiency programs and supply side resources.

Avoided Capacity and Energy Costs

SAIC used HECO-supplied average annual avoided costs for capacity and energy for calendar year 2009 as the basis for our analysis. Rather than use HECO’s costs for future avoided costs, however, we escalated the stated 2009 costs for a 20-year period (See values proposed in Appendix A). Although we are not in full agreement that the resulting avoided costs are correct, we nonetheless believe that the results are superior to using the utility-supplied estimates. HECO’s future avoided costs had several years with negative values that we believe are not appropriate for the purposes of our program design.

SAIC will work with the Contract Manager to develop an agreed-upon avoided cost methodology for future estimates of the program’s Total Resource Benefits.

Avoided Transmission and Distribution

For the purposes of this Plan, SAIC has incorporated avoided transmission and distribution costs into the above-stated avoided energy and capacity costs.

5.0 RESIDENTIAL PROGRAMS

SAIC will deliver over PY2009 a portfolio of residential programs that are described in detail throughout this section. We anticipate that the residential programs will result in distributed incentives and savings as described in Figures 5-1 and 5-2, below.

Figure 5-1

Residential Program Incentives Across Programs

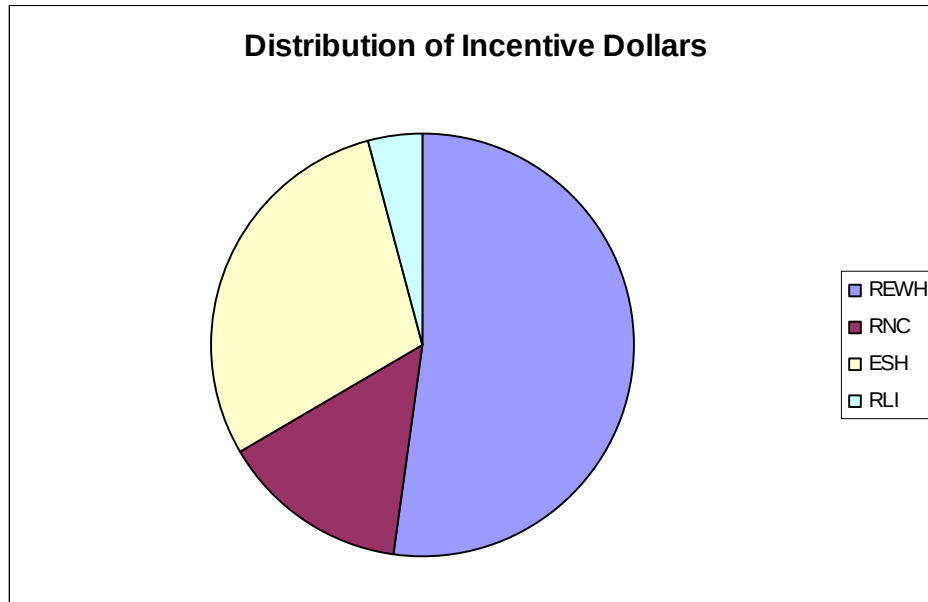
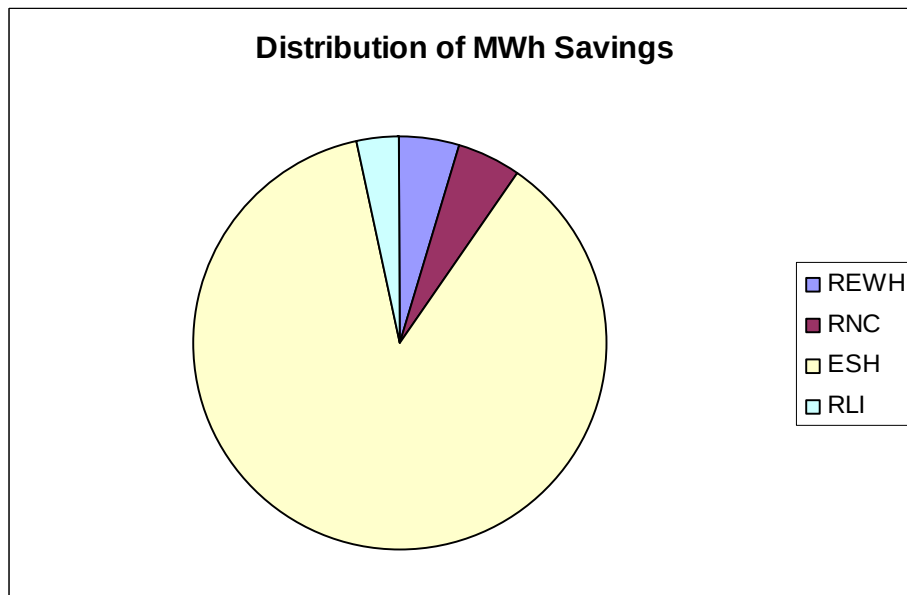


Figure 5-2
Residential Program Savings Across Programs



As these figures indicate, programs are not equally cost effective. The continued inclusion of compact fluorescent lamps, for example, offsets the high cost of some measures such as the Solar Water Heaters. As a result, the total residential portfolio maintains cost-effective energy savings. Detailed program descriptions of the residential core programs is included in the following pages.

PROGRAM	Residential Water Heater Program
Target Market	Year round homeowners and apartment owners and tenants, military housing agencies, multi-family owners/agencies
Market Barriers	High first cost for solar or higher cost for efficient electric DHW Customer lack of access to capital for energy improvements Lack of understanding of energy efficiency benefits Reluctance to invest in property if not owner Split incentives – tenants vs. landlords
Program Objective	To achieve cost effective kWh and kW reduction through the implementation of solar and high efficiency electric hot water heating equipment, and to educate customers about ways to reduce water heating consumption
Program Strategies	The program will be implemented through Solar installation contractors and promotion by retailers, with support and oversight from SAIC program staff.
Program Description	We will continue for at least 6 months the existing program that provides \$1,000 instant rebates for solar hot water systems installed by utility-qualified contractors. The process is: ▪ Customers contact a contractor from the extensive list of pre-approved contractors. ▪ Contractor comes to the home, analyzes hot water usage and provides a written proposal for complete installation. The contractor's cost reflects a \$1,000 rebate. ▪ Contractor provides rebate form and helps customer to fill it out. ▪ Contractor installs solar water heating system, and we will conduct a post-installation inspection to make sure the system has been installed properly. ▪ Upon successful inspection, we will pay the contractor \$1,000 For high efficiency electric hot water heaters, we will provide the same rebates as the existing program of \$40, \$50, or \$70 rebates for qualifying models. Rebate levels are based on the size and efficiency of the water heater. Rebate applications are provided by the retailer at the time of purchase, or by the HVAC contractor at the time of installation. Rebate forms must include an original purchase receipt.
Key Changes	SAIC will need to limit the number of incentives available at \$1,000 per unit in order to offer incentives for other measures and to maintain program cost effectiveness. SAIC will continue the existing program during the first six months after taking over the program, and will review the program elements to identify possible efficiencies of operation and enhancements, including increasing the contractor/retailer network, statewide internet access to program materials and information, and the possibility of providing access to low-interest financing or a development of a revolving loan fund for all customers. In addition, we will adjust incentive levels to an amount that will increase cost effectiveness and still encourage the installation of retrofit systems. We will provide web-based information and application forms for each utility

	area, and will include a list of qualified contractors in each area. SAIC will work with the local providers to expand the list of qualified contractors, if possible, and provide informational and training sessions to enable more contractors to be qualified and listed. In addition, SAIC will meet with retailers in each utility area to explore opportunities for expanding the list of participating retailers. We will provide training, program support and documentation, cooperative advertising, educational materials to the retailers, and will develop an incentive program for reaching specified promotional and sales goals. SAIC will work with HECO companies, local banks, local governments, or Bostonia to ensure that all qualified customers have access to low interest financing for purchase of higher cost energy efficiency measures, including solar and electric hot water systems. The HECO companies will continue to operate the Solar Savers program during the first year of SAIC operation, and will continue to participate in the Maui and Honolulu Solar Roofs programs. SAIC will propose a program strategy to assume these activities in our 2010 plan. Any additional financing initiatives will be designed to complement and/or expand these programs.
Program Duration	PY2009 through PY2010
Eligible Measures	Solar hot water heating systems, high efficiency electric hot water heaters, heat pump water heaters, and tank timers.
Incentive Strategies	SAIC will continue the existing rebate levels of \$1,000 for solar systems, paid to contractors to offset the customer's price for a limited time. Electric hot water incentives will remain at the same level during the first six months. During this time, SAIC will review the incentive and participation levels to determine an alternate incentive level.
Implementation Strategies	Initially, SAIC will conduct outreach with key allies including the Solar Technical Advisory Group (Solar TAG); solar contractors; suppliers; government and housing agencies; financial institutions; housing, apartment, and contractor associations to promote the program, solicit feedback for more efficient program operation, and identify opportunities for implementation and coordination of efforts. SAIC will continue the existing marketing and delivery process for solar and electric hot water heating systems using an extensive network of pre-approved installation contractors and instant contractor rebates. We will continue to seek new contractors, pre-qualify and train them on program and installation requirements, and provide a web-based list of pre-qualified contractors for each utility area. For solar systems, customers are advised to contact three contractors for estimates. Customers schedule installation, and the installation cost from contractor reflects a \$1,000 incentive from HEEP. Contractors install equipment, and help the customer fill out the application form. Application form is submitted to SAIC, along with the Solar Installation checklist and an original contractor's invoice. SAIC reserves the right to inspect the installation, and will inspect a sampling of installed systems. Once the application and required documentation are submitted, SAIC program staff will process the incentive payment and mail to the customer.

	SAIC will continue the current process of marketing and promotion coordination with retailers who sell electric hot water heaters, and will identify opportunities to expand the number of participating retailers and the high efficiency appliances and equipment offered under the coordinated point of sale approach. Retailers promote the high efficiency appliance; provide educational materials and application forms. Customers fill out the rebate application form, and submit it to SAIC's implementation contractor (for electric hot water heaters and possibly other point of sale appliances). SAIC will explore the possibility of developing an incentive program for retailers to promote high efficiency electric water heaters and other appliances.
Transition Strategies	SAIC will continue to use the existing program infrastructures, marketing and delivery network during the first six months of SAIC operation, and will review the program to identify possible operational efficiencies and program enhancements, including the possibility of expanding availability of loan financing or a development of a revolving loan fund for all customers. During the first six months, SAIC will meet with key allies including HECO staff, the Solar Technical Advisory Group (Solar TAG), Rebuild Hawai'i, Honolulu and Maui Solar Roofs staff, banks and credit unions participating in solar loan programs, solar and electric hot water installation contractors, contractor associations, and retailers to discuss the program, and solicit feedback for any possible program efficiencies and/or enhancements, including alternate incentive levels..
Marketing Strategies	SAIC will continue to rely heavily on the network of installation contractors who are involved in HECO's program. HECO currently has over 30 qualified installation contractors listed as program allies.
Program Ally Strategies	Program allies include listed contractors and HECO companies staff, the Solar Technical Advisory Group (Solar TAG), Rebuild Hawai'i, Honolulu and Maui Solar Roofs' staff, Banks and credit unions participating in solar loan programs, Solar and electric hot water installation contractors, Contractor associations, and Retailers
Evaluation Requirements	SAIC may not inspect 100% of all systems. We will develop a statistically valid sampling for inspection and evaluation purposes. Baseline data for non-participants will be developed by the Evaluation Contractor.
Estimated Participation	SAIC may limit \$1,000 incentives to 3500 solar hot water systems and provide additional rebates at a reduced level.
Budget	Incentives of \$3.5 million
Savings Targets	5784 net MWhs
Program Metrics	• Contacts with key allies during first three months • 4 Contractor certification seminars series in first year • Continue advertising campaigns

PROGRAM	Residential New Construction
Target Market	New homebuilders, developers (including for military housing), and building/housing associations in the residential sector are the target market for the RNC program, with two goals: - to capture the energy savings potential in household water heating (via solar, heat pump, or high efficiency electric technologies) for new construction - to promote green design for energy and environmental savings in new construction. Energy savings will initially come mostly from solar (until December 31, 2009) and high efficiency electric water heating with peak load timer devices in new military housing, as SAIC re-evaluates the 'green' residential measures market in HECO service territories for opportunities to revitalize the existing Green Homes program.
Market Barriers	Barriers to achieving these two energy savings and green design goals include capital costs of relevant equipment and availability to Hawai'i homebuilders. Given that the RNC Green Homes (green design) program has been in effect with little to no participation, there are clearly market barriers that prevent its expansion. The existing program has noted that some types of ENERGYSTAR®-qualified equipment and requisite insulation are not available or not easy to source on the islands. Participant confusion may also be a barrier to the RNC Green Homes program. The Green Homes program employs specific bundles of energy-saving measures qualifying for the Building Industry Association (BIA) Hawai'i Built Green certification standards to award incentives for differing levels of participation, as opposed to simply requiring BuiltGreen certification protocols.
Program Objective	Our objective will be to simplify the RNC Green Homes program by aligning the program with the existing BuiltGreen system and/or LEED for Homes certification procedures, and to capitalize on the strong growth in military housing construction to realize energy savings with the water heater and green design initiatives.
Program Strategies	SAIC will work with the Building Industry Association of Hawai'i, other public and private housing associations, project developers, and military housing representatives to develop and promote an effective marketing, educational and incentive strategy for the Green Homes initiative and prescriptive energy efficiency measures. SAIC will work with trade allies, provide training in green and energy-efficient building practices, Built Green compliance, and LEED certification. SAIC can provide training and program administration in the interim. SAIC proposes to provide incentives for fulfilling an appropriate number of Built Green checklist items in section 2 (Energy Performance and Comfort) and section 5 (Home Operations), related to encouraging greater energy efficiency and demand reduction. The number of credits to be required will be determined during the review phase.
Program Description	SAIC proposes to initially keep the current delivery mechanism and water heating incentives in place, eliminating the solar water heating incentive for non-military housing after December 31, 2009 when Act 204 requiring solar water heating in residential new construction goes into effect. SAIC will review the costs and benefits of adding a number of additional financial incentives. Among the ENERGY STAR® rated technologies that will be reviewed are:

	• Compact fluorescent indoor and outdoor fixtures (these will be a continuation of an existing initiative) • Decorative and dimmer CFL lamps • Refrigerators, dishwashers, washers, dryers • Cool roofs • Attic, whole house and ceiling fans • Windows and/or reflective film • Heat pumps, and central A/C systems With input from housing and builders associations, trade allies and industry players to determine the appropriate modifications to the program, SAIC will offer a menu of incentives that can provide builders (or homeowners that build their own homes) a flexible approach to incorporating some or all of these technologies. Another proposed track of the program would reward builders with an increasing incentive for achieving one, two, three or four stars under the Hawai'i Built Green Program (with an appropriate number of credits in energy-related sections of the program) or possibly to homeowners who achieve LEED certification. The benefits to electric ratepayers include a reduction of future energy and capacity needs due to a highly efficient building stock of new homes. An effective "green homes" program can also provide substantial environmental benefits, including: • Enhancement and protection of ecosystems and biodiversity • Improvement of air and water quality • Reduction of solid waste by using recycled building materials • Conservation of natural resources
Key Changes	The key differences offered by SAIC to enhance the existing RNC program and maintain the momentum of the successful water heating component include a suite of prescriptive measures that will attract homebuilders and developers to more energy efficient technologies and practices in new construction, without requiring the time and investment of a comprehensive green design. In addition, the existing Green Homes initiative and incentive program will be redesigned to take better advantage of the BIA Hawai'i Built Green guidelines and reduce participant confusion over the incentive ranking system.
Program Duration	PY2009 through PY2010
Eligible Measures	Solar water heaters (until December 31, 2009); HE Electric DHW; HE Electric Tank/Timer; Green Homes bundled measures. New measures to be reviewed for implementation include Dimmer & specialty CFLs; ENERGY STAR® appliances; ceiling fans; whole house/attic fans; window glazing/film; central A/C; cool roof.
Incentive Strategies	Existing incentives will remain in place through 2009. Additional prescriptive incentives for ENERGY STAR® equipment and appliances, and certain other applicable energy saving measures will be reviewed and an appropriate incentive assigned. A scaled incentive based on achievement of Hawai'i Built Green or LEED certification (with a defined set of energy-related credits achieved in either case) will be developed.
Implementation Strategies	SAIC will provide program implementation and management of the program. The primary delivery will be through local contractors with expertise in the target markets. We may use an RFQ process to solicit qualified providers of green building services to the residential new construction market. They will receive from SAIC a program

	manual that describes the necessary steps and data need to fully complete a green design review and recommendation. An application for services or for prescriptive incentives must be completed and signed by a customer, but may be assisted by one of the qualified allies. Once an application is received, SAIC will approve or deny the proposed measures and/or green building assistance. Once approved the services can commence. Measures to be installed should demonstrate a reasonable payback. Once the projects are complete, the customer will submit documentation of completion, including equipment invoices, green building certification confirmation, and any other verification data. The program office will verify the installation. Allies and energy service providers who typically serve these markets will be recruited to deliver the program incentives to their customers, but must be certain to request approval from the program before installing equipment. Program training will be advertised and offered to potential program partners through local breakfast and lunch meetings. As with other programs, where possible, SAIC will seek out and develop synergistic relationships with willing associations that have market potential with respect either to end use or to market segment. Calculated energy and demand savings, rebates/incentives, and all relevant customer information will be entered, stored, and tracked in the central database.
Transition Strategies	As described previously, SAIC will continue the water heater program through 2009 as funding permits. Applicants to the Green Homes existing incentive program will be accepted while the program undergoes review with allies and BIA representatives, and realignment with the existing Hawai'i Built Green checklist requirements. Allies in the Hawai'i new construction and energy industries will also be consulted for review of proposed efficient prescriptive measures which SAIC believes could be applicable in Hawai'i's climate and market. The measures deemed to have an appropriate payback and demonstrated energy savings value will be introduced to the market. General administrative tasks including forms and database management will transfer to SAIC upon startup. SAIC may make minor modifications to forms to clarify our role in the program while minimizing customer confusion (i.e. logos), while reviewing these items for opportunities to streamline documentation requirements.
Marketing Strategies	Web-based application forms will be advertised and made available to customers and their equipment/services allies. SAIC will network and develop relationships with key market players, including building associations and community development associations to leverage their marketing resources to inform members. Application forms and marketing brochures will be developed by SAIC. SAIC will publicize success of customer and ally partners to demonstrate highest level leadership in an effort to pull the market. This publicity will include press releases, case studies, demonstration showcases, and special recognition at conferences and other public events. General awareness marketing to all customers through sponsorship and participation in Energy and Green Building fairs, seminars and community events
Program Ally Strategies	Program allies will be trained on the procedures required for green design assistance. These allies will be a significant part of the marketing of the program since their business will also benefit. SAIC will coordinate marketing efforts with existing builders and contractor

	associations to sponsor and promote webinars, training sessions for builders and trade allies SAIC will engage Hawai'i BuiltGreen in green program design to more closely align Green Homes with the BuiltGreen rating system for new residential construction.
Evaluation Requirements	To be determined
Estimated Participation	A combination of 500 participants of the whole building and prescriptive components of the program
Budget	\$980,000 in incentives.
Savings Targets	3474 net MWhs
Program Metrics	• <u>Meet with program allies – builders, project developers, Hawai'i Built Green in first three months</u> • <u>Identify opportunities to streamline program elements in first 6 months</u> • <u>5 Outreach/training seminars in first year of SAIC operation</u> • <u>Participation in 4 fairs or community events in first year</u>

PROGRAM	Energy Solutions for the Home (ESH)
Target Market	Residential single family, multi-family, Association of Apartment Owners, and military housing in HECO, HELCO and MECO service territories.
Market Barriers	▪ Lack of understanding about how energy is used in the home ▪ Lack of information about product energy efficiency - Using an ENERGY STAR® platform helps reduce the overall costs and risks associated with identifying energy-efficient products. ENERGY STAR® offers a credible source of easily identified information. ▪ Product Unavailability – Often related to supply and/or high price issues, unavailability can be overcome through manufacturer buy-downs and/or by working directly with retailers to increase stocking and ordering of energy-efficient products. ▪ Higher first costs - High costs may be related to low levels of manufacturing or simply the higher cost of a given technology. Upstream buy-down efforts can reduce the impact of this barrier. ▪ Undervaluing energy-efficient features (related to higher cost) – This barrier is addressed primarily through marketing and efforts to expose consumers to the benefits of the energy-efficient products. Point of purchase rebates that allow customers to experience the features of a product can help overcome this barrier in future purchases.
Program Objective	To encourage residential customers to reduce their home's electricity consumption by understanding options for increasing efficiency through audits, equipment tune ups and the replacement of older, less efficient appliances with more energy efficient models, including ENERGY STAR® rated lighting, cooling and other appliances. Overall program objectives include the attainment of cost effective kWh savings and transformation of existing purchase protocols to include energy efficiency as an important criteria for decision making.
Program Strategies	The program will include a direct customer incentive component, administered by an implementation/fulfillment contractor, with management oversight by SAIC program staff. Existing incentive levels will be continued during the first three months, and assessed and adjusted, if necessary, to provide the maximum cost effective level to meet the program's objectives. SAIC will also identify, during this period, additional cost-effective measures and appropriate levels of incentives to be introduced into the program in January 2010. In addition, SAIC will train, certify and provide oversight for a number of energy audit contractors who will provide in home energy audits to single and multi-family owners and tenants. In addition, SAIC will expand the current HECO HVAC pre-qualified contractor program to include cost-shared air conditioner tune ups for central A/C systems. These will be provided at no cost for low-income customers.
Program Description	The current program that we will continue provides educational materials & prescriptive incentives to residential customers who purchase and install energy efficiency measures that meet or exceed ENERGY STAR® standards. Incentive amounts are generally set at 25% of incremental cost. Available rebates are:

Ceiling Fans	\$40	Ductless Split A/C	\$110
Clothes Washers	\$50	Dishwashers	\$ 50
CFL- Standard*	\$ 1	Refrigerator	\$ 50
CFL- Specialty *	\$ 3	Window A/C	\$ 50
CFL – Dimmable*	\$ 5		

*CFL coupons are provided for point of sale purchase reductions. These are not included on the rebate application. The program promotes CFLs through Memorandum of Understanding cooperative agreements with participating “teams” of manufacturers or distributors and retailers in which they provide funds for the advertising and promotion of CFLs and coupons for instant rebates to customers. Retailers signing the Memorandum of Understanding (MOU) received POP displays, assistance in ordering and stocking qualifying products, and sales staff training. In return, retailers agreed to promote consumer education, undergo staff training and follow proper coupon redemption procedures

We will also offer an incentive of \$50 towards the servicing of a central air conditioning system (e.g., coil cleaning, filter replacement, etc.) performed by a qualified independent contractor. Contractor qualifications include a currently active State of Hawai`i C52 A/C Contractor's license.

Applications will be accessed online, through the program's website, in hard copy or on-line forms, or through point of sale retailer displays. The application includes customer information, including utility account information and a series of check boxes to indicate the measure(s) for which the customer is requesting rebate(s). Relevant information is also requested including the store product code, brand, model number, size, EER (for air conditioners), and installation date. The application also requires that the store name, location and date of purchase be listed, and the original purchase receipt must be attached. The application notes that the brand and model must be listed on the ENERGY STAR® website in order to qualify for a rebate, and that the application must be postmarked/dated within six months of the date of purchase.

Applications are processed and incentive checks issued by Honeywell (or another fulfillment contractor.)

Key Changes

SAIC will continue existing rebate measures and expand the list of incentives for ENERGY STAR® qualified measures, including possibly whole house and attic fans, cool roofs, home electronics, home office equipment and additional emerging technology measures. Online rebate applications will be accepted, in addition to mailed hard copy rebate applications.

SAIC will add an Energy Audit component. Customers will be able to access a simple, online self-audit at no charge, or a customized walk-through audit conducted onsite by a certified energy auditor, resulting in an audit report with a detailed action plan for implementation. We will train a local network of audit providers, using a nationally recognized auditor training organization such as Building Performance Institute (BPI). We will incorporate some combination of energy simulation modeling.

	Audits may be subsidized based on income and will include: ▪ Customer education ▪ Specific recommendations for reducing energy consumption and costs ▪ Implementation assistance – - o Selected CFL direct installation (dimmable and specialty CFLs) – up to 4 CFLs as appropriate - o Direct installation of up to 4 faucet aerators and up to two low-flow showerheads - o Hot water tank adjustment to 120 degrees if possible - o Refrigerator coil cleaning A/C tune up will be continued, and SAIC will review the existing \$50 incentive level, to see if a higher level is appropriate. SAIC will identify additional service providers, if possible, qualify them, and provide training and educational materials to help them to promote high efficiency equipment to their customers. SAIC will pay the full cost of the tune-up (coil cleaning, filter replacement, etc) for low-income customers. SAIC will explore the feasibility of providing a low-interest financing mechanism, either through Bostonia or on-bill financing, in cooperation with HECO, to help customers pay for higher cost measures identified in their energy audits, such as cool roofs or high efficiency air conditioning systems.
Program Duration	PY2009 through PY2010
Eligible Measures	Incentives will continue to be provided for measures that are in the existing HECO program (Ceiling Fans, Ductless Split and Window Air Conditioners, Clothes Washers, Dishwashers, Refrigerators, Specialty and Dimmable CFLs). New measures that pass cost effectiveness screening, including possibly whole house and attic fans, cool roofs, home electronics, home office equipment and additional emerging technology measures will be added.
Incentive Strategies	Incentives will be based on incremental costs, from 50% – 100% of incremental cost, determined through cost benefit tests for individual measures.
Implementation Strategies	The incentive program will be administered by an implementation/fulfillment contractor, with management oversight by SAIC program staff. SAIC will contract with the existing provider, Honeywell, if possible. SAIC will develop application forms to be used immediately upon takeover of the program, and existing measures and incentive levels will be continued during the first three months. New measures will be added and incentive levels will be adjusted , to provide the maximum cost effective level of savings to meet the program's objectives. SAIC will develop a Program Implementation Manual to guide the participation process and contractor services. During the first three months of program operation, SAIC will meet with participating retailers to explore opportunities to continue cooperative marketing efforts for ENERGY STAR®

appliances, with incentives to retailers who sell a certain level of appliances each month. To receive an incentive, purchasers will submit an application to SAIC's implementation contractor, with required information and documentation to support the incentive application, including an original purchase receipt. The fulfillment contractor will process the application and mail the rebate checks.

The new audit component will be administered by SAIC program staff, using pre-qualified audit contractors. SAIC will contract with the Building Performance Institute or another nationally recognized auditor training program to provide auditor training and certification, possibly in conjunction with local Community Colleges or universities, in order to train a group of energy audit contractors that can provide services in all HECO companies' territories. Audits will be provided to low-income customers at no charge. SAIC will contract with local weatherization agencies to provide income verification, and possibly energy audits for low income customers, if this service is provided by the weatherization agencies.

Customers will schedule audits either online or through the 800 number. Audits will be performed onsite and will include an education component and direct installation of specialty CFLs, faucet aerators, low-flow showerheads, hot water tank temperature setback, and refrigerator coil cleaning. A customized report and action plan will be prepared and presented to the customer, along with educational materials and available financing information. SAIC program staff will be trained to review a sampling of reports for quality control, and follow up with a sampling of customers approximately one month after the energy audit to survey their experience and plans for implementation of recommended measures.

Customers with central A/C systems will be given a coupon by the auditor for a cost-shared tune up of their system, including coil cleaning and filter replacement, to be performed by a contractor from SAIC's list of qualified HVAC contractors. The customer will contact the HVAC contractor, and schedule the service. The customer will pay their share of the cost to the contractor, and the contractor will submit the required documentation to SAIC program staff for reimbursement of the SAIC share of costs.

Transition Strategies

SAIC will continue the existing program during the first three months after taking over the program, and will identify new measures and begin to set up the audit program during this period. It is expected that several new measures will be added at the end of the first three months, and that the audit component will be added at the beginning of 2010. We will conduct outreach sessions with Weatherization agencies, community colleges and universities, local organizations and other advisory groups to determine the audit approach (whether it will be offered through an expansion of existing agencies or a new programmatic approach). SAIC will contract for audit services and begin to train and certify auditors. During the first three months after the program is transitioned to SAIC, we will reach out to participating retailers and HVAC contractors, and identify additional contractors. During the first six months, SAIC will organize and conduct three information/training sessions for contractors, to familiarize them with

	programs and procedures for participation.
Marketing Strategies	SAIC will engage vendors in marketing strategies to encourage point-of-sale advertising, vendor-generated ads, etc. Community activities from other program initiatives (Community Pilot, etc.) will also play a large role in outreach. We will try to use marketing to inspire behavioral changes.
Program Ally Strategies	Meetings and informational/training sessions to explore partnerships with allies, Weatherization service providers, participating retailers, HVAC contractors, banks, homeowner and community associations, military housing associations.
Evaluation Requirements	To be determined
Estimated Participation	Over 420,000 individual units across all eligible technologies
Budget	\$1.98 million in incentives
Savings Targets	61,173 net MWhs
Program Metrics	• Launch advertising immediately after SAIC takes over • Identify and contract with auditor training organization within first three months of operation • Two auditor training sessions within three months after contract with auditor training organization • HVAC training and certification – 3 sessions in first 6 months • Meet with retail partners in all service areas within first 6 months

6.0 BUSINESS PROGRAMS

SAIC will deliver over PY2009 a portfolio of business programs that are described in detail throughout this section. We anticipate that the business programs will result in distributed incentives and savings as described in Figures 6-1 and 6-2, below.

Figure 6-1
Business Program Incentives Across Programs

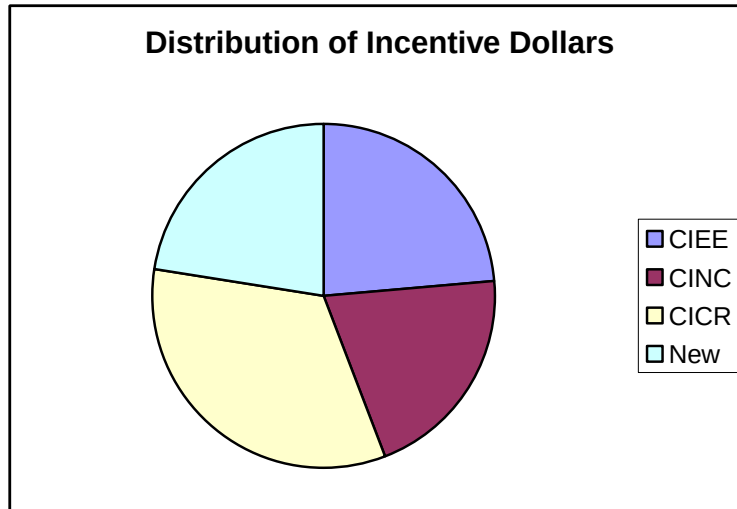
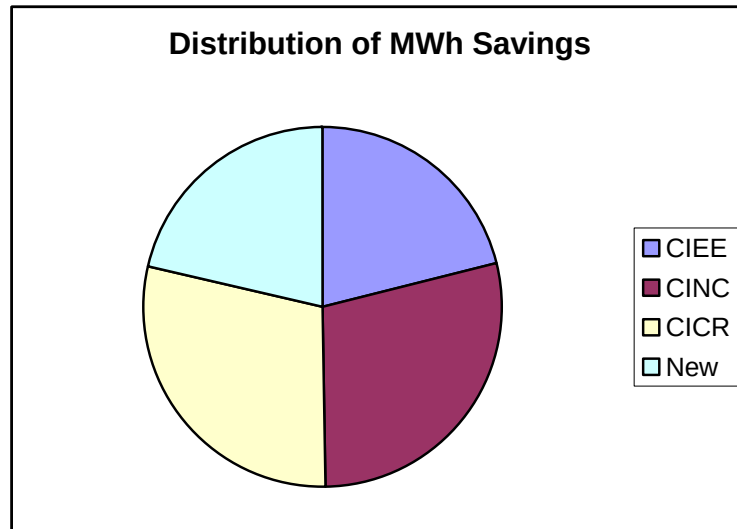


Figure 6-2
Business Program Savings Across Programs



Detailed program descriptions of the residential core programs is included in the following pages.

PROGRAM	Commercial & Industrial Energy Efficiency (CIEE)
Target Market	All commercial, institutional, governmental and industrial sector customers receiving electric power from HECO, MECO, or HELCO are eligible under this program. The program will target specific markets with high energy savings potential in lighting, cooling and ventilation for commercial market segments such as offices, hotels/resorts, retail, restaurants and schools, and with high savings potential in motors, pumping and industrial processes for the industrial sector. Additional prescriptive technologies may include compressed air systems, variable frequency drives (VFDs), and certain controls, such as Guest Room Energy Management (GREM) systems and lighting controls. SAIC will investigate the potential for additional prescriptive end uses including plug loads and ENERGY STAR® appliances. Additional targeted markets include military and government, as well as university and colleges.
Market Barriers	The prescriptive program (CIEE) is designed to overcome the following market barriers: • Higher initial first cost associated with EE technologies • Unfamiliarity with energy efficient technology • Life Cycle Cost vs. Simple Payback decision analysis • Availability of energy efficient technology due to low market demand
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.
Program Strategies	Incentives with deemed savings, agreed to and set by the Commission or Contract Manager, will be offered through trained program staff, supported by local market providers (allies). SAIC will develop a detailed implementation plan; measure lists, rebate levels, and application forms; recruit participants; process incentives; and provide random verification. Customers will complete application forms and provide evidence of installation after they have completed the project. The program office will verify the installation and process the grant request within two weeks of receipt. SAIC or its fiscal agent will send a grant check to the applicant upon receipt of all required documentation. Deemed savings, grant amounts, and all relevant customer information will be entered, stored, and tracked in the central database.
Program Description	The program will provide rebates for energy efficiency products available in the marketplace that provide savings for a wide array of customers. The program will target measures for which energy savings can be reliably deemed, or calculated using simple threshold criteria. Flat rate incentives will

	be based on deemed savings that ensure program cost-effectiveness. The rebates are pre-set rather than calculated based on the specific project. The intent of this structure is to make it very easy for both customers and energy efficiency equipment providers to participate. In addition to paper forms, customers will also be able to submit applications through a web-based form. One advantage to this program is that it provides the same level of service to all customers equitably, regardless of size. The program will also include a self-assessment form that the customer can complete on his/her own to identify potential savings. Participant savings will generally accrue on a one-for-one basis for many of the rebated technologies, as inefficient technologies are replaced by high efficiency measures.
Key Changes	SAIC will continue to use the existing program infrastructures, incentive structure, and marketing and delivery network during the first six months, and during this period, will review the program to identify possible efficiencies of operation and programmatic enhancements. Program baseline efficiency thresholds will be adjusted as necessary to coincide with the adoption of a statewide Hawai`ian energy code when that occurs.
Program Duration	PY 2009 through PY2010
Eligible Measures	Eligible measures include: • High efficiency interior and exterior lighting • Automatic Lighting Controls • Premium Efficiency Motors • Variable Frequency Drives • Cooling and ventilation for commercial markets • Pumps • Compressed Air System Components • Building Automation Components (i.e. Guest Room Energy Management or GREM) • ENERGY STAR® appliances • Basic Refrigeration System Components Periodically, the eligible measures will be re-evaluated to determine if additional measures are warranted.
Incentive Strategies	Customers will be awarded incentives based on the number of qualified equipment installations. These incentives will be backed up by standard, reliable assumptions and calculations and are subject to internal review by the program. The incentive rate will be based upon program \$/kWh and \$/kW rates. Then the final incentive will be tied to measure net kWh and kW savings. Some savings estimates for the program may require information such as hours of operation or occupancy, equipment loadings, production rate, weather, and a variety of other factors. In addition, total incentives will also be limited by a maximum 50% of total project cost to ensure program cost-effectiveness.

Implementation Strategies	Allies and energy service providers who typically serve these markets will be recruited to deliver the program incentives to their customers. Program training will be advertised and offered to potential program partners through local breakfast and lunch meetings. SAIC will also investigate the feasibility of providing sales allies direct incentives, based on performance. Where possible, SAIC will seek out and develop synergistic relationships with willing associations that have market potential with respect either to end use or to market segment. If appropriate, direct installation of some measures may be investigated.
Transition Strategies	• Update application forms as needed. • Outreach staff will collaborate with HECO large account managers and existing allies to market and build awareness of any upcoming program changes. • Schedule kick-off meetings with market allies, and major customer accounts to introduce or re-introduce the program. • Create a program participation manual with sample applications and back-up documentation clearly illustrating the required information.
Marketing Strategies	• Web-based application forms will be advertised to and made available to customers and their channel allies (lighting, cooling, motors, controls). • Allies from the various channels will be trained and recruited as program partners to enhance sales of their energy efficiency equipment. • In addition to face-to-face breakfast trainings, program training webinars will be conducted to recruit and train partner allies. • SAIC will network and develop relationships with key market players, including business associations and chains, in order to understand the markets and decision points and to leverage their marketing resources to inform members. • SAIC will provide information to customers on how to participate through their various channels, such as direct mail and web pages. • Application forms and marketing brochures will be developed by SAIC. • SAIC will publicize success of customer and ally partners to demonstrate highest level leadership in an effort to pull the market.
Program Ally Strategies	• Work with equipment vendors to determine what items in their current product lines are eligible for incentives. • Provide vendor "Tool Kits" with quote stickers, program brochures, etc, to promote the program with their customers. • Face-to-face and online webinars will be conducted to recruit and train partner allies, empowering them to deliver the program directly

	to their customers.
Evaluation Requirements	Incentives with deemed savings, agreed to and set by the Commission, will be offered through trained staff of the participating utilities, supported by a cadre of local market providers (allies). As projects are completed and applications approved, the deemed savings, grant amounts, and all relevant customer information will be entered, stored, and tracked in the central database. A sample set of completed projects receiving incentives from the CIEE program will be verified by evaluators using methods including, but not limited to, file reviews of relevant documentation and on-site equipment verification, and surveys with participants and allies.
Estimated Participation	Over 240,000 units of qualifying equipment.
Budget	\$1.66 million in incentives
Savings Targets	15,684 net MWh
Program Metrics	• Identify and connect with existing program allies and relevant business associations during first two months after SAIC begins operating the program. • Launch advertising program and program training opportunities • Four breakfast meetings or webinars informational/training sessions for trade allies during first three months to explain the program operation • Contact all major retailers in each service territory during first six months of operation • Direct contact with top 100 energy users in first year of program operation

PROGRAM	Commercial and Industrial New Construction (CINC)
Target Market	All commercial, institutional, governmental and industrial sector customers receiving electric power from HECO, MECO, or HELCO are eligible under this program. The program targets new construction and major renovation projects as defined by ASHRAE or IECC in these markets to encourage the installation of measures with high energy savings potential in lighting, cooling, motors, ventilation, and enhanced building envelope design. Design support will be provided for whole building and comprehensive designs that include multiple measures with interactive effects. Custom applications can include compressed air systems, heat recovery hot water, variable frequency drives (VFDs), demand control ventilation, lighting and building controls, and renewable energy systems such as solar thermal, SWACS, and biogas recovery.
Market Barriers	The new construction program is designed to overcome the following market barriers: - Higher initial first cost - Unfamiliarity with energy efficient technology - Limited assistance for design and evaluation of energy efficient technology - Life Cycle Cost vs. Simple Payback decision analysis - Availability of energy efficient technology due to low market demand
Program 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 first cost barriers.
Program Strategies	New construction is the construction of a new facility, the construction of an addition to an existing facility, or the major renovation of an existing building (gut/rehab or usage change). The major benefit of the program is that it helps identify energy efficiency and renewable energy opportunities when they are least costly and mostly to be installed so as to avoid lost opportunities and the need to go back, after construction, to make expensive building and equipment modifications. The key groups in these decisions include developers and their architects and engineers. SAIC will recruit the local A&Es, equipment providers and energy service providers and consultants (allies) who typically serve these markets, educate them about the program benefits and process and solicit their support to deliver the design assistance and program incentives to their customers. Program and energy efficiency design training will be advertised and offered to potential program partners through local breakfast and lunch meetings. Where possible, SAIC will seek out and develop synergistic relationships with willing associations that have market connections. The SAIC team will meet with developers to identify new projects and to assess energy efficiency opportunities early in the project schedule while

	time still exists for their inclusion. This ensures maximum impact on these potential lost opportunities. SAIC will provide program management and develop program procedures, incentive rate levels, and application forms. It will recruit participants, review designs for efficiency opportunities and advise participants of program eligibility and incentive potential, calculate and issue incentive offerings, and process incentive applications and payments. SAIC program staff will recommended incentive levels, for approval by the Commission or its agent. Incentives will be available for measures and designs that exceed some threshold above code requirements or current standard design practice, whichever is stricter. HECO may continue to provide implementation support services. After review and approval of the energy savings offered by the proposed design, the program applicant may proceed with equipment purchase and construction. All applicants must receive approval from the program before construction. When construction is complete, the customer submits documentation of completion, including equipment invoices and other verification data that supports the installation of the energy savings which served as the basis for the incentive offering. SAIC will review the supporting documentation and confirm the installation complies with the terms of the incentive offer. SAIC or its fiscal agent will send a grant check to the applicant upon receipt and verification of all required documentation. Calculated energy and demand savings, grant amounts, and all relevant customer information will be entered, stored, and tracked in the central database.
Program Description	SAIC will provide building owners, developers and design teams with the tools to make informed energy decisions about managing operating costs and addressing equipment efficiency options that improve occupant comfort and satisfaction. The New Construction Program (CINC) will provide technical project assistance, financial incentives and training opportunities to building owners and design teams. This program will offer a combination of prescriptive and custom incentives and design assistance to ensure that eligible projects take advantage of opportunities to achieve the highest achievable energy efficiency levels. SAIC staff and other local providers will provide design assistance from the project start to identify the best design considerations and promote investments in them through prescriptive and custom incentives. The incentives will be offered for designs or equipment that exceeds some baseline threshold above code or other standards. This program will be delivered by program staff, utility representatives, and trained market partners. For the first six months, this program will continue with the existing program. However, process modifications will be identified, recommended, and adopted for the full transition.
Key Changes	Program baseline efficiency thresholds will need to be adjusted to coincide with the adoption of statewide Hawai`ian energy code which will likely occur in the next few months.
Program Duration	PY2009 to PY2010.

Eligible Measures	Any cost beneficial building component measure, design strategy, or renewable technologies that can demonstrate electric energy savings and pass the Total Resource Cost Test. High efficiency measures can include air conditioning, lighting systems, day lighting and lighting controls, building controls and automation, NEMA premium efficiency motors, variable speed drives, ventilation systems, fans, pumps, air compressor systems, and improved envelope designs.
Incentive Strategies	Customers will be 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. The incentive structure will be agreed to and set by the Commission or Contract Manager and is likely to be less than prescriptive levels for standard technologies. For example, lighting incentives will likely be based on best practice technology that exceeds code requirements; cooling on the basis of tons and EER level in excess of code; and compressed air on the basis of best practice technology compared with conventional sales. Incentives may not exceed the full incremental cost, relative to the baseline technology cost, and be must be cost-effective from the program perspective.
Implementation Strategies	The Program will have two program tracks: an equipment-based prescriptive track and a whole building comprehensive track. The prescriptive track will offer a menu of equipment specific incentives based on energy efficiency performance ratings that exceed ASHRAE 90.1 2004 (the proposed statewide Hawai'ian energy conservation code will be based on IECC 2006 references ASHRAE 90.1 2004. The equipment type and efficiency performance thresholds will parallel those offered by CIGR to avoid confusion between programs and prevent gaming between programs. These incentives are intended for simple, less complex new construction eligible projects that offer limited opportunity for design changes or innovation. The comprehensive track will provide tiered incentives based on cost savings improvements over a code compliant based performance threshold as supported by industry accepted engineering calculation methodologies or energy modeling defined by ASHRAE 90.1. COMCHEC might also be used to demonstrate performance improvements. Per unit incentives will increase with incremental cost performance improvements. These incentives are intended for more sophisticated, complex projects with multiple systems interacting and offering significant opportunity for design innovation and energy savings. This track will especially focus on projects offering opportunities to modify envelope design and reduce internal loads and equipment capacities.
Transition Strategies	Initially SAIC will work with the existing HECO representative to contact existing program participants and pending applicants to assure participant of the continuity of the program and its commitments and to learn of the project status. SAIC will also identify contractors and design team members of current project applicants for outreach and to advise of program requirements. New project opportunities will also be discussed at this time with these contacts. Program changes will be based on improvements to

	building codes and timed to occur simultaneous with new code adoption to piggy back off the code improvement and the publicity and educational programs surrounding such adoption.
Marketing Strategies	Web-based application forms will be advertised and made available to customers, developers, architects and engineers. These allies will be trained and recruited as program partners to enhance energy efficiency upgrades to new facilities. Architects, in particular, are quick to adopt new design strategies and likely will be receipt candidates for the program's message. In addition to face-to-face breakfast trainings, program training webinars will be conducted to recruit and train partner allies. SAIC will network and develop relationships with the key market players, in order to understand the markets and decision points and how to leverage program incentives and design assistance for their customers. The participating utilities will provide information to customers on how to participate through their various channels, such as direct mail and web pages. Application forms and marketing brochures will be developed by SAIC. SAIC will publicize success of customer and A&E firms to demonstrate the highest levels of leadership in an effort to pull the market. This publicity will include press releases, case studies, demonstration showcases, and special recognition at conferences and other public events.
Program Ally Strategies	SAIC will develop contacts with the local chapters of AIA, ASHRAE, the Hawai`ian Council of Engineering Societies and BOMA and request opportunities to meet with membership to present program information and application details. Early contact with these organizations is essential since program calendars fill up quickly and are in place by early fall. SAIC will also serve as a resource for design efficiency information.
Evaluation Requirements	To be determined
Estimated Participation	Approximately 100 buildings
Budget	\$1.47 million in incentives
Savings Targets	21,255 net MWh
Program Metrics	• Identify and connect with developers, architects, and engineering firms related to the target markets • Launch advertising for program and program training opportunities • Provide direct contact to the top 20 building developers and A&E firms within the first year • Three program training webinars in first year

PROGRAM	Commercial and Industrial Customized Rebate (CICR)
Target Market	All commercial, institutional, government and industrial sector customers are eligible under this program. The program targets specific markets with high energy savings potential in lighting, cooling, ventilation, for commercial market segments such as offices, hotels/resorts, grocery stores, and schools.
Market Barriers	The custom incentive program is designed to overcome the following market barriers: ▪ Limited Capital Cost ▪ Actual / Perceived Productivity Risk ▪ Limited market acceptance of new technologies ▪ Low market knowledge of opportunities ▪ Low market understanding of savings resulting from opportunities ▪ Lack of market visibility of energy efficiency options
Program Objective	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.
Program Strategies	Incentive awards will be based on calculated savings that ensure program cost-effectiveness. Participants must notify the program prior to the project so that existing equipment can be inspected. Engineering calculations are required and will be subject to internal program engineering review. Projects must have a payback of greater than one year and pass the benefit-cost test. The incentive rate for retrofits is based on energy savings and the total incentive will not exceed the 50 percent of incremental cost of the energy efficiency improvement. To apply a customer or his agent must submit a brief proposal that describes the project and includes estimates of energy savings and payback. The customer may also call the program to request assistance. SAIC will continue to use the existing program infrastructures, incentive structure, and marketing and delivery network during the transition period, and during this period, will review the program to identify possible efficiencies of operation and programmatic enhancements. This program will be delivered by SAIC program staff, utility representatives, and trained market partners.
Program Description	This program will provide a custom application and granting process for participants to receive incentives for installing non-standard energy efficiency technologies. The intent of this structure is to enable customers to invest in energy efficiency in processes and other technology measures that may require calculations of energy savings for specific, unique applications. Incentive awards will be based on calculated savings that ensure program cost-effectiveness. Participants must notify the program prior to the project so that existing equipment can be inspected. Engineering calculations are required and will be subject to internal program engineering review. Projects

	must have a payback of greater than one year and pass the utility benefit-cost test. The incentive rate for retrofits is based on energy saved and the total incentive will not exceed the 50 percent of incremental cost of the energy efficiency improvement. 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, heat pump water heaters, and renewable energy technologies. To apply a customer or his agent must submit a brief proposal that describes the project and includes estimates of energy savings and payback. The customer may also call the program to request assistance. SAIC will continue to use the existing program infrastructures, incentive structure, and marketing and delivery network during the first few months of taking over the program, and during this period, will review the program to identify possible efficiencies of operation and programmatic enhancements. This program will be delivered by SAIC program staff, utility representatives, and trained market partners. One advantage to this program is that it provides an opportunity for more complicated project proposals to be vetted and funded. These incentives help to reduce payback periods and lower first-cost.
Key Changes	Potential changes to the program • Simplification from two separate rates to one single incentive rate for both existing buildings and new construction with incentive for both kW and kWh saved. • Multi-year incentive disbursement will not be offered. (pros/cons) • Introduction of a feasibility study incentive
Program Duration	PY2009 through PY2010
Eligible Measures	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.
Incentive Strategies	We will maintain the incentive levels currently used by the program. The custom incentive for any given project will be based on the expected annual energy savings and will be calculated by applying incentive rates approved by the commission to the amount of peak kW reduction and the total kWh expected to be saved in the first year following project completion. Incentives will be limited to not more than 50% of the project cost and will only be eligible for projects which are determined to be cost effective. Creative incentive strategies will be utilized through the program year to increase participation. Examples of such program may include, but are not limited to;

	▪ Targeted feasibility study offerings to create new projects in select technology areas ▪ Retrocommissioning offerings to uncover new projects in energy intensive systems
Implementation Strategies	▪ Update forms to reflect changes ▪ Hold kick-off with market allies, business and trade associations interested large customer accounts ▪ Provide example projects and complete example applications to show applicants what counts as a complete application
Transition Strategies	Work through participating utility staff and through marketing outreach to prepare market for upcoming changes
Marketing Strategies	Web-based application forms will be advertised and made available to customers and their equipment/services allies. Allies will be trained and recruited as program partners to enhance sales of their energy efficiency equipment and services. In addition to face-to-face breakfast trainings, program training webinars will be conducted to recruit and train partner allies. SAIC will network and develop relationships with key market players, including business associations and chains, in order to understand the markets and decision points, and to leverage their marketing resources to inform members. The participating utilities will provide information to customers on how to participate through their various channels, such as direct mail and web pages. Application forms and marketing brochures will be developed by SAIC. SAIC will publicize success of customer and ally partners to demonstrate highest level leadership in an effort to pull the market. This publicity will include press releases, case studies, demonstration showcases, and special recognition at conferences and other public events.
Program Ally Strategies	Offer program ally custom incentive training through webinars and workshops to ensure program allies are comfortable with utilizing all aspects of the custom incentive program to sell more energy-efficient options to their respective customers.
Evaluation Requirements	To be determined
Estimated Participation	Over 700 individual measures
Budget	\$2.1 million in incentives
Savings Targets	21,345 net MWhs
Program Metrics	• Identify and connect with key business associations related to the target markets • Launch advertising for program



7.0 LOW INCOME/HARD TO REACH

SAIC will target low-income and hard-to-reach customers as defined by the Commission during PY2009. The hard-to-reach population will be served by existing programs that provide assistance or incentives for appropriate end-use technologies, but will be marketed in a targeted fashion through community outreach efforts to encourage broad participation.

For the low-income sector, SAIC will work in cooperation with local Weatherization Assistance Program providers to maximize and supplement those program's efforts. Due to the recent assignment of significant funding to WAP for this year, SAIC may alter plans for serving this sector to be more aligned with those one-time efforts to reach low-income households. We will further develop our plans to serve this sector as federal funding is allocated across the State.

Our initial plans for the low-income and hard-to-reach sectors are described in greater detail in the following pages.

PROGRAM	Residential Low Income
Target Market	The Federally funded Weatherization Assistance Program, supplemented by other funds, has helped low-income families install insulation jackets and timers on water heaters, provided new heat pump water heaters, and offered advice on improving energy efficiency. In Hawai'i, the program is administered by the Department of Labor and Industrial Relations, Office of Community Services. For the past two years, HECO has been in the process of developing a low-income program for single-family customers. The program was planned to target low-income single-family owners and renters, qualified under the State of Hawai'i low income guidelines. HECO has been in negotiations with established third-party agencies that typically deal with low-income customers, such as the Honolulu Community Actions Program (HCAP) to administer the program. The HCAP agencies were to develop the marketing and promotional materials, recruit and qualify customers, certify the installations, and schedule the onsite work. SAIC had proposed to explore the possibility of providing additional funding to the agencies to provide services to households that are above the eligibility criteria for Weatherization Assistance Program (WAP) services (150 percent of the poverty level), but may still be considered low-to-moderate income (200 percent of the poverty level). However, in January 2009, as part of the American Recovery and Reinvestment Act of 2009, the Weatherization Assistance Poverty guidelines were increased to 200% of federal poverty level. Another part of that legislation provided significant funding increases for Weatherization services. SAIC has begun discussions with the Department of Labor and Industrial Relations, Office of Community Services program staff who administer the state Weatherization funds, to determine the best use of the low-income funds under SAIC's administration that will complement any planned expanded services by Hawai'i's WAP providers. The Department of Labor and Industrial Relations has issued an RFP for not for profit agencies to submit proposals for funding under the 2009 supplemental funding amount of approximately \$4.1 million. Proposals are due on May 7th, 2009. SAIC will continue meetings with the agency after this date to discuss funded proposals and to determine how best to coordinate SAIC program funding with the proposed services.
Market Barriers	Customer lack of access to capital for energy improvements Lack of understanding of energy efficiency benefits Reluctance to invest in property if not owner Split incentives – tenants vs. landlords
Program Objective	To achieve kWh savings and reduce energy costs for low-income customers
Program Strategies	Program will be offered through a proposed Contractor-based strategy, utilizing existing network of CAP agencies in HECO territory and Economic Opportunity agencies that provide low-income services in MECO and HELCO service territories. SAIC will provide program oversight of CAP and other

	contractors' services, training (including auditor training) as needed, educational and outreach materials, and reimbursement for program services and measures. Depending on program funding levels, a refrigerator replacement component will be explored and considered as an addition to the program in the 2010 program year. SAIC will work with appliance manufacturers to implement a bulk refrigerator purchase, if availability of high efficiency models is a limiting factor. Key to program efforts will be continuing outreach to groups and organizations that impact or administer low-income services and programs.
Program Description	The current HECO program strategy is to enable qualified low-income single family customers, as defined by the State of Hawai'i guidelines, to receive installation of CFLs and high efficiency water heating measures at no cost to them. The program has been in the planning and very early implementation stages for the past two years. HECO's program was set up to work with established third-party agencies that typically deal with low-income customers, including Honolulu Community Actions Program (HCAP). The HCAP agencies would be developing the marketing and promotional materials, recruiting and qualifying customers, certifying the installations, and scheduling the onsite work. The qualified customers would not have to pay for the installation of the measures. HECO and HCAP jointly developed an agreement outlining the expectations and responsibilities for each partner. Numerous meetings were held at the main HCAP office and trainings at each of the regional offices discussing how this program could be effective with all levels of personnel. During this time applications were developed and processes for helping applicants fill the forms were tested, resulting in modifications to ensure that personal income levels would not be shared with HECO to protect the applicant's privacy. Due to funding and manpower shortages at HCAP, HECO funded an additional HCAP employee to help administer the program. HECO has also researched and identified vendors for purchase of CFLs, showerheads, faucet aerators, and worked out systems with HCAP for accounting and maintaining inventories. HECO did not expect any impacts from the RLI Program until after the HCAP took applications for the State of Hawai'i's Low-Income Home Energy Assistance Program (LIHEAP) in June 2008. A person was hired by HCAP in April of 2008, who created procedures, documentation and reports to assist in the communication flow. However that person left two weeks prior to the start of June. The position was not filled by HCAP as they entered their busiest time of the year dealing with LIHEAP applicants. From June to October approximately 1,000 applications were received by HCAP's offices. These applicants qualified for the income levels, however, many applications had to be disqualified due to the issue of the hot water coming from a central hot water system instead of an electric, stand alone, residential sized water heater. HECO started the process in 2008 to search for qualified installers and has continued that process in 2009.
Key Changes	SAIC will continue to work with HCAPs to develop program services for low-income customers in HECO's territory, and will initiate discussions with the agencies that provide low income services in HELCO and MECO service territories. Based on the results of the RFP process, SAIC will develop

	complementary elements to the proposed programs and services. SAIC will develop an audit component to serve low-income customers, through its new Residential audit program. Low-income customers will be provided audits, including customized recommendations, direct installation of compact fluorescent bulbs, faucet aerators, low-flow showerheads, hot water tank setback, and educational materials, at no charge. Depending on available funding, a Refrigerator Replacement component will be considered as part of 2010 programs. Refrigerator coil cleaning would be provided for units that are not replaced. In addition, low income customers with central air conditioning units would be eligible for air conditioning tune-ups through SAIC's expanded ESH program. SAIC will conduct the following activities to implement proposed new program additions: • Continue to work with HCAPs and Economic Opportunity agencies to assume delivery strategies, including energy audits (if possible), direct installation of measures and administration of A/C tune-up for their clients. If agencies are unable to deliver all components, we will work with them to assume administration of audit and direct installation services provided by outside contractors. • Explore the addition of a refrigerator replacement component. If necessary, work with appliance manufacturers to implement a bulk purchase of refrigerators, if availability of high efficiency models is identified as a need, • Provide training seminars and educational materials for agency providers on program procedures and additional measures, • Enhance partnerships with existing allies and develop new ones to continue to identify new opportunities for serving low-income customers. Allies include HCAPs and Economic Development agencies, housing and community associations, state and local governments, HVAC contractors, appliance manufacturers, and appliance recyclers, and • Develop pilot project for targeted neighborhood approach. <i>Note: Based on program funding levels, SAIC will explore the cost effectiveness of adding a Refrigerator Replacement component to be added in the 2010 program year. If this component is added, SAIC will explore the feasibility of developing a refrigerator/appliance recycling facility on Oahu that could serve the entire state.</i>
Program Duration	PY2009 through PY2010
Eligible Measures	Energy audits, direct installation of compact fluorescent bulbs; water heater blankets; low-flow shower heads; faucet aerators; pipe insulation; refrigerator coil cleaning; A/C tune-ups for owner occupied households with central air conditioning systems.
Incentive Strategies	Installation contractors (CAP agencies or other contractors) will receive a negotiated reimbursement amount for audits and the cost of direct installation of measures. A/C tune-ups will be provided at no cost for eligible households through ESH program.
Implementation Strategies	SAIC will continue to work with the HCAP agencies to determine the appropriate implementation strategy. SAIC proposes to develop a statewide network of HCAP and EO program providers to help low income customers understand and reduce their energy consumption. Contracted services would

	include developing program marketing and promotional materials, recruiting and qualifying customers, scheduling onsite work, conducting energy audits and educational sessions, installing or overseeing installations, and certifying installations. Key to this program is the cooperation with the local Community Action and Economic Opportunity agencies to develop the program components to generate energy savings in each household served. SAIC will conduct training sessions for the CAP and EO agency staff and provide educational materials for the new measures. A program representative from SAIC would be the liaison for the program, and would oversee the administration of the funded portions of the program. SAIC would refer prospective participants to the program through its Program Information hotline and through outreach in other program areas. The program representative would inspect a sampling of completed installations and address problems if necessary. Depending on available program funds, SAIC will consider introducing a refrigerator replacement component in the second year of program operation and a bulk refrigerator purchase program if necessary. If this component is implemented, SAIC will also explore the possibility of establishing a refrigerator/appliance recycling facility on Oahu that could serve the entire state.
Transition Strategies	• Continue to develop delivery mechanism through CAP/EO agencies • Meet with statewide administrator, CAP and EO agencies to discuss their plans for additional WAP funding through federal American Recovery and Reinvestment Act and how our program funds can best complement their planned efforts • Negotiate with WAP/EO agencies or another contractor for services and measure reimbursement costs
Marketing Strategies	• Outreach to major housing, community associations • Targeted newspaper and TV ads for low-income services and refrigerator replacement • Informational sessions for HVAC contractors • Marketing through CAP and Economic Opportunity agencies
Program Ally Strategies	SAIC will conduct outreach through meetings and presentations to groups and organizations that provide services to low-income families and individuals. SAIC will develop relationships with key allies, including Community Action Programs and Economic Opportunity agencies, housing and community associations, state and local government agencies, Rebuild Hawai'i, and appliance manufacturers. An advisory committee will be set up to help guide the program and identify opportunities for enhancement.
Evaluation Requirements	To be determined
Estimated Participation	SAIC will seek to provide services to 2,000 low-income households
Budget	\$276,000
Savings Targets	2,369 net MWhs
Program Metrics	• Continue negotiation with state and local Weatherization agencies during

	first three months of operation to identify coordinated program strategies • If necessary, identify another contractor to provide program services • Outreach to major housing, community associations during first six months • Launch advertising during first six months • Framework for refrigerator replacement program in second year of program • Review potential for bulk refrigerator purchase program in second year • Three pilot project neighborhood campaigns during 2010

PROGRAM	Renters of Individually Metered Housing Units / Master Metered Multi-Family Housing
Target Market	Renters of units in buildings with more than 4 units
Market Barriers	There are a high number of inter-related barriers that must be addressed in this segment because of serious concerns that residents of multi-family buildings are not receiving an equitable portion of the public investment in efficiency, and are less equipped financially to deal with the results of the inequity. In addition to financial barriers, there are often language barriers and geographic barriers. Multi-family housing in high density urban areas are often easier to identify and reach through programs than those located in suburban or more remote areas. The home ownership (split incentive) issue is also a barrier to tenants' investing in energy efficiency because landlords usually own the larger energy using equipment.
Program Objective	Provide equity of service by targeting hard to reach tenants in multi-family buildings to improve energy efficiency and reduce their energy costs.
Program Strategies	There are two strategies for tenant participation; one customer-based, and the other a contractor-based approach. Renters can participate either through the expanded Energy Solutions for the Home (ESH) program to receive rebates on ENERGY STAR® equipment, or they can participate in the Community Pilot Program, in which whole neighborhoods will be targeted for energy efficiency campaigns.
Program Description	Renters can participate in the expanded Energy Solutions for the Home (ESH) program to receive rebates on ENERGY STAR® equipment that may be readily transported upon relocation, including possibly: ▪ Dimmable and specialty CFLs ▪ Room Air Conditioners ▪ LED Lighting ▪ Home office and electronic equipment Multi-family buildings will be targeted as part of the Pilot project neighborhood campaigns. These campaigns will include a simple energy audit and educational component, to help tenants understand how they use energy, and how to reduce energy consumption and costs. Direct installation of several measures at no charge will include water heater tank wraps, pipe insulation, faucet aerators and low flow showerheads. Other no-charge measures will include refrigerator coil cleaning and replacement of air conditioner filters, if appropriate, and hot water tank temperature setback. If

	the residence does not have compact fluorescent bulbs, up to four compact fluorescents and up to two dimmable CFLs (if dimmers are present) will be installed. A more detailed description of the Community Pilot Program is provided as a separate document.
Program Duration	PY2009 through PY2010
Eligible Measures	For participation in ESH, incentives will be provided at the same rate for any measures that are included in the ESH program. For the Community Pilot Program, measures will include no charge simple energy audits and direct installation of measures, as determined to be appropriate, including water heater tank wraps, pipe insulation, faucet aerators and low flow showerheads. Other no-charge measures will include refrigerator coil cleaning and replacement of air conditioner filters, if appropriate, and hot water tank temperature setback. If the residence does not have compact fluorescent bulbs, up to four compact fluorescents and up to two dimmable CFLs (if dimmers are present) will be installed.
Incentive Strategies	Incentive levels for ESH participation will be provided through ESH Program description. For the Community Pilot Program, energy audits and direct installation of measures will be provided at no charge, to overcome the barrier of tenants' unwillingness to pay for measures that would likely remain in the unit if the tenant relocated.
Implementation Strategies	SAIC will use ESH as the primary vehicle to offer services to this market.
Marketing Strategies	In addition to marketing strategies in place for ESH, SAIC will undertake a community marketing campaign to enlist broad program participation in Community Pilot projects.
Program Ally Strategies	Outreach to neighborhood, city, county, state and federal housing agencies and associations, other government agencies providing low-income services, Rebuild America, Economic Opportunity and Community Action Agencies.
Evaluation Requirements	To be determined.
Estimated Participation	Included in ESH, tracked separately.
Budget	Included in ESH
Savings Targets	Included in ESH
Program Metrics	• Outreach to major housing, community associations and other allies during first three months after transition to explain participation opportunities and identify project opportunities • Three Community Pilot campaigns during first year of operation

PROGRAM	Small Commercial Installation Program
Target Market	Businesses with fewer than 50 employees.
Market Barriers	Small business owners are typically without the access to both energy advisory services and project financing to identify and implement cost-effective energy saving measures for their facilities. These barriers are particularly evident in economically challenged communities.
Program Objective	Provide a service to businesses that produces energy savings at little or no cost to the business owner and to provide jobs.
Program Strategies	This customer segment will be eligible for prescriptive incentives under the Commercial and Industrial Energy (CIEE) program. They will also be served as part of SAIC's Community Pilot program. For the neighborhood pilots, SAIC will employ and/or train installation contractors to identify and install low-cost measures that will increase operational energy efficiency. We will make use of local providers to the extent possible; our efforts will create additional employment opportunities in many communities.
Program Description	Small business owners can purchase qualifying equipment and apply for incentives through the CIEE. For the Community Pilot program, pre-approved contractors will go on-site to assess opportunities for increased efficiency from lighting improvements, minor cleaning and adjustments to refrigeration systems, etc. While on-site, those contractors will install up to a prescribed maximum of upgraded lighting and other low-cost measures free of charge to the business owner. Additional work may be identified and completed at some cost to the owner.
Program Duration	PY2009 through PY2010
Eligible Measures	High efficiency interior and exterior lighting and controls, cooling and ventilation, appliances, basic refrigeration system components, building automation components. Other cost effective measures will be added to CIEE over time. Specific direct install no-cost measures for the Community Pilot program will be identified during the program development stage.
Incentive Strategies	For the no-cost direct installation component there will be no additional incentives. However, owners can apply for incentives through CIEE for measures for which they are paying an installation fee.
Implementation Strategies	Small business owners can apply directly for CIEE incentives, using online or hard copy applications. For the direct install component, SAIC will establish a network of pre-approved contractors who will market the program directly. We will establish sufficient reporting and post-inspection rigor to assure a high quality of service.
Marketing Strategies	In addition to CIEE and contractor marketing efforts, SAIC will use the Community Pilot program as a vehicle for targeted promotion.
Program Ally Strategies	See vendor and contractor strategies for CIEE .
Evaluation Requirements	To be determined.

Estimated Participation	Included in CIEE
Budget	Included in CIEE and will be included in the Community Pilot budget, for that portion of the program.
Savings Targets	Included in CIEE and savings goals will be developed for the Community Pilot small business portion.
Program Metrics	• Identify and connect with key business associations serving the small business community • Launch advertising for CIEE, highlighting small business opportunities • Outreach to identify potential Community Pilot contractors • 3 Information and training sessions for contractors by end of 2009

8.0 RENEWABLE ENERGY PROGRAM

SAIC is developing a Photovoltaic Rebate program for later adoption. SAIC has retained the services of the Wisconsin Energy Conservation Corporation (WECC) to design this program for Hawai'i because of their depth of experience in designing similar programs. WECC will have the initial program design delivered to SAIC in June, 2009. Although SAIC's contract does not require that we implement the resulting program in the first program year, we believe that the influx of federal stimulus money may make early adoption feasible, and perhaps desirable.

SAIC recommends that the Commission explore avenues to fund the Photovoltaic Rebate program during PY2009 or early PY2010.

9.0 PROGRAM ADDITIONS

SAIC will be engaged in program enhancements as well as entirely new programs for delivery during PY2009. Programs and enhancements that we will introduce during the first year include:

- Commercial Retro-Cx
- Home Audit & Tune Up (to be introduced as pilot during first year under ESH)
- Community Pilot Project
- Custom Project RFP
- Service Buy-Down

Programs to be added in PY2010 include:

- Residential & Small Business Low Interest Financing
- Green Buildings Program (included as element of both new construction programs)
- Performance Buy-Down

A brief description of each of these program additions is given below.

Commercial Retro-Cx

The Commercial Retro-Commissioning (RCx) program will provide the ability for C&I end-users to receive a thorough retro-commissioning investigation of their key end-use systems. The intent of this program is to enable customers to find and invest in no-cost to low-cost energy efficiency measures. Typically 5 to 20% of energy use in a facility can be saved by a RCx process that tunes-up existing systems and in many situations, gets the system to function efficiently for the first time.

The RCx program also provides a building integration investigation that will identify longer payback investments. These longer payback measures will then be referred to the CIEE and CICR programs to assist the building owner in identifying other HEEP offerings to support implementation. Besides higher savings for these other programs, the fact that projects were identified during the RCx investigation will provide a higher attribution rate for these savings.

To apply for incentives, a customer or his agent must submit a brief proposal that describes the project and includes estimates of energy savings and payback. The customer may also call the



program to request assistance. SAIC will engage local commissioning providers, especially those affiliated with the Building Commissioning Association (BCA). The customer applications will indicate a need for the customer to provide funds for projects identified under a one year payback. The cost of the RCx study will be initially covered at 75% of the full cost.

SAIC will develop this program as a new offering for launch later in PY2009.

Home Audit & Tune Up

The Home Audit and Tune-Up (HAT) Program will be introduced as a pilot during the first year as part of the ESH program. After the first year, the HAT program will be “spun off” to become a separate offering, building on the audit portion of the ESH program. The purpose of the HAT program will be to provide auditing services to help homeowners identify potential energy saving projects, ensure that homeowners have the information they need to make decisions regarding energy capital improvements and to facilitate a better understanding of the impact these projects will have on their home energy use.

Community Pilot Project

This program will provide an innovative approach to program delivery and outreach by engaging entire communities in neighborhood energy efficiency through a series of campaigns. Program offerings are expected to include the delivery of educational material on making energy efficiency improvements, energy audits and direct installation of several measures including water heat tank wraps, pipe insulation, faucet aerators, high efficiency showerheads, refrigerator coil cleaning, replacement of air conditioner filters, hot water tank temperature setting reductions. A limited number of CFL and dimmable CFL lamps may be provided for each residence if CFL technology is not already installed there.

An important facet of the Community Pilot Project is the inclusion of input and services from a regional advisory group with representatives from Community Action and Economic Opportunity Agencies, housing and tenant associations, Chambers of Commerce and other related groups.

Custom Project RFP

Even the most thoroughly designed energy program portfolios cannot cover every possible energy saving project that stakeholders may identify. For this reason it is important to recognize that some conservation measures not explicitly defined by the programs may have significant energy savings and other benefits for the community. Thus, the purpose of the Custom Project RFP is to solicit special opportunities that do not readily fall within the scope of other programs, ensuring that these unique, and often innovative ideas receive the same consideration and support as more conventional projects served by other offerings.

Many times the projects identified at larger, more complex commercial, institutional and industrial facilities do not fit within the boundaries of standard offerings even though the larger scope of these projects equates to greater energy savings. Consequently, the Custom Project RFP program an important component as it is expected to capture energy savings at these sites. Another advantage of the RFP approach is the ability to target emerging technologies and to provide the customers or allies with deadline for moving forward on projects.

Service Buy-Down



The Service Buy-down program will be established to provide incentives to offset a portion of the cost of energy efficiency services such as air-conditioner tune-ups, compressed air leak surveys, etc. The incentives will be based on a per-unit basis for the number of system components involved in the survey and resulting maintenance. For instance, the benefit to a facility owner for a compressed air system survey will be based on the number of verified leaks that are repaired.

Service Buy-Down incentives are readily adopted in programs where Trade Allies are used to promote the program and the offerings. By using the established networks in the marketplace, the demand for service buy-downs can increase rapidly after program launch.

Residential & Small Business Low Interest Financing

The Residential and Small Business Low Interest Financing program will be made available in cooperation with local banks and the SAIC Team partner Bostonia to provide homeowners and small businesses with access to needed capital for energy efficiency improvements. Financing could be made available for energy efficiency measure installations, renewable energy projects (solar, wind, and bio-mass), and energy savings performance contracts/utility energy services contracts ("ESPCs and UESCs").

Green Buildings Program

The Green Buildings Program will be an element of both the commercial and residential new construction programs. The offerings included in this program will encourage the inclusion of green and sustainable design features that are appropriate for Hawai'i's unique climate conditions and energy supply issues. Elements such as natural ventilation to reduce the need for mechanical cooling, vegetated roofs to reduce storm water runoff and lower cooling loads, as well as advanced daylight harvesting systems to minimize the need for artificial lighting are among the many features that we envision for these programs.

Performance Buy-Down

The Performance Buy-Down program will provide financial incentives to encourage the participation of third-parties in the implementation of energy projects on a savings-based performance contract. Energy performance contracting is an arrangement through which contractors, ESCOs and other third parties (outside of the owner) are incentivized to deliver energy savings project, including the actual installation of efficient equipment. This program track will "buy down" a performance contract, making the terms more financially viable, to encourage that both business owners and service providers adopt performance contracting agreements as a means for energy project implementation.

10.0 IMPLEMENTATION AND DELIVERY APPROACH

SAIC will design an implementation and delivery approach to promote and increase program participation and awareness of energy efficiency. Ultimately, increased participation will result in higher levels of kWh savings and reduce energy costs for all participating residential and business customers. We will employ strategies that will maximize the use of local markets and delivery channels for each sector and each island. A discussion of the strategies that we will implement in PY2009 follows.

10.4 General Strategies

The major elements of providing cost-effective energy savings are increased participation, maximization of savings, and streamlined processes. Those three components together allow delivery of the highest level of savings at the lowest cost.

The design of our program delivery services includes the streamlining and computerization of as many processes as possible. Examples of actions to streamline processes include:

- Use of web-based program applications for all programs to reduce processing costs associated with data entry.
- Development of a tracking and management system to decrease the amount of direct staff interaction with data. For example, there are now major data elements that are physically transferred from the HECO database to Honeywell and back again in the current system. SAIC's plan is to reduce cross-system data transfer.
- Automation of all reporting functions from a single source. SAIC's system will move towards full integration that will reduce the time spent preparing monthly reports, invoices, etc.
- Use of client relation-based software to identify opportunities to maximize savings from a single applicant. Salesforce is a customer-management tool at its core and will allow SAIC to recognize other projects in which a single contact may be involved. Consequently, we will more easily bring additional savings opportunities into the program.
- Establishment of inspection protocols that reduce site visits yet retain high levels of confidence. For some programs, HECO now inspects 100 percent of all installations. SAIC believes that the establishment of inspection criteria based on a qualified random sampling will provide a high level of confidence in savings at a significantly reduced delivery cost.

At the start of our program delivery on July 1, we anticipate that some of the existing processes (especially the tracking of residential program information) will not change. However, during PY2009 we will develop full integration with our Business programs that will decrease our overall time spent on reporting and will allow for lower cost program delivery services.

10.4 Marketing and Outreach Strategy

From a broad marketing approach to program-specific outreach, SAIC will use a combination of strategies that will foster awareness and cooperation within the Hawai'i's energy efficiency markets. On a macro level we will develop a marketing brand that ties in with other components of the Hawai'i Clean Energy Initiative. And on a micro-level we will use an outreach approach that relies heavily upon partnering with program or trade "allies"- companies or outside organizations that will actively promote the programs to their client base. SAIC will recruit contractors and vendors who are already engaged in the HECO programs, as well as other potential Allies and energy service providers to deliver the program incentives to their customers. We will work with natural markets by making program information easily accessible to Allies and will encourage their participation by incentives where appropriate. Further, we will offer program information and training to potential program partners through local breakfast and lunch meetings and webinars that do not interrupt their businesses.

The major components of our marketing and outreach strategy are summarized below.

- **Market Branding** SAIC will employ the services of a local marketing firm to develop the brand image for the overall HEEP program. This image will be the central theme around which the entire portfolio will be designed. We anticipate that this brand will be consistent with the HCEI image and will line economic and planetary health to the reduction of energy use. Images developed will be incorporated in all media, including newspaper ads, the program website, program brochures and materials, and application forms. Having a readily recognized brand will encourage customer awareness and draw more attention to program incentives offered in the marketplace. SAIC will make use of our in-house Creative Services as needed to ensure rapid turnaround to meet program needs.
- **Market Channel and Cluster Approaches** SAIC will integrate its outreach efforts into those of the existing marketplace by using a combination of a “channel” and “cluster” approach to program outreach. These approaches use vendors, contractors, and other professionals within specific market channels (e.g., lighting, refrigeration, motors, etc.) to interact directly with their end-use customers to bring in eligible projects. Clusters, on the other hand, are groups that represent the end-use customers (e.g., healthcare associations, hospitality associations, etc.). SAIC will publicize the program accomplishments of both channel partners and market clusters to encourage ownership and commitment from the marketplace. This publicity will include press releases, case studies, demonstration showcases, and special recognition awards. Some element of the channel and cluster approaches include:
 - o Provision of training seminars and educational materials for allies and agency providers on program procedures, additional measures and technology advancements;
 - o Exploration of opportunities for the contracted agencies to assume additional delivery strategies;
 - o Working with appliance manufacturers to implement a bulk purchase of refrigerators, if availability of high efficiency models is identified as a need;
 - o Enhancement of partnerships with existing allies and development of new ones to continue to identify new opportunities for serving customers;
 - o Provision of specialized resources for targeted markets that enhance existing relationships and develop new arenas to disseminate information;
 - o Establishment of quarterly roundtable forums for program discussions on outreach and marketing, delivery, training, technology and project management;
 - o Organization of Neighborhood Workshops, with the intent of eliciting participation of both residential and commercial customers;
 - o Establishment of Energy Efficiency Awards and competitions for homes;
- **Community-Based Outreach** SAIC will expand on established marketing strategies, and expand opportunities through targeted outreach into communities, and via the Community/Neighborhood Pilot Program. This pilot program will serve as a mechanism to provide direct program services and awareness to both the residential and business sectors by involving all members of the community. Furthermore, we will use existing community events, such as energy or environmental fairs, cultural events, etc. to promote community involvement in energy efficiency.

Our marketing and outreach strategies are designed to address the major market barriers to participation. Those barriers include:

- Customer lack of access to capital for energy improvements;
- Undervaluing energy-efficient features;
- Lack of familiarity with or understanding of energy efficiency benefits and technology or how energy is used in residential or commercial settings;
- Limited market acceptance of new technologies;
- Lack of information about product energy efficiency;
- Lack of market visibility of energy efficiency options;
- Reluctance to invest in property if not owner;
- Split incentives – tenants vs. landlords;
- Qualified equipment or products are not available or not easy to source in the area;
- Participant confusion over complex program requirements or structures;
- Higher first costs of equipment or products, due to low levels of manufacturing or demand, or the higher cost of a given technology;
- Limited assistance for design and evaluation of energy efficient technology;
- Education of key decision maker(s) at planning and design stage
- Life Cycle Cost vs. Simple Payback decision analysis.

10.3 Program Ally Coordination

SAIC will rely heavily on existing networks of program participants, vendor and contractor partners, and agencies to deliver the program to end use customers. We will initiate contact with existing program allies prior to July 1 to ensure their cooperation with the programs moving forward and to notify them of any anticipated changes to our offerings. Trainings for program allies will consist of in-person meetings and webinars. While we will reach out to allies across the eligible service areas with in-person meetings, webinars will provide the easiest and most cost-effective tool for rapid program deployment.

SAIC will develop relationships with key allies, including the Community Action Programs, Economic Opportunity agencies, housing and community organizations, state and local government agencies, Rebuild Hawai'i, HECO, appliance and equipment manufacturers, local clubs and recreation centers, politicians or political groups, development corporations, civic groups, non-profit organizations, businesses and business associations, universities and schools (please see attachment for specific potential program allies). An advisory committee will be set up to help guide the program and identify opportunities for enhancement. In addition, the Residential Efficient Water Heater Program (REWH) may continue to benefit through the marketing efforts of the Solar Technical Advisory Group (Solar TAG), which is made up of members from key sectors of the residential solar water heating industry in the State of Hawai'i. Some of the strategies that we will employ with organizations include:

- Conduct initial roundtable with Program Allies and HECO program personnel/account managers to discuss potential transition issues;
- Create survey for use in initial roundtable to determine program involvement and understanding
- Establish SAIC membership with relevant residential, commercial and industrial associations;

SAIC will also work cooperatively with State agencies that provide funding or support for energy projects; in PY2009 we will especially coordinate with agencies to enhance the use of federal

stimulus money in the development of energy efficiency projects. In addition to the Energy Office, SAIC will work with the Office of Community Services to coordinate the delivery of services and support to the local CAP agencies. SAIC will assist the local Community Action and Economic Opportunity agencies to expand the program components to increase the level of energy savings in each household served. SAIC will conduct training sessions for the CAP and EO agency staff and provide educational materials for all program components.

10.4 Implementation Schedule

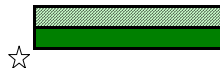
SAIC has already initiated our marketing and outreach strategy through meetings and information exchange with many of the key market participants and state agencies involved in efficiency initiatives. This effort will be ongoing throughout the program period and the number and composition of outreach participants will vary as the programs evolve.

Our plans for program transfer call for a high level of effort prior to the July 1 target date and thereafter to keep participating companies, organizations, and agencies informed and involved in the efficiency programs. Figure 10-1 below provides an overview of SAIC's schedule for implementation and delivery of our marketing and outreach approach.

Figure 10-1
Schedule for Implementation of Marketing and Outreach

Program Name & Action	May '09				June '09				July '09				Aug '09				Sept '09				Oct '09				Nov '09			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Marketing																												
Retain Marketing Firm		★																										
Submit Brand & Logo to PUC					★																							
Approval of Brand & Logo							★																					
Develop Web Site									★																			
Develop Marketing Materials									★																			
Outreach																												
Identify Existing Allies																												
Meetings with Cluster Organizations					★																							
Set Up and Hold Contractor Meetings						★							★							★								
Work w/ Community Orgs for Pilot																												

Transition / Development Stage
Element Launched
Delivery Date





11.0 PORTFOLIO MANAGEMENT

11.1 Overview

SAIC will serve as the overall program administrator for delivery of the Hawai'i Energy Efficiency Program portfolio. As such, we will design and deliver the full range of program elements, including all management and data tracking functions. Many of those systems and processes are still in development at the time of our submission of this Plan. SAIC will continue to work directly with the Contract Manager and the PUC throughout PY2009 to resolve outstanding issues and finalize processes.

11.2 Tracking and Reporting

Data Tracking

SAIC is building a comprehensive internal tracking and reporting system using Salesforce.com as its basis for the Business programs. This program will allow full management and tracking functions from program application through to program reporting and will be fully operational prior to July 1, 2009. HECO will provide a full set of data for the Business programs, including applications in progress prior to the final transfer date so that we can test the new system before launching programs. The final data transfer on July 1 will include all applicants in the system at the time of program transfer. Procedures tracked through this system will be consistent with those typical of incentive programs, including those currently operated by HECO.

SAIC is entering into a subcontract agreement with Honeywell whereby they will provide all data management and tracking of applications for the Residential sector for up to a year. During PY2009 SAIC will evaluate the cost-effectiveness of using the existing system as compared to operating the Residential programs through a Salesforce-based package. Data gathered will be consistent across platforms for later transfer and for uniform reporting to the PUC.

Program Reporting

SAIC will submit monthly, quarterly, and annual reports to the Commission as specified within our contract. The reports will contain information regarding expenditures, savings, incentives, progress on performance indicators, summary of activities, etc.

11.3 Program Adjustments

SAIC recognizes that any combination of changes in the economy, variations in the condition of local markets, advancements in technologies, and the influx of federal stimulus money may necessitate a change to our plans for program delivery services during PY2009. While this plan presents detailed information on approach, energy efficiency measures and proposed incentive levels, those details may all be adjusted mid-stream on a program-by-program basis as necessary to respond to changing conditions. Program adjustments will also be made based on feedback from the QA/QC plan, participants, sub-contractors and the program evaluator.

If SAIC determines that program changes are required, we will notify the Commission of needed updates in a timely manner and will provide the Commission ample opportunity to provide input.

11.4 Utility Coordination



SAIC will work with HECO, MECO and HELCO to maximize the effectiveness of the programs; especially in areas where their relationship to the customer will encourage program participation (i.e., those large customers with an assigned account manager). HECO and SAIC staff are meeting on a regular basis throughout the transition period and will continue to exchange data as appropriate throughout the first program year and beyond.

11.5 Leveraging Other Efficiency Initiatives

Through the Hawai'i Clean Energy Initiative and through new avenues of funding to be made available within the State, SAIC will have the opportunity to maximize program impact by leveraging outside funds with those assigned to the HEEP portfolio of programs. We anticipate that program dollars may supplement and impact many public projects that will be funded through federal stimulus money. Projects will include both those administered through the State Energy Office and through the U.S. Government Services Administration (GSA) for federal buildings eligible for energy improvements.

For the residential sector, the Weatherization Assistance Program is slated to receive a 2,000-percent increase in its typical funding levels for this year. SAIC is prepared to use HEEP dollars slated for WAP support in whatever way would best supplement local efforts. We are in discussions with the Office of Community Services to determine the best use of the Residential Low Income budget for PY2009. While this Plan includes a detailed explanation of our plans to serve Hawai'i's low-income population, we may adjust our program offerings as necessary to make the best use of this one-time infusion of funds.

For both the Business and Residential sectors, tax credits will encourage the implementation of many projects where the program incentive alone would not. SAIC will incorporate any tax benefits into program promotional literature and into energy studies where appropriate.

11.6 Evaluation Coordination

SAIC will work in cooperation with both the Contract Manager and the Evaluation Contractor to provide all of the information needed to evaluate programs and their delivery. It is our goal to provide the most cost-effective services possible and we will incorporate evaluation results into future program designs wherever possible.

In establishing our data tracking system, SAIC will seek comments from both of the above parties to ensure that we are collecting all of the data necessary for evaluation purposes. We have already begun that process with the Contract Manager and will continue to incorporate evaluation requirements into our program design and delivery mechanisms.

Attachment G

Technical Reference Manual



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**



Hawaii Energy - Technical Reference Manual No. 2009-1

Program Year 1 July 2009 to June 2010

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Appendix A: Measure Unit Savings, Life and TRB



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1.0 Introduction

METHODS AND ASSUMPTIONS

This reference manual provides methods, formulas and default assumptions for estimating energy and peak impacts from measures and projects that receive cash incentives from the Hawaii Energy Efficiency Program.

The reference manual is organized by program, end use and measure. Each section provides mathematical equations for determining savings (algorithms), as well as default assumptions for all equation parameters that are not based on site-specific information. In addition, any descriptions of calculation methods or baselines are provided, as appropriate.

The parameters for calculating savings are listed in the same order for each measure. Algorithms are provided for estimating annual energy and demand impacts.

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.)
- SAIC Staff expertise



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2.0 Gross-to-Net Savings Calculation

The algorithms shown with each measure calculate gross customer electric savings without counting the effects of line losses from the generator to the customer or free ridership.

The formulae for converting gross customer-level savings to net generation-level savings (counting free ridership, spillover and persistence) for the different costing periods are as follows:

$$\text{Net kWh} = \Delta\text{kWh} \times \text{RR} \times (1 + \text{SLF})$$

$$\text{Net kW} = \Delta\text{kW} \times \text{RR} \times (1 + \text{SLF})$$

Where:

Net kWh = kWh energy savings at generation-level, net of free riders and system losses

Net kW = kWh energy savings at generation-level, net of free riders and system losses

ΔkWh = Gross customer annual kWh savings for the measure

ΔkW = Gross customer connected load kW savings for the measure

SLF = System Loss Factor

RR = Realization Rate that includes AF and engineering verification

AF = Attribution Factor (1 – % Free Rider)

The system loss factors were provided by HECO, MECO and HELCO. They do not vary by measure, but by island, and are in the following Table 1.1:

Table 1.1

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

The Realization Rate used was estimated using the following information from the HECO 2008 A&S report:

Table 1.2

Program	Net to Gross Ratio		Net Energy Savings 2008	Gross Energy Savings 2008
	Energy	Demand		
1. CIEE	0.6530	0.6640	45,798,527	70,135,569.6
2. CINC	0.5960	0.6100	17,469,147	29,310,648.8
3. CICR	0.7590	0.7550	28,749,233	37,877,777.8
4. ESH	0.8500	0.8500	32,203,749	37,886,763.4
5. REWH	0.7290	0.7310	8,237,872	11,300,236.4
6. RNC	0.8410	0.8850	8,267,217	9,830,222.0
7. RLI	1.0000	1.0000	7,899,869	7,899,869.2
TOTAL			148,625,614	204,241,087



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The total Net Energy Savings divided by the total Gross Energy Savings for 2008 is 73%. Therefore, the overall realization rate for HECO was 0.73 and Table 1.3 reflects the use of this for the other islands.

Table 1.3

County Customer Realization Rate		
Oahu	Maui	Hawaii
73%	73%	73%



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3.0 Interactive Effects

The TRM provides specific savings algorithms for many prescriptive measures. When a customer installs a prescriptive measure, the savings are determined according to these algorithms. In some cases these algorithms include the effects of interactions with other measures or end.

For “custom” measures, Hawaii Energy performs site-specific customized calculations. In this case, Hawaii Energy takes into account interactions between measures (e.g., individual savings from installation of window film and replacement of a chiller are not additive because the first measure reduces the cooling load met by the second measure).

Hawaii Energy will calculate total savings for the package of custom measures being installed, considering interactive effects, either as a single package or in rank order of measures as described below.

If a project includes both prescriptive and custom measures, the prescriptive measures will be calculated in the normal manner. However, the prescriptive measures will be assumed to be installed prior to determining the impacts for the custom measures.



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4.0 Persistence

Persistence factors may be used to reduce lifetime measure savings in recognition that initial engineering estimates of annual savings may not persist long term.

This might be because a measure is removed or stops functioning prior to the end of its normal engineering lifetime, because it is not properly maintained, it is overridden, it goes out of calibration (controls only), or for some other reason.

Some of the measure algorithm may contain an entry for persistence factor. The default value if none is indicated is 1.00 (100%). A value lower than 1.00 will result in a downward adjustment of lifetime savings and total resource benefits.

For any measure with a persistence value less than 1.00, the normal measure life ("Engineering Measure Life") will be reduced to arrive at an "Effective Useful Life" for the purposes of estimating the TRB of a measure or program.



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5.0 Glossary

The following glossary provides definitions for necessary assumptions needed to calculate measure savings.

Attribution Factor (AF): The Attribution Factor is the amount of savings attributable to the program impact. It is calculated by subtracting from one the % free ridership.

Baseline Efficiency (η_{base}): The assumed standard efficiency of equipment, absent an Hawaii Energy program.

Coincidence Factor (CF): Coincidence factors represent the fraction of connected load expected to be “on” and using electricity coincident with the system peak period.

Connected Load: The maximum wattage of the equipment, under normal operating conditions, when the equipment is “on”.

Freeridership (FR): A program’s **free ridership rate** is the percentage of program participants deemed to be free riders. A **free rider** refers to a customer who received an incentive through an energy efficiency program who would have installed the same or a smaller quantity of the same high efficiency measure on their own within one year if the program had not been offered.

Full Load Hours (FLH): The equivalent hours that equipment would need to operate at its peak capacity in order to consume its estimated annual kWh consumption (annual kWh/connected kW).

High Efficiency (η_{effc}): The efficiency of the energy-saving equipment installed as a result of an efficiency program.

Incremental Cost: The cost difference between the installed cost of the high efficiency measure and the standard efficiency measure.

Lifetimes: The number of years (or hours) that the new high efficiency equipment is expected to function. These are generally based on engineering lives, but sometimes adjusted based on expectations about frequency of remodeling or demolition.

System Loss Factor (SLF): The marginal electricity losses from the generator to the customer meter – expressed as a percent of meter-level savings. The Energy Line Loss Factors vary by period. The Peak Line Loss Factors reflect losses at the time of system peak, and are shown for two seasons of the year (winter and summer). Line loss factors are the same for all measures.

Load Factor (LF): The fraction of full load (wattage) for which the equipment is typically run.

Operating Hours (HOURS): The annual hours that equipment is expected to operate.

Persistence (PF): The fraction of gross measure savings obtained over the measure life.

Realization Rate (RR): The fraction of gross measure savings realized by the program impact. It includes the gross verification adjustment and free ridership or attribution adjustment.

Spillover (SPL): Spillover refers to energy-efficient equipment installed in any facility in the program service area due to program influences, but without any financial or technical assistance from the



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Program. It is expressed as a percent or fraction of the gross savings attributable to program participation.

Total Resource Benefits (TRB): The present value of benefits from the program savings resulting from avoided energy and capacity costs for the utility and their ratepayers.



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6.0 Load shapes and Demand Coincidence Factors

Load shapes for different types of equipment or systems were not needed because the savings values estimated in the KEMA 2008 impact evaluation already accounted for these load shapes. The coincidence factors were developed based on the calculated full load demand reduction and the KEMA values for each building type. The resulting coincidence factors were evaluated for reasonableness depending on the system type and the building type.



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7.0 Total Resource Benefits – Avoided Costs and Measure Life

HECO provided avoided energy and capacity costs for future years shown in the table below:

Table 7.1

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)

The avoided cost values for energy and capacity that was originally provided by HECO was 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. Therefore, 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 following table was developed from this extrapolation.



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Table 7.2

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

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.

The measure Effective Useful Life estimated for each measure is shown in the following table:



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Table 7.3

Measure Type	Measure ID	Equipment Description	Useful Life
Appliances	a0730000005Jvi3	Ceiling Fan	5
	a0730000005JvjB	Central AC Maint	1
	a0730000005JvhQ	Clothes Washer	12
	a0730000004zRqn	COMPACT FLUORESCENT LIGHT	5
	a0730000005K0Xc	compact fluorescent light	5
	a0730000005Jvi8	Dishwasher	12
	a0730000005Jvil	Ductless Split AC	12
	a0730000004zRqo	ENERGY STAR CEILING FAN	5
	a0730000004zRqp	ENERGY STAR CLOTHES WASHER	12
	a0730000004zRqv	ENERGY STAR DISHWASHER	12
	a0730000004zRqw	ENERGY STAR REFRIGERATOR	14
	a0730000005Jvht	Refrigerator	14
	a0730000004zRr5	refrigerator replacement (not E*)	14
Water Items	a0730000004zRr1	low flow showerhead	20
	a0730000004zRqx	faucet aerator	15
	a0730000004zRr2	LOW FLOW SHOWERHEAD – ELECTRIC WATER HEATER	20
	a0730000004zRr3	LOW FLOW SHOWERHEAD – HEAT PUMP WATER HEATER	20
	a0730000004zRr4	LOW FLOW SHOWERHEAD – SOLAR WATER HEATER	20
Water Heating	a0730000004zRr0	HIGH EFFICIENCY ELECTRIC RESISTANCE WATER HEATER	9
	a0730000004zRqy	HEAT PUMP WATER HEATER – ADD ON	9
	a0730000004zRrP	HEAT PUMP WATER HEATER – INTEGRAL	9
	a0730000005Jvim	HEWH 35 Gal or less HEWH .94 EFF	9
	a0730000005JviS	HEWH 36-45 Gal or less HEWH .93 EFF	9
	a0730000005Jvic	HEWH 46-64 Gal or less HEWH .92 EFF	9
	a0730000005Jviw	HEWH 66+ Gal HEWH .88 EFF	9
	a0730000004zRrT	SOLAR WATER HEATER	15
	a0730000005Jvhf	Solar Hot Water Heater	15



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Measure Type	Measure ID	Equipment Description	Useful Life
Air Conditioning	a0730000004zRqz	HIGH EFFICIENCY AIR CONDITIONER	20
	a0730000004adko	HVAC – Chiller	20
	a0730000004adl4	HVAC – Fan Variable Frequency Drive	20
	a0730000004adl9	HVAC – Packaged/Split	15
	a0730000004adkx	HVAC – Pump Variable Frequency Drive	20
	a0730000004adkq	HVAC – Window AC	12
	a0730000004zRr6	SPLIT SYSTEM AIR CONDITIONER	12
	a0730000005Jvhe	Window AC	12
	a0730000004adlC	Window Film	20
	a0730000004zRr7	WINDOW ROOM AIR CONDITIONER	12
Motors	a0730000004adlD	Motors	15
Lighting	a0730000004adkf	L01 Comm CFL 15W 40W	5
	a0730000004adlB	L010 High Pressure Sodium indoor >200 W	15
	a0730000004adjq	L011 Pulse St MH <100 W	8
	a0730000004adkY	L012 Pulse St MH 100 W-200 W	8
	a0730000004adkc	L013 Pulse St MH >200 W	8
	a0730000004adjs	L014 Induction <100 W	5
	a0730000004adl1	L015 Induction >100W	5
	a0730000004adkV	L016 2' T8 or T8 w/EB T12, 28W/25W/high lumen 32W	10
	a0730000004adky	L017 3' T8 or T8 w/EB T12, 28W/25W/high lumen 32W	10
	a0730000004adl7	L018 4' T8 or T8 w/EB T12, 28W/25W/high lumen 32W	10
	a0730000004adkp	L019 8' T8 or T8 w/EB T12, 28W/25W/high lumen 32W	10
	a0730000004adki	L02 Comm CFL 20W 60W	5
	a0730000004adkT	L020 4' Super T8 w/HEEB T12, 28W/25W/high lumen 32W	10
	a0730000004adjt	L021 4' Super T8 w/HEEB T8, 28W/25W/high lumen 32W	10
	a0730000004adkz	L022 4' Super T8 w/HEEB New, 28W/25W/high lumen 32W	10
	a0730000004adkU	L023 2' T8/T12 delamp w/reflectors	10
	a0730000004adks	L024 4' T8/T12 delamp w/reflectors	10
	a0730000004adke	L025 8' T8/T12 delamp w/reflectors	10
	a0730000004adkv	L026 2' T8/T12 delamp no reflectors	10
	a0730000004adkZ	L027 4' T8/T12 delamp no reflectors	10
	a0730000004adjr	L028 8' T8/T12 delamp no reflectors	10
	a0730000004adl3	L029 2' T8 w/EB, replacement w/delamp	10



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Measure Type	Measure ID	Equipment Description	Useful Life
Lighting	a0730000004adkg	L03 Reflected CFL	5
	a0730000004adkh	L030 2' T8 w/EB, delamp w/reflector	10
	a0730000004adku	L031 4' T8 w/EB, replacement w/delamp	10
	a0730000004adka	L032 4' T8 w/EB, delamp w/reflector	10
	a0730000004adkX	L033 8' T8 w/EB, replacement w/delamp	10
	a0730000004adl6	L034 8' T8 w/EB, delamp w/reflector	10
	a0730000004adkm	L035 2' T5 w/EB	10
	a0730000004adkt	L036 3' T5 w/EB	10
	a0730000004adkr	L037 4' T5 w/EB	10
	a0730000004adkn	L038 2' T5HO w/EB	10
	a0730000004adlA	L039 3' T5HO w/EB	10
	a0730000004adkw	L04 Cold Cathode CFL	5
	a0730000004adl2	L040 4' T5HO w/EB	10
	a0730000004adl8	L041 Metal Halide indoor <100 W	6
	a0730000004adkW	L042 Metal Halide indoor 100 W-200 W	6
	a0730000004adkj	L043 Metal Halide indoor >200 W	6
	a0730000004adkk	L05 Dimmable CFL	5
	a0730000004adkl	L06 Pin mount CFL	5
	a0730000004adl5	L07 LED Exit	25
	a0730000004adkb	L08 High Pressure Sodium indoor <100 W	15
	a0730000004adl0	L09 High Pressure Sodium indoor 100 W-200 W	15
	a0730000004adkd	Lighting – Sensor	8
Maintenance	a0730000004zRqm	AIR CONDITIONING SERVICES	1
New Home Construction	a0730000004zRrB	Gold GreenHome w/SEER 14	5
	a0730000004zRrM	Gold GreenHome w/SEER 16	5
	a0730000004zRrN	Gold GreenHome w/SEER 18	5
	a0730000004zRrO	Gold+ GreenHome	5
	a0730000004zRrQ	Silver GreenHome w/SEER 14	5
	a0730000004zRrR	Silver GreenHome w/SEER 16	5
	a0730000004zRrS	Silver GreenHome w/SEER 18	5
	a0730000004zRr8	Bronze GreenHome w/SEER 14	5
	a0730000004zRr9	Bronze GreenHome w/SEER 16	5
	a0730000004zRrA	Bronze GreenHome w/SEER 18	5



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8.0 Residential Measures

Water Heating

Solar Water Heater

Measure ID: See Table 7.3

Version Date & Revision History

Draft date: October 10, 2009

Effective date: July 1, 2009

End date: TBD

Referenced Documents: Energy and Peak Demand Impact Evaluation Report of the 2005-2007 Demand Management Programs – KEMA (KEMA 2005-07)

Measure Description:

Replacement of Electric Resistance Water Heater with a Solar Water Heater designed for a 90% Solar Fraction. The new Solar Water Heating systems most often include an upgrade of the hot water storage tank sized at 80 or 120 gallons.

Systems must comply with Hawaii Energy Solar Standards and Specifications which call out:

- Panel Ratings
- System Sizing
- Installation orientation de-rating factors
- Hardware and mounting systems

Baseline Efficiencies:

Baseline usage is a 0.9 COP Electric Resistance Water Heater. The baseline water heater energy consumption is by a single 4.0 kW electric resistance element that is controlled thermostatically on/off controller based of tank finish temperature set point. The tank standby loss differences between baseline and high efficiency case are assumed to be negligible.

Demand Baseline has been determined by field measurements by KEMA 2005-07 report. The energy baseline also comes from the KEMA 2005-07 report and is supported by engineering calculations shown in this TRM.

Building Types	Demand Baseline(kW)	Energy Baseline (kWh)
Residential	0.57	2,733
Military	0.60	3,398



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High Efficiency:

Solar Water Heater designed for a 90% Solar Fraction. The Solar Systems use solar thermal energy to heat the water 90% of the time and continue to utilize electricity to operate the circulation pump and provide heating through a 4.0 kW electric resistance element when needed.

Solar Contractors do not favor Photo-Voltaic powered DC circulation pumps as they have proven less reliable in the field than a AC powered circulation pump.

The electric resistance elements in the high efficiency case do not have load control timers on them.

The energy is the design energy of a 90% solar fraction system with circulation pump usage as metered by KEMA 2008.

The on peak demand is the metered demand found by KEMA 2008.

Building Types	Demand High Efficiency (kW)	Energy High Efficiency (kWh)	Circ. Pump %
Residential	0.07	379	28%
Military	0.07	446	24%

Energy Savings:

Solar Water Heater Gross Savings before operational adjustments:

Building Types	Demand Savings (kW)	Energy Savings (kWh)
Residential	0.50	2,354
Military	0.53	2,952

Operational Factor	Adjustment Factor
Solar Fraction Performance (sfp)	0.94
Persistence Factor (pf)	0.93
Demand Coincidence Factor (cf)	1.0

Solar Water Heater Net Savings after operational adjustments:

Building Types	Demand Savings (kW)	Energy Savings (kWh)
Residential	0.50	2,066
Military	0.53	2,591



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Savings Algorithms

Solar Water Heater - Single Family Home

Energy per Day (BTU) = (Gallons per Day) x (lbs. per Gal.) x (Temp Rise) x (Energy to Raise Water Temp)

Hot Water needed per Person	13.3	Gallons per Day per Person	
Average Occupants	<u>x</u> 3.77	Persons	KEMA 2008
Household Hot Water Usage	50.2	Gallons per Day	
Mass of Water Conversion	8.34	lbs/gal	
Finish Temperature of Water	130	deg. F Finish Temp	
Initial Temperature of Water	<u>-</u> 75	deg. F Initial Temp	
Temperature Rise	55	deg. F Temperature Rise	

Energy to Raise Water Temp	1.0	BTU / deg. F / lbs.

Energy per Day (BTU) Needed in Tank	23,006	BTU/Day

Energy per Day (BTU) Needed in Tank	23,006	BTU/Day

BTU to kWh Energy Conversion	<u>÷</u> 3,412	kWh / BTU

Energy per Day (kWh)	6.7	kWh / Day

Days per Month	<u>x</u> 30.4	Days per Month

Energy (kWh) per Month	205	kWh / Month

Days per Year	<u>x</u> 365	Days per Year

Energy (kWh) Needed in Tank to Heat Water per Year	2,460	kWh / Year

Elec. Res. Water Heater Efficiency	<u>÷</u> 0.90	COP

Base SERWH Energy Usage per Year at the Meter	2,733	kWh / Year	KEMA 2008 - HECO

Design Annual Solar Fraction	90%	Water Heated by Solar System
	10%	Water Heated by Remaining Backup Element

Energy Usage per Year at the Meter	2,733	kWh / Year
	<u>x</u> 10%	Water Heated by Remaining Backup Element

Back Up Element Energy Used at Meter	273	kWh / Year

Circulation Pump Energy	0.082	kW	KEMA 2008

Pump Hours of Operation	<u>x</u> 1,292	Hours per Year	KEMA 2008

Pump Energy used per Year	106	kWh / Year



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Back Up Element Energy Used at Meter	273	kWh / Year	72%
Pump Energy used per Year	<u>+</u> 106	kWh / Year	28%
Design Solar System Energy Usage	379	kWh / Year	
Base SERWH Energy Usage per Year at the Meter	2,733	kWh / Year	
Design Solar System Energy Usage	<u>-</u> 379	kWh / Year	
Design Solar System Energy Savings	2,354	kWh / Year	
Design Solar System Energy Savings	2,354	kWh / Year	
Performance Factor	0.94	pf	
Persistence Factor	<u>x</u> 0.93	pf	KEMA 2008
	2,066	kWh / Year	KEMA 2008

Residential Solar Water Heater Energy Savings 2,066 kWh / Year Savings

Base SERWH Element Power Consumption	4.0	kW	
Coincidence Factor	<u>x</u> 0.143	cf	8.6 Minutes per hour
Base SERWH On Peak Demand	0.57	kW On Peak	KEMA 2008
Base SERWH On Peak Demand	# 0.57	kW On Peak	
Solar System Metered on Peak Demand	<u>-</u> 0.07	kW On Peak	KEMA 2008
	0.50	kW On Peak	

Residential Solar Water Heater Demand Savings 0.50 kW Savings

Operating Hours

See Table above.

Loadshape

TBD

Freeridership/Spillover Factors

TBD

Persistence

The persistence factor has been found to be 0.93 based in the KEMA 2005-07 report that found 7% of the systems not operational.

Lifetime

15 years

Measure Costs and Incentive Levels

Table 1 – SWH Measure Costs and Incentive Levels



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Description	Unit Incentive	Incremental Cost
Non-Military	\$ 750	\$6,600
Military	\$ 750	\$4,400

Component Costs and Lifetimes Used in Computing O&M Savings

TBD

Reference Tables

None



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Compact Fluorescent Lighting

Standard Compact Fluorescent Lamp (CFL)

Measure ID: See Table 7.3

Version Date & Revision History

Draft date: October 10, 2009

Effective date: July 1, 2009

End date: TBD

Referenced Documents: Energy and Peak Demand Impact Evaluation Report of the 2005-2007 Demand Management Programs – KEMA (KEMA 2005-07)

Measure Description:

The replacement of incandescent screw-in lamps to standard spiral compact fluorescent lamps in Residential Single Family and Multi-family homes.

Lamps must comply with:

- Energy Star
- UL

Baseline Efficiencies:

Baseline usage is a 60W A-Shaped incandescent lamp with the energy consumption as follows:

Building Types	Demand Baseline(kW)	Energy Baseline (kWh)
Single Family	0.060	109.0
Multi Family	0.060	109.0

High Efficiency:

The high efficiency case is a 15W Spiral CFL with the energy consumption as follows:

Building Types	Demand High Efficiency (kW)	Energy High Efficiency (kWh)
Single Family	0.015	27.3
Multi Family	0.015	27.3



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Energy Savings:

CFL Gross Savings before operational adjustments:

Building Types	Demand Savings (kW)	Energy Savings (kWh)
Single Family	0.040	81.8
Multi Family	0.040	81.8

CFL Net Savings after operational adjustments:

Operational Factor	Adjustment Factor
Persistence Factor (pf)	0.800
Demand Coincidence Factor (cf)	0.334

Building Types	Demand Savings (kW)	Energy Savings (kWh)
Single Family	0.012	65.4
Multi Family	0.012	65.4

Savings Algorithms

CFL - Single and Multi Family Residential Home

60W Incandescent Lamp Demand	0.060 kW	
	4.98 Hours per Day	
	x 365 Days	1,816.7 Hours per Year
60W Incandescent Lamp Energy Usage	109.0 kWh per Year	
15W Compact Fluorescent Lamp Demand	0.015 kW	
	4.98 Hours per Day	
	x 365 Days	1,816.7 Hours per Year
15W Compact Fluorescent Lamp Energy Usage	27.3 kWh per Year	
60W Incandescent Lamp Energy Usage	109.0 kWh per Year	
15W Compact Fluorescent Lamp Energy Usage	- 27.3 kWh per Year	
CFL Savings Before Adjustments	81.8 kWh per Year	
Persistence Factor	x 0.800 pf	20.0% Lamps not installed or replaced back
	65.4 kWh per Year	

CFL Energy Savings 65.4 kWh / Year Savings

60W Incandescent Lamp Demand	0.060 kW	
15W Compact Fluorescent Lamp Demand	- 0.015 kW	
CFL Demand Reduction Before Adjustments	0.045 kW	
CFL Demand Reduction Before Adjustments	0.045 kW	
Coincidence Factor	0.334 cf	33.4% Lamps on between 5 and 9 p.m.
Persistence Factor	x 0.800 pf	20.0% Lamps not installed or replaced back
	0.0120 kW	

CFL Demand Savings 0.0120 kW Savings



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Operating Hours

4.98 hours per day, 1,816 hours per year

Loadshape

TBD

Freeridership/Spillover Factors

TBD

Demand Coincidence Factor

Estimated coincidence factor of 0.334 cf assumes that 33.4% of the lamps purchased would be operating during the winter 5 p.m. to 9 p.m. weekday peak period.

Persistence

Estimated persistence factor of 0.80 pf which assumes 20% of the lamps purchased not installed or returned back to incandescent.

Lifetime

5 years

Measure Costs and Incentive Levels

Table 1 – Residential CFL Measure Costs and Incentive Levels

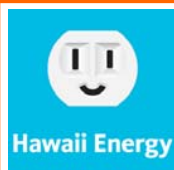
Description	Unit Incentive	Incremental Cost
Standard CFL - Res	\$ 1.00	\$ 2.50
Standard CFL - Res	\$ 1.00	\$ 2.50

Component Costs and Lifetimes Used in Computing O&M Savings

TBD

Reference Tables

None



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Energy Star Appliances

Energy Star Clothes Washer, Refrigerator, & Dishwasher

Measure ID: See Table 7.3

Version Date & Revision History

Draft date: October 10, 2009

Effective date: July 1, 2009

End date: TBD

Referenced Documents: HECO DSM Docket – Backup Worksheets - Global Energy (07-14-06)

Measure Description:

The replacement of standard Clothes Washers, Refrigerators, and Dishwashers in Residential Single Family and Multi-family homes.

Appliances must comply with:

- Energy Star

Refrigerators – ENERGY STAR refrigerators utilize improvements in insulation and compressors.

Clothes Washers – Clothes washers that meet ENERGY STAR criteria use next generation technology to cut energy and water consumption by over 40% compared to conventional washers. Clothes washers come in either front-load or redesigned top-load designs. Both configurations include technical innovations that help save substantial amounts of energy and water.

- **No Central Agitator** Front-loaders tumble clothes through a small amount of water instead of rubbing clothes against an agitator in a full tub. Advanced top loaders use sophisticated wash systems to flip or spin clothes through a reduced stream of water. Both designs dramatically reduce the amount of hot water used in the wash cycle, and the energy used to heat it.
- **High Spin Speeds** Efficient motors spin clothes two to three times faster during the spin cycle to extract more water. Less moisture in the clothes means less time and energy in the dryer.

Dishwashers - Dishwasher technology has improved dramatically over the last decade. New ENERGY STAR qualified models include several innovations that reduce energy and water consumption and improve performance.

- **Soil sensors** test how dirty dishes are throughout the wash and adjust the cycle to achieve optimum cleaning with minimum water and energy use.
- **Improved water filtration** removes food soils from the wash water allowing efficient use of detergent and water throughout the cycle. The final clean-water rinse assures your dishes come out sparkling.
- **More efficient jets** use less energy to spray detergent and water over the dishes when cleaning.
- **Innovative dish rack designs** maximize cleaning by strategically situating the dishes.



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Baseline Efficiencies:

Baseline energy usage based on 2009 Energy Star Information for the appliances are as follows:

	Demand Baseline (kW)	Energy Baseline (kWh)	Notes
Non ES Qualifying Refrigerator		537	19.0-21.4 Top Freezer
Non ES Qualifying Dishwasher		377	215 Cycles per Year
Non ES Qualifying Clothes Washer		787	392 Loads per Year

High Efficiency:

The high efficiency case Energy Star energy usage based on 2009 Energy Star Information for the appliances is as follows:

	Demand High Efficiency (kW)	Energy High Efficiency (kWh)	Notes
ES Qualifying Refrigerator		405	19.0-21.4 Top Freezer
ES Qualifying Dishwasher		303	215 Cycles per Year
ES Qualifying Clothes Washer		563	392 Loads per Year



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Energy Savings:

Energy Star Appliance Gross Savings before operational adjustments:

	Demand Savings (kW)	Energy Savings (kWh)	Notes
ES Qualifying Refrigerator		132	19.0-21.4 Top Freezer
ES Qualifying Dishwasher		74	215 Cycles per Year
ES Qualifying Clothes Washer		224	392 Loads per Year

Energy Star Appliance Net Savings after operational adjustments:

Operational Factor	Adjustment Factor
Persistence Factor (pf)	1.0
Demand Coincidence Factor (cf)	1.0

Energy Savings from HECO DSM Docket 2006 – Global Energy Partners

“ The impacts for this Energy Star Appliances measure were derived by summing the individual impacts due to an Energy Star clothes washer, an Energy Star refrigerator, and an Energy Star dishwasher. Impacts for each of the three appliances were first estimated using the Energy Star savings calculators (available at Energy Star's website). There values were then plugged into BEST to obtain the final energy and demand impacts, which include any interactive effects with the cooling system. For clothes washer and dishwasher, it is assumed that hot water is provided by electric water heating.”

	Demand Savings (kW)	Energy Savings (kWh)	Notes
ES Qualifying Refrigerator	0.04	103.4	19.0-21.4 Top Freezer
ES Qualifying Dishwasher	0.05	183.3	215 Cycles per Year
ES Qualifying Clothes Washer	0.26	652.4	392 Loads per Year
Average Appliance Energy Savings	0.12	313.0	



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Savings Algorithms

Energy Star Appliances - Single and Multi Family Residential Home

19.0 to 21.4 Cubic Feet Top Freezer Energy Usage

Energy Star - 2009

Before 1980	2,215	kWh / Year
1980-1989	1,709	kWh / Year
1990-1992	1,285	kWh / Year
1993-2000	857	kWh / Year
2001-2008	537	kWh / Year

Base Refrigerator Energy Usage 537 kWh per Year

Energy Star - 2009

Energy Star Refrigerator Energy Usage - 405 kWh per Year

Energy Star - 2009

Energy Star Refrigerator Energy Savings 132 kWh per Year

Base Dishwasher Energy Usage 377 kWh per Year

215 Cycles per Year

Energy Star - 2009

Energy Star Dishwasher Energy Usage - 303 kWh per Year

215 Cycles per Year

Energy Star - 2009

Energy Star Dishwasher Energy Savings 74 kWh per Year

Base Clothes Washer Energy Usage 787 kWh per Year

392 Loads per Year

Energy Star - 2009

Energy Star Clothes Washer Energy Usage - 563 kWh per Year

392 Loads per Year

Energy Star - 2009

Energy Star Clothes Washer Energy Savings 224 kWh per Year

Energy Star - 2009

Factor

HECO DSM Docket 2006 - GEP

Energy Star Refrigerator Energy Savings # 132 kWh per Year

78% 103.4 kWh per Year

Energy Star Dishwasher Energy Savings # 74 kWh per Year

248% 183.3 kWh per Year

Energy Star Clothes Washer Energy Savings # 224 kWh per Year

291% 652.4 kWh per Year

Average Energy Star Appliance Savings 143 kWh per Year

218% 313.0 kWh per Year

HECO DSM Docket 2006 - GEP Energy Savings 313.0 kWh per Year

Field Performance Factor 1.0 fpf

Persistence Factor x 1.0 pf

313.0

Energy Star Appliance Energy Savings 313 kWh / Year Savings



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Energy Star Refrigerator Demand Savings	0.04	kW	HECO DSM Docket 2006 - Global Energy Partners
Energy Star Dishwasher Demand Savings	0.05	kW	HECO DSM Docket 2006 - Global Energy Partners
Energy Star Clothes Washer Demand Savings	<u>0.26</u>	kW	HECO DSM Docket 2006 - Global Energy Partners
Average Energy Star Appliance Demand Savings	0.12	kW	
Average Energy Star Appliance Demand Savings	0.12	kW	
Coincidence Factor	1.0	cf	
Persistence Factor	<u>x 1.0</u>	pf	
	0.12	kW	

Energy Star Appliance Demand Savings	0.12	kW Savings

HECO DSM Docket Backup Worksheet- 7-14-06 - Global Energy Partners

(f) The impacts for this Energy Star Appliances measure were derived by summing the individual impacts due to an Energy Star clothes washer, an Energy Star refrigerator, and an Energy Star dishwasher. Impacts for each of the three appliances were first estimated using the Energy Star savings calculators (available at Energy Star's website). These values were then plugged into BEST to obtain the final energy and demand impacts, which include any interactive effects with the cooling system. For clothes washer and dishwasher, it is assumed that hot water is provided by electric water heating.

Cost of Energy Star measures (from Table H-1 Phase I study): Case is from NAECA to Energy Star

		Savings (kWh)	Peak Demand (kW)
1. Energy Star clothes washers	\$398.36	652.4	0.26
2. Energy Star dishwasher	\$60.36	183.3	0.05
3. Energy Star refrigerator	\$60.36	103.4	0.04
AVERAGE INCREMENTAL COST	\$173.03	313.0	0.12



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Operating Hours

Refrigerators = 8,760 hours per year
 Dishwashers = 215 Cycles per year
 Clothes Washers = 392 Loads per Year

Loadshape

TBD

Freeridership/Spillover Factors

TBD

Demand Coincidence Factor

NA

Persistence

NA

Lifetime

12 years

Measure Costs and Incentive Levels

Table 1 – Residential CFL Measure Costs and Incentive Levels

Description	Unit Incentive	Incremental Cost HECO DSM Docket 2006	Incremental Cost Energy Star 2009
ES Refrigerator	\$50	\$ 60.36	\$?
ES Dishwasher	\$50	\$ 60.36	\$ 12
ES Clothes Washer	\$50	\$ 398.36	\$ 258

Component Costs and Lifetimes Used in Computing O&M Savings

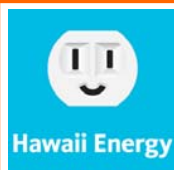
TBD

Water Descriptions

	Base Water Usage (Gallons)	High Efficiency Water Usage (Gallons)	Water Savings (Gallons)	Notes
Refrigerator	n/a	n/a		19.0-21.4 Top Freezer
Dishwasher	1,290	860	430	215 Cycles per Year
Clothes Washer	12,179	5,637	6,542	392 Loads per Year

Reference Tables

None



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Energy Star Room AC

Energy Star Room Air Conditioner

Measure ID: See Table 7.3

Version Date & Revision History

Draft date: October 10, 2009

Effective date: July 1, 2009

End date: TBD

Referenced Documents: HECO DSM Docket – Backup Worksheets - Global Energy (07-14-06)

Measure Description:

The selection of a new 12.0 EER Room Air Conditioner versus or replacing a standard 9.8 EER Room Air Conditioner Dishwashers in Residential Single Family and Multi-family homes.

Appliances must comply with:

- Energy Star

Energy Star Air Conditioners – use at least 10% less energy than conventional models and often include timers for better temperature control, allowing you to use the minimum amount of energy you need to cool your room.

Baseline Efficiencies:

Baseline energy usage based on 2009 Energy Star Information for the Room ACs are as follows:

	Demand Baseline (kW)	Energy Baseline (kWh)	Notes
Non ES Qualifying Room AC	1.2	6,142	9.8 EER, 12,000 BTUh

High Efficiency:

The high efficiency case Energy Star energy usage based on 2009 Energy Star Information for the Room AC is as follows:

Energy Star Criteria is 10.8 EER. HECO DSM Docket 2006 by Global Energy Partners used 12.0 EER

	Demand High Efficiency (kW)	Energy High Efficiency (kWh)	Notes
ES Qualifying Room AC	1.0	5,016	12.0 EER, 12,000 BTUh



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Energy Savings:

Energy Star Room AC Gross Savings before operational adjustments:

	Demand Savings (kW)	Energy Savings (kWh)	Notes
ES Qualifying Room AC	0.224	1,126	10.8 to 12.0 EER, 12,000 BTUh

Energy Star Appliance Net Savings after operational adjustments:

Single Family versus Multi Family Factored Energy Savings	Adjustment Factor*	Energy Savings (kWh)
Single Family Home AC Energy Savings	46%	518
Multi Family Home AC Energy Savings	25%	276

*The gross Room AC energy savings was adjusted to match Energy Savings from HECO DSM Docket 2006 Backup Calculations – Global Energy Partners.

Contribution Factored Measure Savings	Contribution	Net Energy Savings (kWh)
Single Family Contribution Energy Savings	40%	207
Multi Family Contribution Energy Savings	60%	166
Energy Star Room AC Measure Energy Savings	100%	373

*The net Room AC energy savings was adjusted to match Energy Savings from HECO DSM Docket 2006 Backup Calculations – Global Energy Partners.



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	Operational Factor	Adjustment Factor	Gross Unit Demand Savings (kW)	Adjusted for Home Unit Demand Savings (kW)
Single Family	Demand Coincidence Factor (cf)	1.00	0.224	0.224
Multi Family	Demand Coincidence Factor (cf)	0.74	0.224	0.167
Single & Multi Family	Persistence Factor (pf)	1.00		

*The Demand savings per Home Room AC energy savings was adjusted to match Energy Savings from HECO DSM Docket 2006 Backup Calculations – Global Energy Partners.

Contribution Factored Demand Savings	Per Home Factored Demand Savings (kW)	Contribution	Measure Demand Savings (kW)
Single Family Contribution Demand Savings	0.224	40%	0.09
Multi Family Contribution Demand Savings	0.167	60%	0.10
Energy Star Room AC Measure Energy Savings		100%	0.19

*The Net Measure Demand savings per Home Room AC from HECO DSM Docket 2006 Backup Calculations – Global Energy Partners.

Savings Algorithms

Room Air Conditioner - Single and Multi Family Residential Home

Conventional Room AC Built After 1994

$$\begin{array}{rcl}
 \text{Average Unit Cooling Capacity} & 12,000 \text{ BTU / Hr} & \\
 \text{Energy Efficiency Ratio} \div & 9.8 \text{ EER} & \\
 \hline
 \text{Full Load Demand} & 1,224.5 \text{ Watts} & \\
 \text{Conversion} \div & 1,000.0 \text{ Watts / kW} & \\
 \hline
 \text{Full Load Demand} & 1.2 \text{ kW} &
 \end{array}$$

(Equals 1 Ton Cooling Capacity)
DOE Federal Test Procedure 10CFR 430, Appendix F

$$\begin{array}{rcl}
 \text{Conventional Room AC Full Load Demand} & 1.2 \text{ kW} & \\
 \text{Honolulu Full Load Equivalent Cooling Hours} \times & 5,016.0 \text{ Hours per Year} & \\
 \hline
 \text{Conventional Room AC Annual Energy Consumption} & 6,142.0 \text{ kWh per Year} &
 \end{array}$$

EPA 2002

Energy Star Qualified Room AC

$$\begin{array}{rcl}
 \text{Average Unit Cooling Capacity} & 12,000 \text{ BTU / Hr} & \\
 \text{Energy Efficiency Ratio} \div & 12.0 \text{ EER} & \\
 \hline
 \text{Full Load Demand} & 1,000.0 \text{ Watts} & \\
 \text{Conversion} \div & 1,000.0 \text{ Watts / kW} & \\
 \hline
 \text{Full Load Demand} & 1.0 \text{ kW} &
 \end{array}$$

(Equals 1 Ton Cooling Capacity)
HECO DSM Docket 2006 - Global Energy Partners
(Energy Star Criteria = 10.8 EER)



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Energy Star Room AC Full Load Demand	1.0 kW	
Honolulu Full Load Equivalent Cooling Hours	x 5,016.0 Hours per Year	EPA 2002
Energy Star Room AC Annual Energy Consumption	5,016.0 kWh per Year	
Conventional Room AC Annual Energy Consumption	6,142.0 kWh per Year	
Energy Star Room AC Annual Energy Consumption	- 5,016.0 kWh per Year	
Energy Star Room AC Annual Energy Savings	1,126.0 kWh per Year	Energy Star Consumer Room AC Calculator Cadmus 4/2009
Energy Star Room AC Annual Energy Savings	1,126 kWh per Year	
Single Family Use Factor	x 0.46	2,307 Single Family Full Load Operating Hours (inferred)
Single Family ES Room AC Annual Energy Savings	518 kWh per Year	HECO DSM Docket 2006 - Global Energy Partners
Energy Star Room AC Annual Energy Savings	1,126 kWh per Year	
Multi Family Use Factor	x 0.25	1,229 Multi Family Full Load Operating Hours (inferred)
Multi Family ES Room AC Annual Energy Savings	276 kWh per Year	HECO DSM Docket 2006 - Global Energy Partners
Single Family Use Weighting	40%	HECO DSM Docket 2006 - Global Energy Partners
Multi Family Use Weighting	60%	HECO DSM Docket 2006 - Global Energy Partners
Single Family ES Room AC Annual Energy Savings	518 kWh per Year	
Single Family Use Weighting	x 40%	
Single Family Savings Contribution to Measure	207 kWh per Year	HECO DSM Docket 2006 - Global Energy Partners
Multi Family ES Room AC Annual Energy Savings	276 kWh per Year	
Multi Family Use Weighting	x 60%	
Multi Family Savings Contribution to Measure	166 kWh per Year	HECO DSM Docket 2006 - Global Energy Partners
Single Family Savings Contribution to Measure	207 kWh per Year	
Multi Family Savings Contribution to Measure	+ 166 kWh per Year	
	373 kWh per Year	HECO DSM Docket 2006 - Global Energy Partners
Persistence Factor	x 1 pf	100.0%
	373 kWh per Year	

Room Air Conditioner Energy Savings 373 kWh / Year Savings

Conventional Room AC Full Load Demand	1.224 kW	0.225
Energy Star Room AC Full Load Demand	- 1.000 kW	0.167
Room AC Demand Reduction Before Adjustments	0.224 kW	
Single Family		
Room AC Demand Reduction Before Adjustments	0.224 kW	
On Peak Demand Coincidence Factor	x 1.00 cf	100.0% Single Family ACs on between 5 and 9 p.m.
Single Family Demand Savings	0.224 kW	HECO DSM Docket 2006 - Global Energy Partners
Single Family Use Weighting	x 40%	
Single Family Savings Contribution to Measure	0.090 kW	
Multi Family		
Room AC Demand Reduction Before Adjustments	0.224 kW	
On Peak Demand Coincidence Factor	x 0.74 cf	74.4% Multi Family ACs on between 5 and 9 p.m.
Multi Family Demand Savings	0.167 kW	HECO DSM Docket 2006 - Global Energy Partners
Multi Family Use Weighting	+ 60%	
Multi Family Savings Contribution to Measure	0.100 kW	
Single Family Savings Contribution to Measure	0.09 kW	
Multi Family Savings Contribution to Measure	x 0.10 kW	
Room AC Measure Demand Savings	0.19 kW	
Room AC Measure Demand Savings	0.190 kW	
Persistence Factor	x 1.0 pf	100.0% ACs installed and operational at EER Efficiency
	0.19 kW	

Single & Multi Family Room AC Demand Savings 0.19 kW Savings



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Operating Hours

Room AC = 5,016 hours per year EPA 2002

Inferred from HECO DSM Docket 2006 Backup Calculations – GEP

Single Family Room AC = 2,307 hours per year.

Multi Family Room AC = 1,229 hours per year

Loadshape

TBD

Freeridership/Spillover Factors

TBD

Demand Coincidence Factor

NA

Persistence

NA

Lifetime

12 years

Measure Costs and Incentive Levels

Table 1 – Residential CFL Measure Costs and Incentive Levels

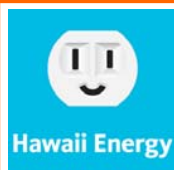
Description	Unit Incentive	Incremental Cost Energy Star 2009
ES Room AC	\$50	\$ 12

Component Costs and Lifetimes Used in Computing O&M Savings

TBD

Reference Tables

None



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Program Year 1 July 2009 to June 2010

9.0 Commercial Measures

CFL Lamps

Measure ID: See Table 7.3

Measure Code: L01, L02, L03, L04, L05, L06

Version Date & Revision History

Draft date: January, 2010

Effective date:

End date: TBD

Referenced Documents: Energy and Peak Demand Impact Evaluation Report of the 2005-2007 Demand Management Programs – KEMA (KEMA 2005-07).
http://www.energystar.gov/index.cfm?c=cfls.pr_cfls_lumens

Description: A compact fluorescent lamp is a type of fluorescent lamp. Many CFL's are designed to replace an incandescent lamp and can fit in the existing light fixtures formerly used for incandescent lamps. CFLs typically replace 100 watts or less of incandescent.

CFL retrofit savings are determined by the delta wattage between the incandescent and CFL lamp, annual hours of operation, and the percent of peak period the lamps are on. The average delta wattage is typically a readily available value. The annual hours, persistence factor and peak percent are unknown. These values have been set in order to match the final savings values provided by the KEMA report.

The following wattages are provided by energystar.gov. The percent implemented is set in order to reach a ΔW of 50, as used in the KEMA Report Appendix F-0860 Site Report.

Incandescent Watts	Comparable CFL Watts	Savings (Watts)	% Implemented
60	15	45	60%
75	20	55	35%
100	25	75	5%
Weighted Average Savings		50	

Weighted Average Savings = avg. delta watts of a CFL replacement, as calculated above and as stated in KEMA Report Appendix F-0860 Site Report

CFL Gross Savings before operational adjustments:

Building Types	Demand Savings (kW)	Energy Savings (kWh)
All Types	0.050	241.4

CFL Gross Savings after operational adjustments:



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Operational Factor	Adjustment Factor
Persistence Factor (pf)	0.950
Demand Coincidence Factor (cf)	0.90

CFL Adjusted Gross Savings:

Building Types	Demand Savings (kW)	Energy Savings (kWh)
All Types	0.043	229.3

Saving Algorithm:

CFL - Businesses

Combination of 50, 75 and 100W Inc. lamps	0.067 kW	
	13.23 Hours per Day	
	365 Days	4,828 Hours per Year
Combination of 50, 75 and 100W Inc. lamps use	x	
	323.5 kWh per Year	
Combination of 15, 20 and 25W CFL lamps	0.017 kW	
	13.23 Hours per Day	
	365 Days	4,828 Hours per Year
Combination of 15, 20 and 25W CFL lamps use	x	
	82.1 kWh per Year	
Combination of 50, 75 and 100W Inc. lamps use	323.5 kWh per Year	
Combination of 15, 20 and 25W CFL lamps use	- 82.1 kWh per Year	
CFL Savings Before Adjustments	241.4 kWh per Year	
Persistence Factor	x 0.950 pf	5.0% Lamps not installed or replaced back
	229.3 kWh per Year	

CFL Energy Savings 229.3 kWh / Year Savings

Combination of 50, 75 and 100W Inc. lamps	0.067 kW	
Combination of 15, 20 and 25W CFL lamps	- 0.017 kW	
CFL Demand Reduction Before Adjustments	0.050 kW	
CFL Demand Reduction Before Adjustments	0.050 kW	
Coincidence Factor	0.900 cf	90.0% Lamps on between 5 and 9 p.m.
Persistence Factor	x 0.950 pf	5.0% Lamps not installed or replaced back
	0.043 kW	

CFL Demand Savings 0.043 kW Savings



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Program Year 1 July 2009 to June 2010

LED Exit Signs

Measure ID: See Table 7.3

Measure Code: L07

Version Date & Revision History

Draft date: January, 2010

Effective date:

End date: TBD

Referenced Documents: Energy and Peak Demand Impact Evaluation Report of the 2005-2007 Demand Management Programs – KEMA (KEMA 2005-07).

http://www.energystar.gov/ia/business/small_business/led_exitsigns_techsheets.pdf

Measure Description:

Replacement of Incandescent Exit Signs with LED Exit Signs. Savings are equal across all building use types.

Baseline Efficiencies:

Demand Baseline has been determined by technical specifications of an incandescent exit sign, which typically holds two 20 W bulbs (40 W). The Energy Baseline is based on 24/7 operation of the sign (8,760 hours).

Building Types	Demand Baseline(kW)	Energy Baseline (kWh)
All Types	0.040	351

High Efficiency:

The typical technical specification on an LED Exit Sign (through energystar.gov) claims “less than 5W” of Demand. The Energy High Efficiency figure is based on 24/7 operation (8,760 hours).

Building Types	Demand High Efficiency (kW)	Energy High Efficiency (kWh)
All Types	0.005	44

Final Savings:

The Impact Evaluation Report by KEMA states that LED exit signs are expected to have high realization ratios and that measured savings were typically 100% of claimed savings. These figures match the suggested savings by the KEMA report.

Building Types	Demand Savings (kW)	Energy Savings (kWh)
All Types	0.035	307

Saving Algorithm:



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Exit Signs - Businesses

Incandescent Exit Sign	0.040 kW	
	24.00 Hours per Day	
	x 365 Days	8,760 Hours per Year
Incandescent Exit Sign	350.4 kWh per Year	
LED Exit Sign	0.005 kW	
	24.00 Hours per Day	
	x 365 Days	8,760 Hours per Year
LED Exit Sign	43.8 kWh per Year	
Incandescent Exit Sign	350.4 kWh per Year	
LED Exit Sign	- 43.8 kWh per Year	
Savings Before Adjustments	306.6 kWh per Year	
Persistence Factor	306.6 kWh per Year	
	x 1.000 pf	0.0% Lamps not installed or replaced back
	307 kWh per Year	

CFL Energy Savings 307 kWh / Year Savings

Incandescent Exit Sign	0.040 kW	
LED Exit Sign	- 0.005 kW	
Demand Reduction Before Adjustments	0.035 kW	
Demand Reduction Before Adjustments	0.035 kW	
Coincidence Factor	1.000 cf	100.0% Lamps on between 5 and 9 p.m.
Persistence Factor	x 1.000 pf	0.0% Lamps not installed or replaced back
	0.035 kW	

CFL Demand Savings 0.035 kW Savings



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Program Year 1 July 2009 to June 2010

Pulse Start Metal Halide

Measure ID: See Table 7.3

Measure Code: L011, L012, L013

Version Date & Revision History

Draft date: January, 2010

Effective date:

End date: TBD

Referenced Documents: Energy and Peak Demand Impact Evaluation Report of the 2005-2007 Demand Management Programs – KEMA (KEMA 2005-07).

Description: Traditional probe-start metal halide lamps do not use an igniter and require three electrical contacts to ignite the gas and remain lit. Recently developed pulse-start metal halide lamps use only two contacts and use an igniter located inside the ballast pod. Pulse-start lamps offer higher light output per unit of electric power.

Demand Savings: Multiple Wattages of Pulse-Start Metal Halides are installed. The most common have rated wattages between 100 and 250, with the majority of installations being 250 W. The Base Watts and New Watts values are taken from Appendix B of the KEMA Report Table B-2. The % implemented figures are then set in order to meet the Demand savings value set in the report. Appendix G of the KEMA report gives the same value for all Building Types. The coincidence factor is set as 100%, which assumes all Pulse Starts are typically on during peak times.

Rated Lamp Watts	Base Watts	New Watts	Savings (Watts)	% Implemented
100	205.0	125.0	80	15%
150	290.0	195.0	95	15%
175	290.0	210.0	80	15%
250	455.0	300.0	155	55%
Weighted Average Delta W			123	

Energy Savings: $\Delta kWh = \Delta kW \times \text{HOURS}$

ΔkWh = gross customer annual kWh savings for the measure0

ΔkW = avg. delta watts of a Pulse Start Metal Halide Replacement, as solved for above

HOURS = annual lighting hours of use per year

Building Types	ΔkW	HOURS
All Types	.123	4,943

Energy Savings:

Building Types	Demand Savings (kW)	Energy Savings (kWh)
All Types	.123	608



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Fluorescent T12 replaced by T8 with Electronic Ballast

Measure ID: See Table 7.3

Measure Code: L016, L017, L018, L019

Version Date & Revision History

Draft date: January, 2010

Effective date:

End date: TBD

Referenced Documents: Energy and Peak Demand Impact Evaluation Report of the 2005-2007 Demand Management Programs – KEMA (KEMA 2005-07).

Description: The replacement of T12 by T8 w/ Electronic ballast. This measure includes 2' to 8' lamps.

Base and High Efficiencies: The HECO DSMIS and KEMA report numbers show the highest demand savings of 18.5 watts per lamp for a Hotel. The calculations shown in the HECO DSM Docket 2006 uses a watts per square foot approach so another calculation methodology was needed to check on the reasonableness of using the DSMIS value. Therefore, the following tables were developed to check on the reasonableness of the HECO DSMIS number. There were two approaches. One approach assumes the base system is using a higher efficient T12 system either using either a higher efficient 34w bulb or a high efficiency core-coil ballast. The results of this approach are shown in the table below.

Length	# lamps	Base Watts	New Watts	Savings	Savings per lamp	% of market	Wt Savings per lamp
2'	1	25.4	18	7.4	7.4	1%	0.07
	2	50.3	32	18.3	9.2	1%	0.09
3'	1	37.9	26	11.9	11.9	2%	0.24
	2	74.3	46	28.3	14.2	2%	0.28
4'	2	86.5	60	26.5	13.3	15%	1.99
	3	128.1	88	40.1	13.4	5%	0.67
	4	169.7	120	49.7	12.4	27%	3.35
8'	1	81.5	52	29.5	29.5	15%	4.43
	2	156.5	111	45.5	22.8	32%	7.28
						100%	18.4

This approach requires a very high percentage of eight foot T12 systems which does not seem to be reasonable. Therefore, another approach was taken that assumes the T12 base system uses standard lamps and standard ballasts. The results of this approach are shown in the following table.



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Length	# lamps	Base Watts	New Watts	Savings	Savings per lamp	% of market	Wt Savings per lamp
2'	1	25.4	18	7.4	7.4	2%	0.15
	2	50.3	32	18.3	9.2	2%	0.18
3'	1	37.9	26	11.9	11.9	4%	0.48
	2	74.3	46	28.3	14.2	4%	0.57
4'	2	96	60	36	18.0	20%	3.60
	3	153	88	65	21.7	5%	1.08
	4	192	120	72	18.0	50%	9.00
8'	1	100	52	48	48.0	5%	2.40
	2	173	111	62	31.0	8%	2.48
						100%	18.6

This approach results in a more reasonable percentage of market for both four foot and eight foot systems. Although the approach includes the assumption that 100% of the base market is standard lamps and ballasts for T12 system is not accurate if the percentage is small for higher efficient T12 systems the DSMIS number is reasonable.

Demand Savings Calculations:

The calculations for demand savings claimed is based on using a coincidence factor to adjust the 18.5 watts per lamp to fit the DSMIS data for different types of buildings. Again, it is assumed that the hotel demand is at 100% coincidence. The table shows the results of these calculations for demand savings.

$$\Delta kW = (\Delta W / 1000) \times CF$$

ΔkW = gross customer connected load kW savings for the measure

ΔW = avg. delta watts as calculated above

CF = Coincidence Factor, Average percent of peak time that these fixtures are turned on. This is set in order to match the Demand Savings values provided by KEMA in Appendix G.



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Building Type	DSMIS Demand Savings per lamp (kW)	CF needed to match DSMIS value
All Commercial	0.0120	0.65
Misc. Commercial	0.0120	0.65
Cold Storage	0.0080	0.43
Education	0.0115	0.62
Grocery	0.0165	0.89
Health	0.0085	0.46
Hotel/Motel	0.0185	1.00
Miscellaneous Industrial	0.0120	0.65
Office	0.0140	0.76
Restaurant	0.0135	0.73
Retail	0.0135	0.73
Warehouse	0.0125	0.68

Energy Savings:

The calculations for the energy savings adjusts the hours to meet the DSMIS kWh values using 18.5 watts as the average energy saved per lamp. The following table shows the results for the different building types. The resulting hours of operation seem reasonable for the different types of buildings.

$$\Delta \text{kWh} = \Delta \text{kW} \times \text{HOURS}$$

ΔkWh = gross customer annual kWh savings for the measure

ΔkW = avg. delta watts of a Pulse Start Metal Halide Replacement, as solved for above

HOURS = annual lighting hours of use per year. This is set in order to match the kWh Savings value provided by KEMA in Appendix G.



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Building Type	DSMIS Energy Savings per lamp (kWh)	Hours needed to match DSMIS value
All Commercial	46.05	2,489
Misc. Commercial	46.05	2,489
Cold Storage	57.05	3,084
Education	39.95	2,159
Grocery	99.85	5,397
Health	53.40	2,886
Hotel/Motel	90.85	4,911
Miscellaneous Industrial	46.05	2,489
Office	61.55	3,327
Restaurant	83.95	4,538
Retail	68.85	3,722
Warehouse	56.65	3,062



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Program Year 1 July 2009 to June 2010

4' Super T8 w/HEEB Replacing T8 or T12, 28w/25w/high lumen 32w

Measure ID: See Table 7.3

Measure Code: L020, L021

Version Date & Revision History

Draft date: March, 2010

Effective date:

End date: TBD

Referenced Documents: Energy and Peak Demand Impact Evaluation Report of the 2005-2007 Demand Management Programs – KEMA (KEMA 2005-07).

Description: The replacement of 4' - T12 or standard T8 w/ Super T8 and Electronic ballast

Demand Savings:

The Base Watts and New Watts values are taken from Appendix B of the KEMA Report Table B-2. Appendix G of the KEMA report gives the same value for all Building Types. The following table shows the savings for Super T8 lamps and ballast compared to T12 system.

Length	# lamps	Base	New	Savings	Savings per lamp	%	Wt Savings per lamp
4'	2	96	48	48	24.0	30%	7.20
	3	151	70	81	27.0	10%	2.70
	4	192	96	96	24.0	60%	14.40
						100%	24.3

Base Assumes Std T12 lamps with Std ballast

New Assumes Super T8 (32w) with electronic ballast

The following table shows the results for the savings for replacement of standard T8 lamps and electronic ballast with super T8 system.

Length	# lamps	Base	New	Savings	Savings per lamp	%	Wt Savings per lamp
4'	2	72	48	24	12.0	30%	3.60
	3	108	70	38	12.7	10%	1.27
	4	142	96	46	11.5	60%	6.90
						100%	11.8

Base Assumes Std T8 lamps and Std ballast

New Assumes Super T8 (32w) with electronic ballast



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Assuming that about 50% of the replaced systems are T12 and the other 50% are the standard T8 systems the savings per lamp is 18 watts. The DSMIS savings value for all commercial facilities per lamp is 13 watts. Therefore, the CF would need to be 0.72.

Demand Savings:

$$\Delta kW = (\Delta W / 1000) \times CF$$

ΔkW = gross customer connected load kW savings for the measure

ΔW = avg. delta watts as calculated above

CF = Coincidence Factor, Average percent of peak time that these fixtures are turned on. This is set in order to match the Demand Savings values provided by KEMA in Appendix G.

The DSMIS energy saving is 87.8 kWh per year. Therefore, the hours are estimated that results in this savings from the 18w per lamp customer savings.

Customer Energy Savings: $\Delta kWh = \Delta kW \times \text{HOURS}$

ΔkWh = gross customer annual kWh savings for the measure

ΔkW = avg. delta watts of a Super T8 system

HOURS = annual lighting hours of use per year

Building Types	Customer ΔkW	HOURS
All Types	.018	4,877

Program Energy Savings:

Building Types	Demand Savings (kW)	Energy Savings (kWh)
All Types	.013	87.8



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Program Year 1 July 2009 to June 2010

T5 Fixtures with Electronic Ballasts

Measure ID: See Table 7.3

Measure Code: L035, L036, L037, L038, L039, L040

Version Date & Revision History

Draft date: March, 2010

Effective date:

End date: TBD

Referenced Documents: Energy and Peak Demand Impact Evaluation Report of the 2005-2007 Demand Management Programs – KEMA (KEMA 2005-07).

Description: The replacement of HID high bay fixtures with T5 fixtures

Demand Savings:

Appendix G of the KEMA report gives the same savings value for all Building Types of 179w and 926.5kWh per fixture. The following table shows the savings for T5 fixtures compared to the HID fixtures.

Length	# lamps	Base	New	Savings	Savings per Fixture	%	Wt Savings per Fixture
4'	4	485	190	295	295.0	90%	265.50
4'	6	1080	280	800	800.0	10%	80.00
						100%	345.50

Base Assumes High Bay 400w HID lighting

New Assumes T5 with electronic ballast

This table assumes that 90% of the replaced systems are 400w HID fixtures and the other 10% is 1000w HID fixtures. The DSMIS savings value for all commercial facilities per fixture is 179 watts. Therefore, the CF would need to be 0.52.

Demand Savings:

$\Delta kW = (\Delta W / 1000) \times CF$

ΔkW = gross customer connected load kW savings for the measure

ΔW = avg. delta watts as calculated above

CF = Coincidence Factor, Average percent of peak time that these fixtures are turned on. This is set in order to match the Demand Savings values provided by KEMA in Appendix G.

The DSMIS annual energy saving is 926.5 kWh per fixture. Therefore, the hours are estimated that results in this savings from the 345.5w per fixture customer savings.

Customer Energy Savings: $\Delta kWh = \Delta kW \times \text{HOURS}$

ΔkWh = gross customer annual kWh savings for the measure

ΔkW = avg. delta watts of a Super T8 system



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HOURS = annual lighting hours of use per year

Building Types	Customer Δ kW	HOURS
All Types	.345	2,682

Program Energy Savings:

Building Types	Demand Savings (kW)	Energy Savings (kWh)
All Types	.179	926.5



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Delamping with Reflectors

Measure ID: See Table 7.3

Measure Code: L023, L024, L025

Version Date & Revision History

Draft date: January, 2010

Effective date:

End date: TBD

Referenced Documents: Energy and Peak Demand Impact Evaluation Report of the 2005-2007 Demand Management Programs – KEMA (KEMA 2005-07).

Description: Putting reflectors on the ballasts allows for more light, thus less lamps. The ballasts are re-wired for de-lamping. This measure covers 2', 4' and 8' fixtures.

Baseline Efficiencies: The most common lamps taken out are 4' T8 and T12. Wattages are taken from table B-1 and B-2 in the KEMA report.

4' T12 Baseline Efficiencies				
Rated Lamp Wattage	Number of Lamps	Standard Magnetic Ballast, Watts per Lamp	EE Magnetic Ballast, Watts per Lamp	Electronic Ballast, Watts per Lamp
40	1	51.0	42.0	40.8
40	2	44.0	37.5	37.3
40	3	45.0	47.0	36.7
40	4	43.8	43.0	33.5
34	1	48.0	39.7	34.6
34	2	39.0	32.9	30.8
34	3	42.3	34.1	30.7
34	4	39.0	36.0	29.8
Averages		44.0	39.0	34.3
Total Average		39.1		



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4' T8 Baseline Efficiencies			
Rated Lamp Wattage	Number of Lamps	Standard Magnetic Ballast, Watts per Lamp	EE Magnetic Ballast, Watts per Lamp
32	1	35.1	33.2
32	2	34.1	31.0
32	3	33.3	28.7
32	4	32.8	26.7
Averages		33.8	29.9
Total Average		31.9	

Baseline average between T12 and T8 assumes 50% T12 and 50% T8 systems for a total average is **35.5 watts** per lamp.

Demand Savings

$$\Delta kW = (\Delta W / 1000) \times CF$$

ΔkW = gross customer connected load kW savings for the measure

ΔW = avg. delta watts as calculated above and as stated in KEMA Report Appendix F-0860 Site Report

CF = Coincidence Factor, Average percent of peak time that these fixtures are turned on. This is set in order to match the Demand Savings value provided by KEMA in Appendix G.

Building Type	DSMIS Demand Savings per lamp	CF needed to match DSMIS value
All Commercial	0.0220	0.62
Misc. Commercial	0.0220	0.62
Cold Storage	0.0150	0.42
Education	0.0225	0.63
Grocery	0.0310	0.87
Health	0.0160	0.45
Hotel/Motel	0.0355	1.00
Miscellaneous Industrial	0.0220	0.62
Office	0.0265	0.75
Restaurant	0.0255	0.72
Retail	0.0260	0.73
Warehouse	0.0235	0.66



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Energy Savings:

The calculations for the energy savings adjusts the hours to meet the DSMIS kWh values using 18.5 watts as the average energy saved per lamp. The following table shows the results for the different building types. The resulting hours of operation seem reasonable for the different types of buildings.

$$\Delta kWh = \Delta kW \times \text{HOURS}$$

ΔkWh = gross customer annual kWh savings for the measure

ΔkW = avg. delta watts of a Pulse Start Metal Halide Replacement, as solved for above

HOURS = annual lighting hours of use per year. This is set in order to match the kWh Savings value provided by KEMA in Appendix G.

Building Type	DSMIS Energy Savings per lamp (kWh)	Hours needed to match DSMIS value
All Commercial	87.50	2,465
Misc. Commercial	87.50	2,465
Cold Storage	108.00	3,042
Education	75.80	2,135
Grocery	189.10	5,327
Health	101.45	2,858
Hotel/Motel	172.35	4,855
Miscellaneous Industrial	87.60	2,468
Office	116.55	3,283
Restaurant	158.95	4,477
Retail	130.40	3,673
Warehouse	108.00	3,042



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Program Year 1 July 2009 to June 2010

Package Unit AC

Measure ID: See Table 7.3

Version Date & Revision History

Draft date: January, 2010

Effective date:

End date: TBD

Referenced Documents: Energy and Peak Demand Impact Evaluation Report of the 2005-2007 Demand Management Programs – KEMA (KEMA 2005-07).

Description: The replacement of package air conditioners with Energy Efficiency above the Hawaii Model Energy Code.

CIEE Package Unit AC Savings

Base Unit

Average Unit Cooling Capacity	12,000	BTU / Hr	(Equals 1 Ton Cooling Capacity)
Energy Efficiency Ratio	$\div 10.2$	EER	HECO DSM Docket 2006 - Global Energy Partners
Full Load Demand	1,176.5	Watts	
Conversion	$\div 1,000.0$	Watts / kW	
Base Unit Full Load Demand	1.2	kW	

Program Minimum High Efficiency Unit

Average Unit Cooling Capacity	12,000	BTU / Hr	(Equals 1 Ton Cooling Capacity)
Energy Efficiency Ratio	$\div 14.0$	EER	HECO DSM Docket 2006 - Global Energy Partners
Full Load Demand	857.1	Watts	
Conversion	$\div 1,000.0$	Watts / kW	
High Efficiency Unit Full Load Demand	0.9	kW	
Base Unit Full Load Demand	1.2	kW	
High Efficiency Unit Full Load Demand	$- 0.9$	kW	
Full Load Demand Savings	0.3	kW	

HIGH EFFICIENCY AIR CONDITIONER				
Business / Residential Type		Energy savings per ton* (kWh)	Full Load Demand Savings (kW)	Full Load Equivalent Run Hours (Hours per Year)
A		B	C	D = B / C
C -ALL COMMERCIAL		625.8	0.3	1,960
CM-MISC COMMERCIAL		625.8	0.3	1,960
CS-COLD STORAGE		589.1	0.3	1,845

* KEMA 2008



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E -EDUCATION		548.0	0.3	1,716
G -GROCERY		855.6	0.3	2,679
H -HEALTH		1,046.0	0.3	3,276
HM-HOTEL/MOTEL		815.1	0.3	2,553
I -MISCELLANEOUS INDUSTRIAL		652.8	0.3	2,044
MM-MULTI FAMILY, MASTER METER		652.8	0.3	2,044
O -OFFICE		699.4	0.3	2,190
RS-RESTAURANT		832.3	0.3	2,606
RT-RETAIL		641.8	0.3	2,010
W -WAREHOUSE		619.9	0.3	1,941

HIGH EFFICIENCY AIR CONDITIONER				
Business / Residential Type		Demand savings per ton** (kW)	Full Load Demand Savings (kW)	Coincidence Factor
A		B	C	D = B / C
C -ALL COMMERCIAL		0.185	0.3	0.579
CM-MISC COMMERCIAL		0.185	0.3	0.579
CS-COLD STORAGE		0.188	0.3	0.589
E -EDUCATION		0.240	0.3	0.752
G -GROCERY		0.176	0.3	0.551
H -HEALTH		0.194	0.3	0.608
HM-HOTEL/MOTEL		0.178	0.3	0.557
I -MISCELLANEOUS INDUSTRIAL		0.185	0.3	0.579
MM-MULTI FAMILY, MASTER METER		0.185	0.3	0.579
O -OFFICE		0.162	0.3	0.507
RS-RESTAURANT		0.170	0.3	0.532
RT-RETAIL		0.187	0.3	0.586
W -WAREHOUSE		0.178	0.3	0.557

** KEMA 2008



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Program Year 1 July 2009 to June 2010

Efficient Chiller

Measure ID: See Table 7.3

Version Date & Revision History

Draft date: March, 2010

Effective date:

End date: TBD

Referenced Documents: Energy and Peak Demand Impact Evaluation Report of the 2005-2007 Demand Management Programs – KEMA (KEMA 2005-07).

Description: The replacement of chillers with Energy Efficiency above the Hawaii Model Energy Code.

CIEE Efficient Chiller Savings

DSMIS Values for All Commercial:

- kW = 0.25
- kWh = 865.2

KEMA 2008 Values for All Commercial (HECO):

- kW = 0.176
- kWh = 603.7

KEMA 2008 Recommended Update for All Commercial (HECO - Customer Level):

- kW = 0.149
- kWh = 508.7

Office Building Base Unit

Base Chiller Efficiency	0.63 kW/Ton
High Efficiency Chiller -	0.50 kW/Ton

HECO DSM Docket 2006 - Global Energy Partners
HECO DSM Docket 2006 - Global Energy Partners

Office Building Chiller Full Load Demand Savings 0.13 kW/Ton

Small Hotel Base Unit

Base Chiller Efficiency	0.72 kW/Ton
High Efficiency Chiller -	0.63 kW/Ton

HECO DSM Docket 2006 - Global Energy Partners
HECO DSM Docket 2006 - Global Energy Partners

Small Hotel Chiller Full Load Demand Savings 0.09 kW/Ton

HECO DSM Docket 2006 - Global Energy Partners
Weighting (10% Large Office, 5% Small Office, 10% Small Hotel)
70%
30%

Office Building Chiller Full Load Demand Savings 0.13 kW/Ton
Small Hotel Chiller Full Load Demand Savings 0.09 kW/Ton

Office Building Chiller Contribution	0.091
Small Hotel Chiller Contribution -	0.027
Full Load Demand Savings	0.118 kW

(not enough to support DSMIS or KEMA 2008 values)

The DSMIS values for this measure are not consistent with the values listed in the KEMA 2008 report. As with other measures the calculations are meant to discover if the DSMIS values that are presently used for the measure are reasonable.

Also, because the Full Load Demand Savings calculated above are not enough to support the DSMIS or KEMA 2008 values another approach was taken that is reflected in the table below. This table lists kW/ton for the present code, 150% of code for existing system estimate, the required efficiency to get a rebate and the best available efficiency. These kW/ton values seem reasonable with experience for existing systems. The base system is estimated by using the 150% of existing code as the estimated efficiency of the existing systems. The new system efficiency is estimated at averaging the best available efficiency and the minimum required efficiency to receive a rebate. The difference between the existing system and the new system is the savings estimate for a typical system.



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Size	Type	Hawaii Model Energy Code	Hawaii Model Energy Code Times 150%	Required to get rebate	DOE FEMP Best Full Load	Savings based on above code vs between required and best
<150 tons	Screw	0.790	1.185	0.70	0.58	0.55
150-299 tons	Centrifugal	0.839	0.959	0.59	0.50	0.41
300-599 tons	Centrifugal	0.578	0.864	0.50	0.47	0.38
600+ tons	Centrifugal	0.578	0.864	0.50	0.47	0.38

The following table uses the savings calculated for the 150 to 299 ton system as an average demand reduction for a system at full load. The Full Load Equivalent Hours is estimated by dividing the energy savings from DSMIS by this demand average. The hours estimated are close to those estimated in the high efficiency air conditioners (Packaged AC units) for each building type.

HIGH EFFICIENCY CHILLER				* DSMIS 2009 ** Savings for 150 to 299 tons
Business / Residential Type	Energy savings per ton* (kWh)	Full Load Demand Savings** (kW)	Full Load Equivalent Run Hours (Hours per Year)	
A	B	C	D = B / C	
C-ALL COMMERCIAL	865.2	0.41	2,092	
CM-MISC COMMERCIAL	865.2	0.41	2,092	
CS-COLD STORAGE	900.2	0.41	2,177	
E-EDUCATION	750.1	0.41	1,814	
G-GROCERY	1,039.9	0.41	2,515	
H-HEALTH	1,467.4	0.41	3,549	
HM-HOTEL/MOTEL	1,033.8	0.41	2,500	
I-MISCELLANEOUS INDUSTRIAL	865.2	0.41	2,092	
O-OFFICE	848.8	0.41	2,053	
RS-RESTAURANT	1,058.4	0.41	2,560	
RT-RETAIL	900.2	0.41	2,177	
W-WAREHOUSE	945.4	0.41	2,286	
High Efficiency Chiller Energy Savings See table kWh / Year Savings				

Again, the average load reduction for the 150 to 299 ton system was used to determine the coincidence factor for each building type as shown in the table below. As with the hours the CF is also close to those calculated for the same building types in the Packaged AC unit measure.

HIGH EFFICIENCY CHILLER			
Business / Residential Type	Demand savings per ton* (kW)	Full Load Demand Savings** (kW)	Coincidence Factor
A	B	C	D = B / C
C-ALL COMMERCIAL	0.253	0.41	0.61
CM-MISC COMMERCIAL	0.253	0.41	0.61
CS-COLD STORAGE	0.286	0.41	0.69
E-EDUCATION	0.331	0.41	0.80
G -GROCERY	0.221	0.41	0.53
H -HEALTH	0.281	0.41	0.68
HM-HOTEL/MOTEL	0.215	0.41	0.52
I -MISCELLANEOUS INDUSTRIAL	0.253	0.41	0.61
O -OFFICE	0.191	0.41	0.46
RS-RESTAURANT	0.218	0.41	0.53
RT-RETAIL	0.274	0.41	0.66
W -WAREHOUSE	0.250	0.41	0.60
High Efficiency Chiller Demand Savings See table kW Savings			

* DSMIS 2009

** Savings for 150 to 299 tons



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Program Year 1 July 2009 to June 2010

HVAC – Fan Variable Frequency Drive

Measure ID: See Table 7.3

Version Date & Revision History

Draft date: March, 2010

Effective date:

End date: TBD

Referenced Documents: Energy and Peak Demand Impact Evaluation Report of the 2005-2007 Demand Management Programs – KEMA (KEMA 2005-07). HECO DSMIS database.

Description: The installation of variable frequency drives on fans used in HVAC systems.

Values for this measure are not called out in the KEMA report. The DSMIS values for this measure are 200 watts and 760.9 kWh per horsepower. As with other measures the calculations are meant to discover if the DSMIS values that are presently used for the measure are reasonable. The primary assumption used for the savings calculation is that the percentage savings of the energy used before the VFD is applied. This percent savings is shown in the calculations below as about 21%. Based on information from the EPRI Adjustable Speed Drive directory and comparing energy use for outlet damper, inlet damper and VFD controls the average savings for this profile would be 50% for replacement of an outlet damper and 33% for replacement of an inlet damper. See table below.

Percentage of Full Load Power				Power Savings %	
Outlet		Inlet		Outlet	Inlet
%					
Flow	Dampers	Dampers	VFD	Savings	Savings
100	111	109	105	6	4
90	107	93	73	34	20
80	104	82	57	47	25
70	99	75	44	55	31
60	94	69	32	62	37
50	87	65	21	66	44
40	80	63	14	66	49
30	72	60	8	64	52
Average				50	33

Therefore, the 21% of base case savings used in to match the DSMIS values in the calculations below appears to be reasonable and possibly conservative. The actually savings for the customer will depend on many factors related to their type of building, system and hours of operation. The calculations below assume an HVAC fan operation of 6000 hours during the year. The average kW savings calculated for the year also uses 21% of the non-VFD load. But the on-peak (5 to 9pm) kW program demand is higher at 0.200 kW per horsepower or about 32% reduction during this time period. This seems reasonable because the evening hours for many businesses will have less of a load and, therefore, the fan speed could be slowed further than the overall average speed during the rest of the day. This results in a CF of 1.58.



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HVAC Fan Motor VFD

DSMIS Values for All Commercial:

- kW = 0.200 per HP
- kWh = 760.9 per HP

KEMA 2008 Values for All Commercial (HECO):

- kW = none available
- kWh = none available

Base Fan Motor Use:

Base HP =	10 HP	Example
Motor Efficiency =	92%	Estimated Typical
Average Load =	75%	Estimated Typical
HP to kW conversion =	0.746	
kW load = $HP * 0.746 * \% \text{ Load} / \text{eff} =$	6.1 kW	
Hours of operation =	6000 hours	Estimated
kWh Used Annually = $kW \text{ load} * \text{Hours} =$	36,489 kWh	

Fan Motor Savings with VFD:

Energy savings percentage =	20.85%	Needed to meet the kWh savings from DSMIS
kWh savings = $\% \text{ savings} * kWh \text{ annual use} =$	7,608 kWh	
kW average savings = $kWh \text{ savings} / \text{Hours} =$	1.268 kW	
kW savings = $\text{average kW savings} * CF =$	2.0 kW	Based on DSMIS value of 200 watts per HP
CF needed = $kW \text{ savings (program)} / kW \text{ average} =$	1.58	



Program Year 2009 Measure Tracking

County Generation and T&D Losses		
Oahu	Maui	Hawaii
11.17%	9.96%	9.00%

2009 NPV TRB per Unit System by Island

Equipment Description	Project Type	Program	Business / Residential Type	Measure Unit	kW savings per unit	kWh savings per unit	Life (years)	Oahu	Maui County	Hawaii County
SOLAR WATER HEATER	Existing	REWH	MF-MULTI FAMILY	WATER HEATER	0.511	2,250.0	15	\$ 4,821	\$ 4,768	\$ 4,727
SOLAR WATER HEATER - Revised Incentive	Existing	REWH	MF-MULTI FAMILY	WATER HEATER	0.511	2,250.0	15	\$ 4,821	\$ 4,768	\$ 4,727
SOLAR WATER HEATER	Existing	REWH	SF-SINGLE FAMILY	WATER HEATER	0.511	2,250.0	15	\$ 4,821	\$ 4,768	\$ 4,727
SOLAR WATER HEATER - Revised Incentive	Existing	REWH	SF-SINGLE FAMILY	WATER HEATER	0.511	2,250.0	15	\$ 4,821	\$ 4,768	\$ 4,727
HEAT PUMP WATER HEATER - INTEGRAL	Existing	REWH	MF-MULTI FAMILY	WATER HEATER	0.185	615.0	9	\$ 1,003	\$ 992	\$ 983
HEAT PUMP WATER HEATER - INTEGRAL	Existing	REWH	SF-SINGLE FAMILY	WATER HEATER	0.328	1,087.0	9	\$ 1,775	\$ 1,756	\$ 1,740
HEAT PUMP WATER HEATER - ADD ON	Existing	REWH	MF-MULTI FAMILY	WATER HEATER	0.185	615.0	9	\$ 1,003	\$ 992	\$ 983
HEAT PUMP WATER HEATER - ADD ON	Existing	REWH	SF-SINGLE FAMILY	WATER HEATER	0.328	1,087.0	9	\$ 1,775	\$ 1,756	\$ 1,740
HIGH EFFICIENCY ELECTRIC RESISTANCE WATER HEATER	Existing	REWH	MF-MULTI FAMILY	WATER HEATER	0.017	91.0	9	\$ 122	\$ 120	\$ 119
HIGH EFFICIENCY ELECTRIC RESISTANCE WATER HEATER	Existing	REWH	SF-SINGLE FAMILY	WATER HEATER	0.035	160.0	9	\$ 227	\$ 224	\$ 222
HIGH EFFICIENCY ELECTRIC RESISTANCE WATER HEATER	Existing	REWH	SF-SINGLE FAMILY	WATER HEATER	0.035	160.0	9	\$ 227	\$ 224	\$ 222
HIGH EFFICIENCY ELECTRIC RESISTANCE WATER HEATER	Existing	REWH	SF-SINGLE FAMILY	WATER HEATER	0.035	160.0	9	\$ 227	\$ 224	\$ 222
LOW FLOW SHOWERHEAD - ELECTRIC WATER HEATER	Existing	REWH	MF-MULTI FAMILY	SHOWERHEAD	0.047	192.0	20	\$ 513	\$ 507	\$ 503
LOW FLOW SHOWERHEAD - ELECTRIC WATER HEATER	Existing	REWH	SF-SINGLE FAMILY	SHOWERHEAD	0.080	340.0	20	\$ 892	\$ 883	\$ 875
LOW FLOW SHOWERHEAD - HEAT PUMP WATER HEATER	Existing	REWH	MF-MULTI FAMILY	SHOWERHEAD	0.013	67.3	20	\$ 163	\$ 161	\$ 160
LOW FLOW SHOWERHEAD - HEAT PUMP WATER HEATER	Existing	REWH	SF-SINGLE FAMILY	SHOWERHEAD	0.027	119.3	20	\$ 308	\$ 305	\$ 302
LOW FLOW SHOWERHEAD - SOLAR WATER HEATER	Existing	REWH	MF-MULTI FAMILY	SHOWERHEAD	0.007	19.3	20	\$ 62	\$ 62	\$ 61
LOW FLOW SHOWERHEAD - SOLAR WATER HEATER	Existing	REWH	SF-SINGLE FAMILY	SHOWERHEAD	0.007	34.0	20	\$ 84	\$ 84	\$ 83
ENERGY STAR REFRIGERATOR	New	RNC	MF-MULTI FAMILY	WATER HEATER	0.116	313.0	14	\$ 807	\$ 798	\$ 791
ENERGY STAR REFRIGERATOR	New	RNC	MM-MULTI FAMILY, MASTER METER	WATER HEATER	0.116	313.0	14	\$ 807	\$ 798	\$ 791
ENERGY STAR REFRIGERATOR	New	RNC	SF-SINGLE FAMILY	WATER HEATER	0.116	313.0	14	\$ 807	\$ 798	\$ 791
AIR CONDITIONING SERVICES	New	RNC	MF-MULTI FAMILY	WATER HEATER	0.393	620.0	1	\$ 153	\$ 151	\$ 150
AIR CONDITIONING SERVICES	New	RNC	MM-MULTI FAMILY, MASTER METER	WATER HEATER	0.393	620.0	1	\$ 153	\$ 151	\$ 150
AIR CONDITIONING SERVICES	New	RNC	SF-SINGLE FAMILY	WATER HEATER	0.393	620.0	1	\$ 153	\$ 151	\$ 150
ENERGY STAR CEILING FAN	New	RNC	MF-MULTI FAMILY	WATER HEATER	0.010	395.0	5	\$ 216	\$ 213	\$ 212
ENERGY STAR CEILING FAN	New	RNC	MM-MULTI FAMILY, MASTER METER	WATER HEATER	0.010	395.0	5	\$ 216	\$ 213	\$ 212
ENERGY STAR CEILING FAN	New	RNC	SF-SINGLE FAMILY	WATER HEATER	0.010	395.0	5	\$ 216	\$ 213	\$ 212
ENERGY STAR DISHWASHER	New	RNC	MF-MULTI FAMILY	WATER HEATER	0.116	313.0	12	\$ 718	\$ 711	\$ 704
ENERGY STAR DISHWASHER	New	RNC	MM-MULTI FAMILY, MASTER METER	WATER HEATER	0.116	313.0	12	\$ 718	\$ 711	\$ 704
ENERGY STAR DISHWASHER	New	RNC	SF-SINGLE FAMILY	WATER HEATER	0.116	313.0	12	\$ 718	\$ 711	\$ 704
ENERGY STAR CLOTHES WASHER	New	RNC	MF-MULTI FAMILY	WATER HEATER	0.116	313.0	12	\$ 718	\$ 711	\$ 704
ENERGY STAR CLOTHES WASHER	New	RNC	MM-MULTI FAMILY, MASTER METER	WATER HEATER	0.116	313.0	12	\$ 718	\$ 711	\$ 704
ENERGY STAR CLOTHES WASHER	New	RNC	SF-SINGLE FAMILY	WATER HEATER	0.116	313.0	12	\$ 718	\$ 711	\$ 704
COMPACT FLUORESCENT LIGHT	New	RNC	MF-MULTI FAMILY	FIXTURE	0.012	65.4	5	\$ 50	\$ 50	\$ 49
COMPACT FLUORESCENT LIGHT	New	RNC	SF-SINGLE FAMILY	FIXTURE	0.012	65.4	5	\$ 50	\$ 50	\$ 49
HIGH EFFICIENCY AIR CONDITIONER	New	RNC	SF-SINGLE FAMILY	TON	0.185	652.8	20	\$ 1,864	\$ 1,843	\$ 1,827
HIGH EFFICIENCY AIR CONDITIONER	New	RNC	MF-MULTI FAMILY	TON	0.185	652.8	20	\$ 1,864	\$ 1,843	\$ 1,827
HIGH EFFICIENCY AIR CONDITIONER	New	RNC	MM-MULTI FAMILY, MASTER METER	TON	0.185	652.8	20	\$ 1,864	\$ 1,843	\$ 1,827
WINDOW ROOM AIR CONDITIONER	New	RNC	MF-MULTI FAMILY	TON	0.190	373.0	12	\$ 1,028	\$ 1,016	\$ 1,008
WINDOW ROOM AIR CONDITIONER	New	RNC	SF-SINGLE FAMILY	TON	0.190	373.0	12	\$ 1,028	\$ 1,016	\$ 1,008
SOLAR WATER HEATER	New	RNC	MF-MULTI FAMILY	WATER HEATER	0.290	1,271.0	15	\$ 2,729	\$ 2,699	\$ 2,675
RNC - SOLAR WATER HEATER (no PPV or Commercial)	New	RNC	SF-SINGLE FAMILY	WATER HEATER	0.510	2,248.0	15	\$ 4,814	\$ 4,762	\$ 4,720
SOLAR WATER HEATER - New Incentive	New	RNC	SF-SINGLE FAMILY	WATER HEATER	0.510	2,248.0	15	\$ 4,814	\$ 4,762	\$ 4,720

Program Year 2009 Measure Tracking

County Generation and T&D Losses		
Oahu	Maui	Hawaii
11.17%	9.96%	9.00%

2009 NPV TRB per Unit System by Island

Equipment Description	Project Type	Program	Business / Residential Type	Measure Unit	kW savings per unit	kWh savings per unit	Life (years)	Oahu	Maui County	Hawaii County
HEAT PUMP WATER HEATER - INTEGRAL	New	RNC	MF-MULTI FAMILY	WATER HEATER	0.185	615.0	9	\$ 1,003	\$ 992	\$ 983
HEAT PUMP WATER HEATER - INTEGRAL	New	RNC	MM-MULTI FAMILY, MASTER METER	WATER HEATER	0.328	1,087.0	9	\$ 1,775	\$ 1,756	\$ 1,740
HEAT PUMP WATER HEATER - INTEGRAL	New	RNC	SF-SINGLE FAMILY	WATER HEATER	0.328	1,087.0	9	\$ 1,775	\$ 1,756	\$ 1,740
HIGH EFFICIENCY ELECTRIC RESISTANCE WATER HEATER	New	RNC	MF-MULTI FAMILY	WATER HEATER	0.017	91.0	9	\$ 122	\$ 120	\$ 119
HIGH EFFICIENCY ELECTRIC RESISTANCE WATER HEATER	New	RNC	MM-MULTI FAMILY, MASTER METER	WATER HEATER	0.035	160.0	9	\$ 227	\$ 224	\$ 222
HIGH EFFICIENCY ELECTRIC RESISTANCE WATER HEATER	New	RNC	SF-SINGLE FAMILY	WATER HEATER	0.035	160.0	9	\$ 227	\$ 224	\$ 222
HIGH EFFICIENCY ELECTRIC RESISTANCE WATER HEATER	New	RNC	SF-SINGLE FAMILY	WATER HEATER	0.035	160.0	9	\$ 227	\$ 224	\$ 222
Bronze GreenHome w/SEER 14	New	RNC	SF-SINGLE FAMILY	unit	0.390	1,442.0	5	\$ 1,291	\$ 1,277	\$ 1,266
Bronze GreenHome w/SEER 16	New	RNC	SF-SINGLE FAMILY	unit	0.390	1,442.0	5	\$ 1,291	\$ 1,277	\$ 1,266
Bronze GreenHome w/SEER 18	New	RNC	SF-SINGLE FAMILY	unit	0.390	1,442.0	5	\$ 1,291	\$ 1,277	\$ 1,266
Silver GreenHome w/SEER 14	New	RNC	SF-SINGLE FAMILY	unit	0.430	1,657.0	5	\$ 1,458	\$ 1,442	\$ 1,430
Silver GreenHome w/SEER 16	New	RNC	SF-SINGLE FAMILY	unit	0.430	1,657.0	5	\$ 1,458	\$ 1,442	\$ 1,430
Silver GreenHome w/SEER 18	New	RNC	SF-SINGLE FAMILY	unit	0.430	1,657.0	5	\$ 1,458	\$ 1,442	\$ 1,430
Gold GreenHome w/SEER 14	New	RNC	SF-SINGLE FAMILY	unit	0.450	1,798.0	5	\$ 1,558	\$ 1,542	\$ 1,528
Gold GreenHome w/SEER 16	New	RNC	SF-SINGLE FAMILY	unit	0.450	1,798.0	5	\$ 1,558	\$ 1,542	\$ 1,528
Gold GreenHome w/SEER 18	New	RNC	SF-SINGLE FAMILY	unit	0.450	1,798.0	5	\$ 1,558	\$ 1,542	\$ 1,528
Gold+ GreenHome	New	RNC	SF-SINGLE FAMILY	unit	2.190	4,773.0	5	\$ 5,555	\$ 5,494	\$ 5,447
ENERGY STAR REFRIGERATOR	Existing	ESH	MF-MULTI FAMILY	WATER HEATER	0.116	313.0	14	\$ 807	\$ 798	\$ 791
ENERGY STAR REFRIGERATOR	Existing	ESH	MM-MULTI FAMILY, MASTER METER	WATER HEATER	0.116	313.0	14	\$ 807	\$ 798	\$ 791
ENERGY STAR REFRIGERATOR	Existing	ESH	SF-SINGLE FAMILY	Unit	0.116	313.0	14	\$ 807	\$ 798	\$ 791
AIR CONDITIONING SERVICES	Existing	ESH	MF-MULTI FAMILY	Unit	0.393	620.0	1	\$ 153	\$ 151	\$ 150
AIR CONDITIONING SERVICES	Existing	ESH	MM-MULTI FAMILY, MASTER METER	Unit	0.393	620.0	1	\$ 153	\$ 151	\$ 150
AIR CONDITIONING SERVICES	Existing	ESH	SF-SINGLE FAMILY	Unit	0.393	620.0	1	\$ 153	\$ 151	\$ 150
ENERGY STAR CEILING FAN	Existing	ESH	MF-MULTI FAMILY	Unit	0.010	395.0	5	\$ 216	\$ 213	\$ 212
ENERGY STAR CEILING FAN	Existing	ESH	MM-MULTI FAMILY, MASTER METER	Unit	0.010	395.0	5	\$ 216	\$ 213	\$ 212
ENERGY STAR CEILING FAN	Existing	ESH	SF-SINGLE FAMILY	Unit	0.010	395.0	5	\$ 216	\$ 213	\$ 212
ENERGY STAR DISHWASHER	Existing	ESH	MF-MULTI FAMILY	Unit	0.116	313.0	12	\$ 718	\$ 711	\$ 704
ENERGY STAR DISHWASHER	Existing	ESH	MM-MULTI FAMILY, MASTER METER	Unit	0.116	313.0	12	\$ 718	\$ 711	\$ 704
ENERGY STAR DISHWASHER	Existing	ESH	SF-SINGLE FAMILY	Unit	0.116	313.0	12	\$ 718	\$ 711	\$ 704
ENERGY STAR CLOTHES WASHER	Existing	ESH	MF-MULTI FAMILY	Unit	0.116	313.0	12	\$ 718	\$ 711	\$ 704
ENERGY STAR CLOTHES WASHER	Existing	ESH	MM-MULTI FAMILY, MASTER METER	Unit	0.116	313.0	12	\$ 718	\$ 711	\$ 704
ENERGY STAR CLOTHES WASHER	Existing	ESH	SF-SINGLE FAMILY	Unit	0.116	313.0	12	\$ 718	\$ 711	\$ 704
COMPACT FLUORESCENT LIGHT	Existing	ESH	MF-MULTI FAMILY	FIXTURE	0.012	65.3	5	\$ 50	\$ 50	\$ 49
COMPACT FLUORESCENT LIGHT	Existing	ESH	MM-MULTI FAMILY, MASTER METER	FIXTURE	0.012	65.3	5	\$ 50	\$ 50	\$ 49
COMPACT FLUORESCENT LIGHT	Existing	ESH	SF-SINGLE FAMILY	FIXTURE	0.012	65.3	5	\$ 50	\$ 50	\$ 49
COMPACT FLUORESCENT LIGHT - 3 CFI Gift Pack	Existing	ESH	SF-SINGLE FAMILY	3- Pack	0.036	195.9	5	\$ 151	\$ 150	\$ 148
HIGH EFFICIENCY AIR CONDITIONER	Existing	ESH	MF-MULTI FAMILY	TON	0.185	652.8	20	\$ 1,864	\$ 1,843	\$ 1,827
HIGH EFFICIENCY AIR CONDITIONER	Existing	ESH	SF-SINGLE FAMILY	TON	0.185	652.8	20	\$ 1,864	\$ 1,843	\$ 1,827
WINDOW ROOM AIR CONDITIONER	Existing	ESH	MF-MULTI FAMILY	TON	0.190	373.0	12	\$ 1,028	\$ 1,016	\$ 1,008
WINDOW ROOM AIR CONDITIONER	Existing	ESH	SF-SINGLE FAMILY	TON	0.190	373.0	12	\$ 1,028	\$ 1,016	\$ 1,008
SPLIT SYSTEM AIR CONDITIONER	Existing	ESH	MF-MULTI FAMILY	TON	0.315	545.0	12	\$ 1,626	\$ 1,608	\$ 1,594
SPLIT SYSTEM AIR CONDITIONER	Existing	ESH	SF-SINGLE FAMILY	TON	0.315	545.0	12	\$ 1,626	\$ 1,608	\$ 1,594
ESH Totals	Existing	ESH								
standard CFLs	Existing	RLI	SF-SINGLE FAMILY	lamp	0.012	65.4	5	\$ 50	\$ 50	\$ 49
COMPACT FLUORESCENT LIGHT - 3 CFI Gift Pack	Existing	RLI	SF-SINGLE FAMILY	3- Pack	0.036	196.2	5	\$ 151	\$ 150	\$ 148



Program Year 2009 Measure Tracking

County Generation and T&D Losses		
Oahu	Maui	Hawaii
11.17%	9.96%	9.00%

2009 NPV TRB per Unit System by Island										
Equipment Description	Project Type	Program	Business / Residential Type	Measure Unit	kW savings per unit	kWh savings per unit	Life (years)	Oahu	Maui County	Hawaii County
low flow showerhead	Existing	RLI	SF-SINGLE FAMILY	unit	0.050	199.1	20	\$ 538	\$ 532	\$ 527
faucet aerator	Existing	RLI	SF-SINGLE FAMILY	unit	0.008	87.4	15	\$ 141	\$ 139	\$ 138
refrigerator replacement (not E*)	Existing	RLI	SF-SINGLE FAMILY	unit	0.008	64.7	14	\$ 107	\$ 106	\$ 105
RLI Totals	Existing	RLI								
LIGHTING FIXTURE	Existing	CIEE	C-ALL COMMERCIAL	FIXTURE	0.024	92.1	10	\$ 154	\$ 152	\$ 151
LIGHTING FIXTURE	Existing	CIEE	CM-MISC COMMERCIAL	FIXTURE	0.024	92.1	10	\$ 154	\$ 152	\$ 151
LIGHTING FIXTURE	Existing	CIEE	CS-COLD STORAGE	FIXTURE	0.016	114.1	10	\$ 151	\$ 150	\$ 148
LIGHTING FIXTURE	Existing	CIEE	E-EDUCATION	FIXTURE	0.023	79.9	10	\$ 140	\$ 138	\$ 137
LIGHTING FIXTURE	Existing	CIEE	G-GROCERY	FIXTURE	0.033	199.7	10	\$ 279	\$ 276	\$ 274
LIGHTING FIXTURE	Existing	CIEE	H-HEALTH	FIXTURE	0.017	106.8	10	\$ 147	\$ 146	\$ 145
LIGHTING FIXTURE	Existing	CIEE	HM-HOTEL/MOTEL	FIXTURE	0.037	181.7	10	\$ 274	\$ 271	\$ 268
LIGHTING FIXTURE	Existing	CIEE	I-MISCELLANEOUS INDUSTRIAL	FIXTURE	0.024	92.1	10	\$ 154	\$ 152	\$ 151
LIGHTING FIXTURE	Existing	CIEE	O-OFFICE	FIXTURE	0.028	123.1	10	\$ 194	\$ 192	\$ 190
LIGHTING FIXTURE	Existing	CIEE	RS-RESTAURANT	FIXTURE	0.027	167.9	10	\$ 232	\$ 230	\$ 228
LIGHTING FIXTURE	Existing	CIEE	RT-RETAIL	FIXTURE	0.027	137.7	10	\$ 204	\$ 202	\$ 200
LIGHTING FIXTURE	Existing	CIEE	W-WAREHOUSE	FIXTURE	0.025	113.3	10	\$ 176	\$ 174	\$ 173
LIGHTING FIXTURE WITH REFLECTOR/DELAMPING	Existing	CIEE	C-ALL COMMERCIAL	FIXTURE	0.056	221.7	10	\$ 365	\$ 361	\$ 358
LIGHTING FIXTURE WITH REFLECTOR/DELAMPING	Existing	CIEE	CM-MISC COMMERCIAL	FIXTURE	0.056	221.7	10	\$ 365	\$ 361	\$ 358
LIGHTING FIXTURE WITH REFLECTOR/DELAMPING	Existing	CIEE	CS-COLD STORAGE	FIXTURE	0.039	273.8	10	\$ 365	\$ 361	\$ 358
LIGHTING FIXTURE WITH REFLECTOR/DELAMPING	Existing	CIEE	E-EDUCATION	FIXTURE	0.057	191.5	10	\$ 340	\$ 336	\$ 333
LIGHTING FIXTURE WITH REFLECTOR/DELAMPING	Existing	CIEE	G-GROCERY	FIXTURE	0.078	477.6	10	\$ 665	\$ 657	\$ 652
LIGHTING FIXTURE WITH REFLECTOR/DELAMPING	Existing	CIEE	H-HEALTH	FIXTURE	0.040	255.9	10	\$ 351	\$ 347	\$ 344
LIGHTING FIXTURE WITH REFLECTOR/DELAMPING	Existing	CIEE	HM-HOTEL/MOTEL	FIXTURE	0.089	436.0	10	\$ 657	\$ 650	\$ 645
LIGHTING FIXTURE WITH REFLECTOR/DELAMPING	Existing	CIEE	I-MISCELLANEOUS INDUSTRIAL	FIXTURE	0.056	221.7	10	\$ 365	\$ 361	\$ 358
LIGHTING FIXTURE WITH REFLECTOR/DELAMPING	Existing	CIEE	O-OFFICE	FIXTURE	0.068	294.2	10	\$ 466	\$ 461	\$ 457
LIGHTING FIXTURE WITH REFLECTOR/DELAMPING	Existing	CIEE	RS-RESTAURANT	FIXTURE	0.065	401.8	10	\$ 557	\$ 551	\$ 547
LIGHTING FIXTURE WITH REFLECTOR/DELAMPING	Existing	CIEE	RT-RETAIL	FIXTURE	0.066	330.1	10	\$ 494	\$ 488	\$ 484
LIGHTING FIXTURE WITH REFLECTOR/DELAMPING	Existing	CIEE	W-WAREHOUSE	FIXTURE	0.061	272.2	10	\$ 426	\$ 421	\$ 418
EXIT SIGN	Existing	CIEE	C-ALL COMMERCIAL	FIXTURE	0.035	307.0	25	\$ 712	\$ 704	\$ 698
EXIT SIGN	Existing	CIEE	CM-MISC COMMERCIAL	FIXTURE	0.035	307.0	25	\$ 712	\$ 704	\$ 698
EXIT SIGN	Existing	CIEE	CS-COLD STORAGE	FIXTURE	0.035	307.0	25	\$ 712	\$ 704	\$ 698
EXIT SIGN	Existing	CIEE	E-EDUCATION	FIXTURE	0.035	307.0	25	\$ 712	\$ 704	\$ 698
EXIT SIGN	Existing	CIEE	G-GROCERY	FIXTURE	0.035	307.0	25	\$ 712	\$ 704	\$ 698
EXIT SIGN	Existing	CIEE	H-HEALTH	FIXTURE	0.035	307.0	25	\$ 712	\$ 704	\$ 698
EXIT SIGN	Existing	CIEE	HM-HOTEL/MOTEL	FIXTURE	0.035	307.0	25	\$ 712	\$ 704	\$ 698
EXIT SIGN	Existing	CIEE	I-MISCELLANEOUS INDUSTRIAL	FIXTURE	0.035	307.0	25	\$ 712	\$ 704	\$ 698
EXIT SIGN	Existing	CIEE	O-OFFICE	FIXTURE	0.035	307.0	25	\$ 712	\$ 704	\$ 698
EXIT SIGN	Existing	CIEE	RS-RESTAURANT	FIXTURE	0.035	307.0	25	\$ 712	\$ 704	\$ 698
EXIT SIGN	Existing	CIEE	RT-RETAIL	FIXTURE	0.035	307.0	25	\$ 712	\$ 704	\$ 698
EXIT SIGN	Existing	CIEE	W-WAREHOUSE	FIXTURE	0.035	307.0	25	\$ 712	\$ 704	\$ 698
INDUCTIVE LIGHTING	Existing	CIEE	C-ALL COMMERCIAL	FIXTURE	0.018	82.8	5	\$ 68	\$ 67	\$ 67
INDUCTIVE LIGHTING	Existing	CIEE	CM-MISC COMMERCIAL	FIXTURE	0.018	82.8	5	\$ 68	\$ 67	\$ 67
INDUCTIVE LIGHTING	Existing	CIEE	CS-COLD STORAGE	FIXTURE	0.018	82.8	5	\$ 68	\$ 67	\$ 67
INDUCTIVE LIGHTING	Existing	CIEE	E-EDUCATION	FIXTURE	0.018	82.8	5	\$ 68	\$ 67	\$ 67
INDUCTIVE LIGHTING	Existing	CIEE	G-GROCERY	FIXTURE	0.018	82.8	5	\$ 68	\$ 67	\$ 67



Program Year 2009 Measure Tracking

County Generation and T&D Losses		
Oahu	Maui	Hawaii
11.17%	9.96%	9.00%

2009 NPV TRB per Unit System by Island										
Equipment Description	Project Type	Program	Business / Residential Type	Measure Unit	kW savings per unit	kWh savings per unit	Life (years)	Oahu	Maui County	Hawaii County
INDUCTIVE LIGHTING	Existing	CIEE	H - HEALTH	FIXTURE	0.018	82.8	5	\$ 68	\$ 67	\$ 67
INDUCTIVE LIGHTING	Existing	CIEE	HM-HOTEL/MOTEL	FIXTURE	0.018	82.8	5	\$ 68	\$ 67	\$ 67
INDUCTIVE LIGHTING	Existing	CIEE	I - MISCELLANEOUS INDUSTRIAL	FIXTURE	0.018	82.8	5	\$ 68	\$ 67	\$ 67
INDUCTIVE LIGHTING	Existing	CIEE	O - OFFICE	FIXTURE	0.018	82.8	5	\$ 68	\$ 67	\$ 67
INDUCTIVE LIGHTING	Existing	CIEE	RS-RESTAURANT	FIXTURE	0.018	82.8	5	\$ 68	\$ 67	\$ 67
INDUCTIVE LIGHTING	Existing	CIEE	RT-RETAIL	FIXTURE	0.018	82.8	5	\$ 68	\$ 67	\$ 67
INDUCTIVE LIGHTING	Existing	CIEE	W - WAREHOUSE	FIXTURE	0.018	82.8	5	\$ 68	\$ 67	\$ 67
FIXTURE-T5 LAMP	Existing	CIEE	C - ALL COMMERCIAL	FIXTURE	0.179	926.5	10	\$ 1,368	\$ 1,353	\$ 1,342
FIXTURE-T5 LAMP	Existing	CIEE	CM-MISC COMMERCIAL	FIXTURE	0.179	926.5	10	\$ 1,368	\$ 1,353	\$ 1,342
FIXTURE-T5 LAMP	Existing	CIEE	CS-COLD STORAGE	FIXTURE	0.179	926.5	10	\$ 1,368	\$ 1,353	\$ 1,342
FIXTURE-T5 LAMP	Existing	CIEE	E - EDUCATION	FIXTURE	0.179	926.5	10	\$ 1,368	\$ 1,353	\$ 1,342
FIXTURE-T5 LAMP	Existing	CIEE	G - GROCERY	FIXTURE	0.179	926.5	10	\$ 1,368	\$ 1,353	\$ 1,342
FIXTURE-T5 LAMP	Existing	CIEE	H - HEALTH	FIXTURE	0.179	926.5	10	\$ 1,368	\$ 1,353	\$ 1,342
FIXTURE-T5 LAMP	Existing	CIEE	HM-HOTEL/MOTEL	FIXTURE	0.179	926.5	10	\$ 1,368	\$ 1,353	\$ 1,342
FIXTURE-T5 LAMP	Existing	CIEE	I - MISCELLANEOUS INDUSTRIAL	FIXTURE	0.179	926.5	10	\$ 1,368	\$ 1,353	\$ 1,342
FIXTURE-T5 LAMP	Existing	CIEE	O - OFFICE	FIXTURE	0.179	926.5	10	\$ 1,368	\$ 1,353	\$ 1,342
FIXTURE-T5 LAMP	Existing	CIEE	RS-RESTAURANT	FIXTURE	0.179	926.5	10	\$ 1,368	\$ 1,353	\$ 1,342
FIXTURE-T5 LAMP	Existing	CIEE	RT-RETAIL	FIXTURE	0.179	926.5	10	\$ 1,368	\$ 1,353	\$ 1,342
FIXTURE-T5 LAMP	Existing	CIEE	W - WAREHOUSE	FIXTURE	0.179	926.5	10	\$ 1,368	\$ 1,353	\$ 1,342
FIXTURE-T5 HO LAMP	Existing	CIEE	C - ALL COMMERCIAL	FIXTURE	0.179	926.5	10	\$ 1,368	\$ 1,353	\$ 1,342
FIXTURE-T5 HO LAMP	Existing	CIEE	CM-MISC COMMERCIAL	FIXTURE	0.179	926.5	10	\$ 1,368	\$ 1,353	\$ 1,342
FIXTURE-T5 HO LAMP	Existing	CIEE	CS-COLD STORAGE	FIXTURE	0.179	926.5	10	\$ 1,368	\$ 1,353	\$ 1,342
FIXTURE-T5 HO LAMP	Existing	CIEE	E - EDUCATION	FIXTURE	0.179	926.5	10	\$ 1,368	\$ 1,353	\$ 1,342
FIXTURE-T5 HO LAMP	Existing	CIEE	G - GROCERY	FIXTURE	0.179	926.5	10	\$ 1,368	\$ 1,353	\$ 1,342
FIXTURE-T5 HO LAMP	Existing	CIEE	H - HEALTH	FIXTURE	0.179	926.5	10	\$ 1,368	\$ 1,353	\$ 1,342
FIXTURE-T5 HO LAMP	Existing	CIEE	HM-HOTEL/MOTEL	FIXTURE	0.179	926.5	10	\$ 1,368	\$ 1,353	\$ 1,342
FIXTURE-T5 HO LAMP	Existing	CIEE	I - MISCELLANEOUS INDUSTRIAL	FIXTURE	0.179	926.5	10	\$ 1,368	\$ 1,353	\$ 1,342
FIXTURE-T5 HO LAMP	Existing	CIEE	O - OFFICE	FIXTURE	0.179	926.5	10	\$ 1,368	\$ 1,353	\$ 1,342
FIXTURE-T5 HO LAMP	Existing	CIEE	RS-RESTAURANT	FIXTURE	0.179	926.5	10	\$ 1,368	\$ 1,353	\$ 1,342
FIXTURE-T5 HO LAMP	Existing	CIEE	RT-RETAIL	FIXTURE	0.179	926.5	10	\$ 1,368	\$ 1,353	\$ 1,342
FIXTURE-T5 HO LAMP	Existing	CIEE	W - WAREHOUSE	FIXTURE	0.179	926.5	10	\$ 1,368	\$ 1,353	\$ 1,342
FIXTURE-SUPER T8 LAMP REPLACING T8 LAMP	Existing	CIEE	C - ALL COMMERCIAL	FIXTURE	0.026	175.6	10	\$ 237	\$ 234	\$ 232
FIXTURE-SUPER T8 LAMP REPLACING T8 LAMP	Existing	CIEE	CM-MISC COMMERCIAL	FIXTURE	0.026	175.6	10	\$ 237	\$ 234	\$ 232
FIXTURE-SUPER T8 LAMP REPLACING T8 LAMP	Existing	CIEE	CS-COLD STORAGE	FIXTURE	0.026	175.6	10	\$ 237	\$ 234	\$ 232
FIXTURE-SUPER T8 LAMP REPLACING T8 LAMP	Existing	CIEE	E - EDUCATION	FIXTURE	0.026	175.6	10	\$ 237	\$ 234	\$ 232
FIXTURE-SUPER T8 LAMP REPLACING T8 LAMP	Existing	CIEE	G - GROCERY	FIXTURE	0.026	175.6	10	\$ 237	\$ 234	\$ 232
FIXTURE-SUPER T8 LAMP REPLACING T8 LAMP	Existing	CIEE	H - HEALTH	FIXTURE	0.026	175.6	10	\$ 237	\$ 234	\$ 232
FIXTURE-SUPER T8 LAMP REPLACING T8 LAMP	Existing	CIEE	HM-HOTEL/MOTEL	FIXTURE	0.026	175.6	10	\$ 237	\$ 234	\$ 232
FIXTURE-SUPER T8 LAMP REPLACING T8 LAMP	Existing	CIEE	I - MISCELLANEOUS INDUSTRIAL	FIXTURE	0.026	175.6	10	\$ 237	\$ 234	\$ 232
FIXTURE-SUPER T8 LAMP REPLACING T8 LAMP	Existing	CIEE	O - OFFICE	FIXTURE	0.026	175.6	10	\$ 237	\$ 234	\$ 232
FIXTURE-SUPER T8 LAMP REPLACING T8 LAMP	Existing	CIEE	RS-RESTAURANT	FIXTURE	0.026	175.6	10	\$ 237	\$ 234	\$ 232
FIXTURE-SUPER T8 LAMP REPLACING T8 LAMP	Existing	CIEE	RT-RETAIL	FIXTURE	0.026	175.6	10	\$ 237	\$ 234	\$ 232
FIXTURE-SUPER T8 LAMP REPLACING T8 LAMP	Existing	CIEE	W - WAREHOUSE	FIXTURE	0.026	175.6	10	\$ 237	\$ 234	\$ 232
FIXTURE-SUPER T8 LAMP REPLACING T12 LAMP	Existing	CIEE	C - ALL COMMERCIAL	FIXTURE	0.026	175.6	10	\$ 237	\$ 234	\$ 232
FIXTURE-SUPER T8 LAMP REPLACING T12 LAMP	Existing	CIEE	CM-MISC COMMERCIAL	FIXTURE	0.026	175.6	10	\$ 237	\$ 234	\$ 232



County Generation and T&D Losses		
Oahu	Maui	Hawaii
11.17%	9.96%	9.00%

2009 NPV TRB per Unit System by Island

Equipment Description	Project Type	Program	Business / Residential Type	Measure Unit	kW savings per unit	kWh savings per unit	Life (years)	Oahu	Maui County	Hawaii County
FIXTURE-SUPER T8 LAMP REPLACING T12 LAMP	Existing	CIEE	CS-COLD STORAGE	FIXTURE	0.026	175.6	10	\$ 237	\$ 234	\$ 232
FIXTURE-SUPER T8 LAMP REPLACING T12 LAMP	Existing	CIEE	E-EDUCATION	FIXTURE	0.026	175.6	10	\$ 237	\$ 234	\$ 232
FIXTURE-SUPER T8 LAMP REPLACING T12 LAMP	Existing	CIEE	G-GROCERY	FIXTURE	0.026	175.6	10	\$ 237	\$ 234	\$ 232
FIXTURE-SUPER T8 LAMP REPLACING T12 LAMP	Existing	CIEE	H-HEALTH	FIXTURE	0.026	175.6	10	\$ 237	\$ 234	\$ 232
FIXTURE-SUPER T8 LAMP REPLACING T12 LAMP	Existing	CIEE	HM-HOTEL/MOTEL	FIXTURE	0.026	175.6	10	\$ 237	\$ 234	\$ 232
FIXTURE-SUPER T8 LAMP REPLACING T12 LAMP	Existing	CIEE	I-MISCELLANEOUS INDUSTRIAL	FIXTURE	0.026	175.6	10	\$ 237	\$ 234	\$ 232
FIXTURE-SUPER T8 LAMP REPLACING T12 LAMP	Existing	CIEE	O-OFFICE	FIXTURE	0.026	175.6	10	\$ 237	\$ 234	\$ 232
FIXTURE-SUPER T8 LAMP REPLACING T12 LAMP	Existing	CIEE	RS-RESTAURANT	FIXTURE	0.026	175.6	10	\$ 237	\$ 234	\$ 232
FIXTURE-SUPER T8 LAMP REPLACING T12 LAMP	Existing	CIEE	RT-RETAIL	FIXTURE	0.026	175.6	10	\$ 237	\$ 234	\$ 232
FIXTURE-SUPER T8 LAMP REPLACING T12 LAMP	Existing	CIEE	W-WAREHOUSE	FIXTURE	0.026	175.6	10	\$ 237	\$ 234	\$ 232
METAL HALIDE HID FIXTURE	Existing	CIEE	C-ALL COMMERCIAL	FIXTURE	0.031	625.0	6	\$ 429	\$ 424	\$ 421
METAL HALIDE HID FIXTURE	Existing	CIEE	CM-MISC COMMERCIAL	FIXTURE	0.031	625.0	6	\$ 429	\$ 424	\$ 421
METAL HALIDE HID FIXTURE	Existing	CIEE	CS-COLD STORAGE	FIXTURE	0.022	784.9	6	\$ 510	\$ 504	\$ 500
METAL HALIDE HID FIXTURE	Existing	CIEE	E-EDUCATION	FIXTURE	0.032	543.1	6	\$ 382	\$ 378	\$ 374
METAL HALIDE HID FIXTURE	Existing	CIEE	G-GROCERY	FIXTURE	0.044	1,363.4	6	\$ 895	\$ 886	\$ 878
METAL HALIDE HID FIXTURE	Existing	CIEE	H-HEALTH	FIXTURE	0.023	729.1	6	\$ 478	\$ 473	\$ 469
METAL HALIDE HID FIXTURE	Existing	CIEE	HM-HOTEL/MOTEL	FIXTURE	0.052	1,266.7	6	\$ 851	\$ 842	\$ 834
METAL HALIDE HID FIXTURE	Existing	CIEE	I-MISCELLANEOUS INDUSTRIAL	FIXTURE	0.031	625.0	6	\$ 429	\$ 424	\$ 421
METAL HALIDE HID FIXTURE	Existing	CIEE	O-OFFICE	FIXTURE	0.038	838.9	6	\$ 570	\$ 564	\$ 559
METAL HALIDE HID FIXTURE	Existing	CIEE	RS-RESTAURANT	FIXTURE	0.037	1,147.6	6	\$ 754	\$ 745	\$ 739
METAL HALIDE HID FIXTURE	Existing	CIEE	RT-RETAIL	FIXTURE	0.037	939.3	6	\$ 628	\$ 622	\$ 616
METAL HALIDE HID FIXTURE	Existing	CIEE	W-WAREHOUSE	FIXTURE	0.030	779.3	6	\$ 520	\$ 514	\$ 510
PULSE START METAL HALIDE HID FIXTURE	Existing	CIEE	C-ALL COMMERCIAL	FIXTURE	0.123	608.0	8	\$ 755	\$ 747	\$ 740
PULSE START METAL HALIDE HID FIXTURE	Existing	CIEE	CM-MISC COMMERCIAL	FIXTURE	0.123	608.0	8	\$ 755	\$ 747	\$ 740
PULSE START METAL HALIDE HID FIXTURE	Existing	CIEE	CS-COLD STORAGE	FIXTURE	0.123	608.0	8	\$ 755	\$ 747	\$ 740
PULSE START METAL HALIDE HID FIXTURE	Existing	CIEE	E-EDUCATION	FIXTURE	0.123	608.0	8	\$ 755	\$ 747	\$ 740
PULSE START METAL HALIDE HID FIXTURE	Existing	CIEE	G-GROCERY	FIXTURE	0.123	608.0	8	\$ 755	\$ 747	\$ 740
PULSE START METAL HALIDE HID FIXTURE	Existing	CIEE	H-HEALTH	FIXTURE	0.123	608.0	8	\$ 755	\$ 747	\$ 740
PULSE START METAL HALIDE HID FIXTURE	Existing	CIEE	HM-HOTEL/MOTEL	FIXTURE	0.123	608.0	8	\$ 755	\$ 747	\$ 740
PULSE START METAL HALIDE HID FIXTURE	Existing	CIEE	I-MISCELLANEOUS INDUSTRIAL	FIXTURE	0.123	608.0	8	\$ 755	\$ 747	\$ 740
PULSE START METAL HALIDE HID FIXTURE	Existing	CIEE	O-OFFICE	FIXTURE	0.123	608.0	8	\$ 755	\$ 747	\$ 740
PULSE START METAL HALIDE HID FIXTURE	Existing	CIEE	RS-RESTAURANT	FIXTURE	0.123	608.0	8	\$ 755	\$ 747	\$ 740
PULSE START METAL HALIDE HID FIXTURE	Existing	CIEE	RT-RETAIL	FIXTURE	0.123	608.0	8	\$ 755	\$ 747	\$ 740
PULSE START METAL HALIDE HID FIXTURE	Existing	CIEE	W-WAREHOUSE	FIXTURE	0.123	608.0	8	\$ 755	\$ 747	\$ 740
HIGH PRESSURE SODIUM HID FIXTURE	Existing	CIEE	C-ALL COMMERCIAL	FIXTURE	0.043	851.9	15	\$ 1,233	\$ 1,219	\$ 1,209
HIGH PRESSURE SODIUM HID FIXTURE	Existing	CIEE	CM-MISC COMMERCIAL	FIXTURE	0.043	851.9	15	\$ 1,233	\$ 1,219	\$ 1,209
HIGH PRESSURE SODIUM HID FIXTURE	Existing	CIEE	CS-COLD STORAGE	FIXTURE	0.030	1,071.4	15	\$ 1,456	\$ 1,440	\$ 1,427
HIGH PRESSURE SODIUM HID FIXTURE	Existing	CIEE	E-EDUCATION	FIXTURE	0.044	740.3	15	\$ 1,097	\$ 1,086	\$ 1,076
HIGH PRESSURE SODIUM HID FIXTURE	Existing	CIEE	G-GROCERY	FIXTURE	0.060	1,858.1	15	\$ 2,556	\$ 2,528	\$ 2,506
HIGH PRESSURE SODIUM HID FIXTURE	Existing	CIEE	H-HEALTH	FIXTURE	0.031	995.1	15	\$ 1,364	\$ 1,350	\$ 1,338
HIGH PRESSURE SODIUM HID FIXTURE	Existing	CIEE	HM-HOTEL/MOTEL	FIXTURE	0.070	1,727.9	15	\$ 2,433	\$ 2,406	\$ 2,385
HIGH PRESSURE SODIUM HID FIXTURE	Existing	CIEE	I-MISCELLANEOUS INDUSTRIAL	FIXTURE	0.043	851.9	15	\$ 1,233	\$ 1,219	\$ 1,209
HIGH PRESSURE SODIUM HID FIXTURE	Existing	CIEE	O-OFFICE	FIXTURE	0.052	1,142.0	15	\$ 1,630	\$ 1,613	\$ 1,599
HIGH PRESSURE SODIUM HID FIXTURE	Existing	CIEE	RS-RESTAURANT	FIXTURE	0.050	1,566.1	15	\$ 2,152	\$ 2,129	\$ 2,110
HIGH PRESSURE SODIUM HID FIXTURE	Existing	CIEE	RT-RETAIL	FIXTURE	0.051	1,281.5	15	\$ 1,801	\$ 1,781	\$ 1,766



County Generation and T&D Losses

Oahu	Maui	Hawaii
11.17%	9.96%	9.00%

2009 NPV TRB per Unit System by Island

Equipment Description	Project Type	Program	Business / Residential Type	Measure Unit	kW savings per unit	kWh savings per unit	Life (years)	Oahu	Maui County	Hawaii County
HIGH PRESSURE SODIUM HID FIXTURE	Existing	CIEE	W -WAREHOUSE	FIXTURE	0.047	1,062.1	15	\$ 1,511	\$ 1,495	\$ 1,482
OCCUPANCY SENSOR	Existing	CIEE	C -ALL COMMERCIAL	FIXTURE	0.009	34.0	8	\$ 47	\$ 47	\$ 46
OCCUPANCY SENSOR	Existing	CIEE	CM-MISC COMMERCIAL	FIXTURE	0.009	34.0	8	\$ 47	\$ 47	\$ 46
OCCUPANCY SENSOR	Existing	CIEE	CS-COLD STORAGE	FIXTURE	0.005	42.0	8	\$ 44	\$ 44	\$ 43
OCCUPANCY SENSOR	Existing	CIEE	E -EDUCATION	FIXTURE	0.009	29.0	8	\$ 43	\$ 43	\$ 42
OCCUPANCY SENSOR	Existing	CIEE	G -GROCERY	FIXTURE	0.011	73.0	8	\$ 82	\$ 81	\$ 80
OCCUPANCY SENSOR	Existing	CIEE	H -HEALTH	FIXTURE	0.006	39.0	8	\$ 44	\$ 44	\$ 43
OCCUPANCY SENSOR	Existing	CIEE	HM-HOTEL/MOTEL	FIXTURE	0.013	67.0	8	\$ 82	\$ 81	\$ 80
OCCUPANCY SENSOR	Existing	CIEE	I -MISCELLANEOUS INDUSTRIAL	FIXTURE	0.009	34.0	8	\$ 47	\$ 47	\$ 46
OCCUPANCY SENSOR	Existing	CIEE	O -OFFICE	FIXTURE	0.010	45.0	8	\$ 58	\$ 57	\$ 57
OCCUPANCY SENSOR	Existing	CIEE	RS-RESTAURANT	FIXTURE	0.010	62.0	8	\$ 71	\$ 70	\$ 70
OCCUPANCY SENSOR	Existing	CIEE	RT-RETAIL	FIXTURE	0.010	51.0	8	\$ 63	\$ 62	\$ 61
OCCUPANCY SENSOR	Existing	CIEE	W -WAREHOUSE	FIXTURE	0.008	42.0	8	\$ 51	\$ 50	\$ 50
REFLECTOR WITH DELAMPING	Existing	CIEE	C -ALL COMMERCIAL	FIXTURE	0.044	175.0	10	\$ 287	\$ 284	\$ 282
REFLECTOR WITH DELAMPING	Existing	CIEE	CM-MISC COMMERCIAL	FIXTURE	0.044	175.0	10	\$ 287	\$ 284	\$ 282
REFLECTOR WITH DELAMPING	Existing	CIEE	CS-COLD STORAGE	FIXTURE	0.030	216.0	10	\$ 286	\$ 283	\$ 280
REFLECTOR WITH DELAMPING	Existing	CIEE	E -EDUCATION	FIXTURE	0.045	151.6	10	\$ 269	\$ 266	\$ 263
REFLECTOR WITH DELAMPING	Existing	CIEE	G -GROCERY	FIXTURE	0.062	378.2	10	\$ 527	\$ 521	\$ 517
REFLECTOR WITH DELAMPING	Existing	CIEE	H -HEALTH	FIXTURE	0.032	202.9	10	\$ 279	\$ 276	\$ 274
REFLECTOR WITH DELAMPING	Existing	CIEE	HM-HOTEL/MOTEL	FIXTURE	0.071	344.7	10	\$ 522	\$ 516	\$ 511
REFLECTOR WITH DELAMPING	Existing	CIEE	I -MISCELLANEOUS INDUSTRIAL	FIXTURE	0.044	175.2	10	\$ 288	\$ 284	\$ 282
REFLECTOR WITH DELAMPING	Existing	CIEE	O -OFFICE	FIXTURE	0.053	233.1	10	\$ 367	\$ 363	\$ 360
REFLECTOR WITH DELAMPING	Existing	CIEE	RS-RESTAURANT	FIXTURE	0.051	317.9	10	\$ 440	\$ 435	\$ 431
REFLECTOR WITH DELAMPING	Existing	CIEE	RT-RETAIL	FIXTURE	0.052	260.8	10	\$ 390	\$ 385	\$ 382
REFLECTOR WITH DELAMPING	Existing	CIEE	W -WAREHOUSE	FIXTURE	0.047	216.0	10	\$ 334	\$ 330	\$ 327
COMPACT FLUORESCENT LIGHT	Existing	CIEE	C -ALL COMMERCIAL	FIXTURE	0.043	229.3	5	\$ 178	\$ 176	\$ 175
COMPACT FLUORESCENT LIGHT	Existing	CIEE	CM-MISC COMMERCIAL	FIXTURE	0.043	229.3	5	\$ 178	\$ 176	\$ 175
COMPACT FLUORESCENT LIGHT	Existing	CIEE	CS-COLD STORAGE	FIXTURE	0.043	229.3	5	\$ 178	\$ 176	\$ 175
COMPACT FLUORESCENT LIGHT	Existing	CIEE	E -EDUCATION	FIXTURE	0.043	229.3	5	\$ 178	\$ 176	\$ 175
COMPACT FLUORESCENT LIGHT	Existing	CIEE	G -GROCERY	FIXTURE	0.043	229.3	5	\$ 178	\$ 176	\$ 175
COMPACT FLUORESCENT LIGHT	Existing	CIEE	H -HEALTH	FIXTURE	0.043	229.3	5	\$ 178	\$ 176	\$ 175
COMPACT FLUORESCENT LIGHT	Existing	CIEE	HM-HOTEL/MOTEL	FIXTURE	0.043	229.3	5	\$ 178	\$ 176	\$ 175
COMPACT FLUORESCENT LIGHT	Existing	CIEE	I -MISCELLANEOUS INDUSTRIAL	FIXTURE	0.043	229.3	5	\$ 178	\$ 176	\$ 175
COMPACT FLUORESCENT LIGHT	Existing	CIEE	O -OFFICE	FIXTURE	0.043	229.3	5	\$ 178	\$ 176	\$ 175
COMPACT FLUORESCENT LIGHT	Existing	CIEE	RS-RESTAURANT	FIXTURE	0.043	229.3	5	\$ 178	\$ 176	\$ 175
COMPACT FLUORESCENT LIGHT	Existing	CIEE	RT-RETAIL	FIXTURE	0.043	229.3	5	\$ 178	\$ 176	\$ 175
COMPACT FLUORESCENT LIGHT	Existing	CIEE	W -WAREHOUSE	FIXTURE	0.043	229.3	5	\$ 178	\$ 176	\$ 175
DELAMPING ONLY	Existing	CIEE	C -ALL COMMERCIAL	FIXTURE	0.041	269.7	10	\$ 367	\$ 363	\$ 360
DELAMPING ONLY	Existing	CIEE	CM-MISC COMMERCIAL	FIXTURE	0.041	269.7	10	\$ 367	\$ 363	\$ 360
DELAMPING ONLY	Existing	CIEE	CS-COLD STORAGE	FIXTURE	0.041	269.7	10	\$ 367	\$ 363	\$ 360
DELAMPING ONLY	Existing	CIEE	E -EDUCATION	FIXTURE	0.041	269.7	10	\$ 367	\$ 363	\$ 360
DELAMPING ONLY	Existing	CIEE	G -GROCERY	FIXTURE	0.041	269.7	10	\$ 367	\$ 363	\$ 360
DELAMPING ONLY	Existing	CIEE	H -HEALTH	FIXTURE	0.041	269.7	10	\$ 367	\$ 363	\$ 360
DELAMPING ONLY	Existing	CIEE	HM-HOTEL/MOTEL	FIXTURE	0.041	269.7	10	\$ 367	\$ 363	\$ 360
DELAMPING ONLY	Existing	CIEE	I -MISCELLANEOUS INDUSTRIAL	FIXTURE	0.041	269.7	10	\$ 367	\$ 363	\$ 360

 Program Year 2009 Measure Tracking

County Generation and T&D Losses		
Oahu	Maui	Hawaii
11.17%	9.96%	9.00%

2009 NPV TRB per Unit System by Island										
Equipment Description	Project Type	Program	Business / Residential Type	Measure Unit	kW savings per unit	kWh savings per unit	Life (years)	Oahu	Maui County	Hawaii County
DELAMPING ONLY	Existing	CIEE	O -OFFICE	FIXTURE	0.041	269.7	10	\$ 367	\$ 363	\$ 360
DELAMPING ONLY	Existing	CIEE	RS-RESTAURANT	FIXTURE	0.041	269.7	10	\$ 367	\$ 363	\$ 360
DELAMPING ONLY	Existing	CIEE	RT-RETAIL	FIXTURE	0.041	269.7	10	\$ 367	\$ 363	\$ 360
DELAMPING ONLY	Existing	CIEE	W -WAREHOUSE	FIXTURE	0.041	269.7	10	\$ 367	\$ 363	\$ 360
HIGH EFFICIENCY INDUSTRIAL MOTOR	Existing	CIEE	C -ALL COMMERCIAL	HORSEPOWER	0.007	40.1	15	\$ 78	\$ 77	\$ 76
HIGH EFFICIENCY INDUSTRIAL MOTOR	Existing	CIEE	CM-MISC COMMERCIAL	HORSEPOWER	0.007	40.1	15	\$ 78	\$ 77	\$ 76
HIGH EFFICIENCY INDUSTRIAL MOTOR	Existing	CIEE	CS-COLD STORAGE	HORSEPOWER	0.007	40.1	15	\$ 78	\$ 77	\$ 76
HIGH EFFICIENCY INDUSTRIAL MOTOR	Existing	CIEE	E -EDUCATION	HORSEPOWER	0.007	40.1	15	\$ 78	\$ 77	\$ 76
HIGH EFFICIENCY INDUSTRIAL MOTOR	Existing	CIEE	G -GROCERY	HORSEPOWER	0.007	40.1	15	\$ 78	\$ 77	\$ 76
HIGH EFFICIENCY INDUSTRIAL MOTOR	Existing	CIEE	H -HEALTH	HORSEPOWER	0.007	40.1	15	\$ 78	\$ 77	\$ 76
HIGH EFFICIENCY INDUSTRIAL MOTOR	Existing	CIEE	HM-HOTEL/MOTEL	HORSEPOWER	0.007	40.1	15	\$ 78	\$ 77	\$ 76
HIGH EFFICIENCY INDUSTRIAL MOTOR	Existing	CIEE	I -MISCELLANEOUS INDUSTRIAL	HORSEPOWER	0.007	40.1	15	\$ 78	\$ 77	\$ 76
HIGH EFFICIENCY INDUSTRIAL MOTOR	Existing	CIEE	O -OFFICE	HORSEPOWER	0.007	40.1	15	\$ 78	\$ 77	\$ 76
HIGH EFFICIENCY INDUSTRIAL MOTOR	Existing	CIEE	RS-RESTAURANT	HORSEPOWER	0.007	40.1	15	\$ 78	\$ 77	\$ 76
HIGH EFFICIENCY INDUSTRIAL MOTOR	Existing	CIEE	RT-RETAIL	HORSEPOWER	0.007	40.1	15	\$ 78	\$ 77	\$ 76
HIGH EFFICIENCY INDUSTRIAL MOTOR	Existing	CIEE	W -WAREHOUSE	HORSEPOWER	0.007	40.1	15	\$ 78	\$ 77	\$ 76
HIGH EFFICIENCY VENTILATING MOTOR	Existing	CIEE	C -ALL COMMERCIAL	HORSEPOWER	0.007	40.1	15	\$ 78	\$ 77	\$ 76
HIGH EFFICIENCY VENTILATING MOTOR	Existing	CIEE	CM-MISC COMMERCIAL	HORSEPOWER	0.007	40.1	15	\$ 78	\$ 77	\$ 76
HIGH EFFICIENCY VENTILATING MOTOR	Existing	CIEE	CS-COLD STORAGE	HORSEPOWER	0.007	40.1	15	\$ 78	\$ 77	\$ 76
HIGH EFFICIENCY VENTILATING MOTOR	Existing	CIEE	E -EDUCATION	HORSEPOWER	0.007	40.1	15	\$ 78	\$ 77	\$ 76
HIGH EFFICIENCY VENTILATING MOTOR	Existing	CIEE	G -GROCERY	HORSEPOWER	0.007	40.1	15	\$ 78	\$ 77	\$ 76
HIGH EFFICIENCY VENTILATING MOTOR	Existing	CIEE	H -HEALTH	HORSEPOWER	0.007	40.1	15	\$ 78	\$ 77	\$ 76
HIGH EFFICIENCY VENTILATING MOTOR	Existing	CIEE	HM-HOTEL/MOTEL	HORSEPOWER	0.007	40.1	15	\$ 78	\$ 77	\$ 76
HIGH EFFICIENCY VENTILATING MOTOR	Existing	CIEE	I -MISCELLANEOUS INDUSTRIAL	HORSEPOWER	0.007	40.1	15	\$ 78	\$ 77	\$ 76
HIGH EFFICIENCY VENTILATING MOTOR	Existing	CIEE	O -OFFICE	HORSEPOWER	0.007	40.1	15	\$ 78	\$ 77	\$ 76
HIGH EFFICIENCY VENTILATING MOTOR	Existing	CIEE	RS-RESTAURANT	HORSEPOWER	0.007	40.1	15	\$ 78	\$ 77	\$ 76
HIGH EFFICIENCY VENTILATING MOTOR	Existing	CIEE	RT-RETAIL	HORSEPOWER	0.007	40.1	15	\$ 78	\$ 77	\$ 76
HIGH EFFICIENCY VENTILATING MOTOR	Existing	CIEE	W -WAREHOUSE	HORSEPOWER	0.007	40.1	15	\$ 78	\$ 77	\$ 76
HIGH EFFICIENCY AIR CONDITIONER	Existing	CIEE	C -ALL COMMERCIAL	TON	0.185	625.8	20	\$ 1,823	\$ 1,803	\$ 1,788
HIGH EFFICIENCY AIR CONDITIONER	Existing	CIEE	CM-MISC COMMERCIAL	TON	0.185	625.8	20	\$ 1,823	\$ 1,803	\$ 1,788
HIGH EFFICIENCY AIR CONDITIONER	Existing	CIEE	CS-COLD STORAGE	TON	0.188	589.1	20	\$ 1,783	\$ 1,763	\$ 1,748
HIGH EFFICIENCY AIR CONDITIONER	Existing	CIEE	E -EDUCATION	TON	0.240	548.0	20	\$ 1,970	\$ 1,949	\$ 1,932
HIGH EFFICIENCY AIR CONDITIONER	Existing	CIEE	G -GROCERY	TON	0.176	855.6	20	\$ 2,124	\$ 2,101	\$ 2,083
HIGH EFFICIENCY AIR CONDITIONER	Existing	CIEE	H -HEALTH	TON	0.194	1,046.0	20	\$ 2,496	\$ 2,469	\$ 2,447
HIGH EFFICIENCY AIR CONDITIONER	Existing	CIEE	HM-HOTEL/MOTEL	TON	0.178	815.1	20	\$ 2,073	\$ 2,051	\$ 2,033
HIGH EFFICIENCY AIR CONDITIONER	Existing	CIEE	I -MISCELLANEOUS INDUSTRIAL	TON	0.185	652.8	20	\$ 1,864	\$ 1,843	\$ 1,827
HIGH EFFICIENCY AIR CONDITIONER	Existing	CIEE	MM-MULTI FAMILY, MASTER METER	TON	0.185	652.8	20	\$ 1,864	\$ 1,843	\$ 1,827
HIGH EFFICIENCY AIR CONDITIONER	Existing	CIEE	O -OFFICE	TON	0.162	699.4	20	\$ 1,823	\$ 1,804	\$ 1,788
HIGH EFFICIENCY AIR CONDITIONER	Existing	CIEE	RS-RESTAURANT	TON	0.170	832.3	20	\$ 2,061	\$ 2,038	\$ 2,021
HIGH EFFICIENCY AIR CONDITIONER	Existing	CIEE	RT-RETAIL	TON	0.187	641.8	20	\$ 1,857	\$ 1,837	\$ 1,821
HIGH EFFICIENCY AIR CONDITIONER	Existing	CIEE	W -WAREHOUSE	TON	0.178	619.9	20	\$ 1,781	\$ 1,762	\$ 1,746
WINDOW ROOM AIR CONDITIONER	Existing	CIEE	C -ALL COMMERCIAL	TON	0.350	1,071.5	12	\$ 2,303	\$ 2,278	\$ 2,258
WINDOW ROOM AIR CONDITIONER	Existing	CIEE	CM-MISC COMMERCIAL	TON	0.350	1,071.5	12	\$ 2,303	\$ 2,278	\$ 2,258
WINDOW ROOM AIR CONDITIONER	Existing	CIEE	CS-COLD STORAGE	TON	0.350	1,071.5	12	\$ 2,303	\$ 2,278	\$ 2,258
WINDOW ROOM AIR CONDITIONER	Existing	CIEE	E -EDUCATION	TON	0.350	1,071.5	12	\$ 2,303	\$ 2,278	\$ 2,258



Program Year 2009 Measure Tracking

County Generation and T&D Losses		
Oahu	Maui	Hawaii
11.17%	9.96%	9.00%

2009 NPV TRB per Unit System by Island										
Equipment Description	Project Type	Program	Business / Residential Type	Measure Unit	kW savings per unit	kWh savings per unit	Life (years)	Oahu	Maui County	Hawaii County
WINDOW ROOM AIR CONDITIONER	Existing	CIEE	G -GROCERY	TON	0.350	1,071.5	12	\$ 2,303	\$ 2,278	\$ 2,258
WINDOW ROOM AIR CONDITIONER	Existing	CIEE	H -HEALTH	TON	0.350	1,071.5	12	\$ 2,303	\$ 2,278	\$ 2,258
WINDOW ROOM AIR CONDITIONER	Existing	CIEE	HM-HOTEL/MOTEL	TON	0.350	1,071.5	12	\$ 2,303	\$ 2,278	\$ 2,258
WINDOW ROOM AIR CONDITIONER	Existing	CIEE	I -MISCELLANEOUS INDUSTRIAL	TON	0.350	1,071.5	12	\$ 2,303	\$ 2,278	\$ 2,258
WINDOW ROOM AIR CONDITIONER	Existing	CIEE	MM-MULTI FAMILY, MASTER METER	TON	0.190	373.0	12	\$ 1,028	\$ 1,016	\$ 1,008
WINDOW ROOM AIR CONDITIONER	Existing	CIEE	O -OFFICE	TON	0.350	1,071.5	12	\$ 2,303	\$ 2,278	\$ 2,258
WINDOW ROOM AIR CONDITIONER	Existing	CIEE	RS-RESTAURANT	TON	0.350	1,071.5	12	\$ 2,303	\$ 2,278	\$ 2,258
WINDOW ROOM AIR CONDITIONER	Existing	CIEE	RT-RETAIL	TON	0.350	1,071.5	12	\$ 2,303	\$ 2,278	\$ 2,258
WINDOW ROOM AIR CONDITIONER	Existing	CIEE	W -WAREHOUSE	TON	0.350	1,071.5	12	\$ 2,303	\$ 2,278	\$ 2,258
HIGH EFFICIENCY CHILLER	Existing	CIEE	C -ALL COMMERCIAL	TON	0.253	865.2	20	\$ 2,507	\$ 2,480	\$ 2,459
HIGH EFFICIENCY CHILLER	Existing	CIEE	CM-MISC COMMERCIAL	TON	0.253	865.2	20	\$ 2,507	\$ 2,480	\$ 2,459
HIGH EFFICIENCY CHILLER	Existing	CIEE	CS-COLD STORAGE	TON	0.286	900.2	20	\$ 2,718	\$ 2,688	\$ 2,665
HIGH EFFICIENCY CHILLER	Existing	CIEE	E -EDUCATION	TON	0.331	750.1	20	\$ 2,708	\$ 2,679	\$ 2,656
HIGH EFFICIENCY CHILLER	Existing	CIEE	G -GROCERY	TON	0.221	1,039.9	20	\$ 2,616	\$ 2,588	\$ 2,565
HIGH EFFICIENCY CHILLER	Existing	CIEE	H -HEALTH	TON	0.281	1,467.4	20	\$ 3,544	\$ 3,505	\$ 3,475
HIGH EFFICIENCY CHILLER	Existing	CIEE	HM-HOTEL/MOTEL	TON	0.215	1,033.8	20	\$ 2,578	\$ 2,550	\$ 2,528
HIGH EFFICIENCY CHILLER	Existing	CIEE	I -MISCELLANEOUS INDUSTRIAL	TON	0.253	865.2	20	\$ 2,507	\$ 2,480	\$ 2,459
HIGH EFFICIENCY CHILLER	Existing	CIEE	O -OFFICE	TON	0.191	848.8	20	\$ 2,186	\$ 2,162	\$ 2,143
HIGH EFFICIENCY CHILLER	Existing	CIEE	RS-RESTAURANT	TON	0.218	1,058.4	20	\$ 2,629	\$ 2,601	\$ 2,578
HIGH EFFICIENCY CHILLER	Existing	CIEE	RT-RETAIL	TON	0.274	900.2	20	\$ 2,660	\$ 2,631	\$ 2,608
HIGH EFFICIENCY CHILLER	Existing	CIEE	W -WAREHOUSE	TON	0.250	945.4	20	\$ 2,613	\$ 2,585	\$ 2,562
SPLIT SYSTEM AIR CONDITIONER	Existing	CIEE	MM-MULTI FAMILY, MASTER METER	TON	0.315	545.0	12	\$ 1,626	\$ 1,608	\$ 1,594
SOLAR WATER HEATER	Existing	CIEE	MM-MULTI FAMILY, MASTER METER	WATER HEATER	0.289	1,272.0	15	\$ 2,726	\$ 2,696	\$ 2,673
SOLAR WATER HEATER - New Military - PPV	Existing	CIEE	MSF - Single family	WATER HEATER	0.514	2,731.0	15	\$ 5,433	\$ 5,374	\$ 5,327
HEAT PUMP WATER HEATER - INTEGRAL	Existing	CIEE	MM-MULTI FAMILY, MASTER METER	WATER HEATER	0.328	1,087.0	9	\$ 1,775	\$ 1,756	\$ 1,740
HEAT PUMP WATER HEATER - ADD ON	Existing	CIEE	MM-MULTI FAMILY, MASTER METER	WATER HEATER	0.328	1,087.0	9	\$ 1,775	\$ 1,756	\$ 1,740
HIGH EFFICIENCY ELECTRIC RESISTANCE WATER HEATER	Existing	CIEE	MM-MULTI FAMILY, MASTER METER	WATER HEATER	0.035	160.0	9	\$ 227	\$ 224	\$ 222
LOW FLOW SHOWERHEAD - ELECTRIC WATER HEATER	Existing	CIEE	MM-MULTI FAMILY, MASTER METER	SHOWERHEAD	0.080	340.0	20	\$ 892	\$ 883	\$ 875
LOW FLOW SHOWERHEAD - HEAT PUMP WATER HEATER	Existing	CIEE	MM-MULTI FAMILY, MASTER METER	SHOWERHEAD	0.027	119.3	20	\$ 308	\$ 305	\$ 302
LOW FLOW SHOWERHEAD - SOLAR WATER HEATER	Existing	CIEE	MM-MULTI FAMILY, MASTER METER	SHOWERHEAD	0.007	34.0	20	\$ 84	\$ 84	\$ 83
HVAC fan VFD	Existing	CIEE	C -ALL COMMERCIAL	hp	0.200	760.9	20	\$ 2,097	\$ 2,075	\$ 2,056
HVAC pump VFD	Existing	CIEE	C -ALL COMMERCIAL	hp	0.245	902.7	20	\$ 2,525	\$ 2,498	\$ 2,476
window film	Existing	CIEE	C -ALL COMMERCIAL	ft^2	0.001	8.8	20	\$ 18	\$ 18	\$ 18
CIEE Totals	Existing	CIEE								
LIGHTING FIXTURE	New	CINC	C -ALL COMMERCIAL	FIXTURE	0.012	61.0	5	\$ 48	\$ 48	\$ 47
LIGHTING FIXTURE	New	CINC	CM-MISC COMMERCIAL	FIXTURE	0.012	61.0	5	\$ 48	\$ 48	\$ 47
LIGHTING FIXTURE	New	CINC	CS-COLD STORAGE	FIXTURE	0.009	76.2	5	\$ 52	\$ 51	\$ 51
LIGHTING FIXTURE	New	CINC	E -EDUCATION	FIXTURE	0.012	52.8	5	\$ 44	\$ 44	\$ 43
LIGHTING FIXTURE	New	CINC	G -GROCERY	FIXTURE	0.017	132.5	5	\$ 92	\$ 91	\$ 90
LIGHTING FIXTURE	New	CINC	H -HEALTH	FIXTURE	0.009	71.5	5	\$ 49	\$ 49	\$ 48
LIGHTING FIXTURE	New	CINC	HM-HOTEL/MOTEL	FIXTURE	0.019	122.0	5	\$ 89	\$ 88	\$ 88
LIGHTING FIXTURE	New	CINC	I -MISCELLANEOUS INDUSTRIAL	FIXTURE	0.012	61.0	5	\$ 48	\$ 48	\$ 47
LIGHTING FIXTURE	New	CINC	O -OFFICE	FIXTURE	0.015	80.9	5	\$ 63	\$ 62	\$ 61
LIGHTING FIXTURE	New	CINC	RS-RESTAURANT	FIXTURE	0.015	112.6	5	\$ 79	\$ 78	\$ 77
LIGHTING FIXTURE	New	CINC	RT-RETAIL	FIXTURE	0.014	91.0	5	\$ 66	\$ 66	\$ 65



Program Year 2009 Measure Tracking

County Generation and T&D Losses		
Oahu	Maui	Hawaii
11.17%	9.96%	9.00%

2009 NPV TRB per Unit System by Island										
Equipment Description	Project Type	Program	Business / Residential Type	Measure Unit	kW savings per unit	kWh savings per unit	Life (years)	Oahu	Maui County	Hawaii County
LIGHTING FIXTURE	New	CINC	W-WAREHOUSE	FIXTURE	0.013	77.4	5	\$ 58	\$ 57	\$ 57
LIGHTING FIXTURE WITH REFLECTOR/DELAMPING	New	CINC	C-ALL COMMERCIAL	FIXTURE	0.038	192.3	10	\$ 286	\$ 283	\$ 281
LIGHTING FIXTURE WITH REFLECTOR/DELAMPING	New	CINC	CM-MISC COMMERCIAL	FIXTURE	0.038	192.3	10	\$ 286	\$ 283	\$ 281
LIGHTING FIXTURE WITH REFLECTOR/DELAMPING	New	CINC	CS-COLD STORAGE	FIXTURE	0.026	240.4	10	\$ 297	\$ 294	\$ 291
LIGHTING FIXTURE WITH REFLECTOR/DELAMPING	New	CINC	E-EDUCATION	FIXTURE	0.039	167.7	10	\$ 266	\$ 264	\$ 261
LIGHTING FIXTURE WITH REFLECTOR/DELAMPING	New	CINC	G-GROCERY	FIXTURE	0.053	418.6	10	\$ 539	\$ 533	\$ 528
LIGHTING FIXTURE WITH REFLECTOR/DELAMPING	New	CINC	H-HEALTH	FIXTURE	0.028	226.3	10	\$ 289	\$ 286	\$ 284
LIGHTING FIXTURE WITH REFLECTOR/DELAMPING	New	CINC	HM-HOTEL/MOTEL	FIXTURE	0.061	384.6	10	\$ 530	\$ 524	\$ 520
LIGHTING FIXTURE WITH REFLECTOR/DELAMPING	New	CINC	I-MISCELLANEOUS INDUSTRIAL	FIXTURE	0.038	192.3	10	\$ 286	\$ 283	\$ 281
LIGHTING FIXTURE WITH REFLECTOR/DELAMPING	New	CINC	O-OFFICE	FIXTURE	0.046	256.8	10	\$ 369	\$ 365	\$ 362
LIGHTING FIXTURE WITH REFLECTOR/DELAMPING	New	CINC	RS-RESTAURANT	FIXTURE	0.045	355.3	10	\$ 457	\$ 452	\$ 449
LIGHTING FIXTURE WITH REFLECTOR/DELAMPING	New	CINC	RT-RETAIL	FIXTURE	0.046	290.8	10	\$ 400	\$ 396	\$ 393
LIGHTING FIXTURE WITH REFLECTOR/DELAMPING	New	CINC	W-WAREHOUSE	FIXTURE	0.042	242.7	10	\$ 345	\$ 341	\$ 338
INDUCTIVE LIGHTING	New	CINC	C-ALL COMMERCIAL	FIXTURE	0.025	129.9	5	\$ 102	\$ 101	\$ 100
INDUCTIVE LIGHTING	New	CINC	CM-MISC COMMERCIAL	FIXTURE	0.025	129.9	5	\$ 102	\$ 101	\$ 100
INDUCTIVE LIGHTING	New	CINC	CS-COLD STORAGE	FIXTURE	0.025	129.9	5	\$ 102	\$ 101	\$ 100
INDUCTIVE LIGHTING	New	CINC	E-EDUCATION	FIXTURE	0.025	129.9	5	\$ 102	\$ 101	\$ 100
INDUCTIVE LIGHTING	New	CINC	G-GROCERY	FIXTURE	0.025	129.9	5	\$ 102	\$ 101	\$ 100
INDUCTIVE LIGHTING	New	CINC	H-HEALTH	FIXTURE	0.025	129.9	5	\$ 102	\$ 101	\$ 100
INDUCTIVE LIGHTING	New	CINC	HM-HOTEL/MOTEL	FIXTURE	0.025	129.9	5	\$ 102	\$ 101	\$ 100
INDUCTIVE LIGHTING	New	CINC	I-MISCELLANEOUS INDUSTRIAL	FIXTURE	0.025	129.9	5	\$ 102	\$ 101	\$ 100
INDUCTIVE LIGHTING	New	CINC	O-OFFICE	FIXTURE	0.025	129.9	5	\$ 102	\$ 101	\$ 100
INDUCTIVE LIGHTING	New	CINC	RS-RESTAURANT	FIXTURE	0.025	129.9	5	\$ 102	\$ 101	\$ 100
INDUCTIVE LIGHTING	New	CINC	RT-RETAIL	FIXTURE	0.025	129.9	5	\$ 102	\$ 101	\$ 100
INDUCTIVE LIGHTING	New	CINC	W-WAREHOUSE	FIXTURE	0.025	129.9	5	\$ 102	\$ 101	\$ 100
FIXTURE-T5 LAMP	New	CINC	C-ALL COMMERCIAL	FIXTURE	0.159	754.8	10	\$ 1,152	\$ 1,140	\$ 1,130
FIXTURE-T5 LAMP	New	CINC	CM-MISC COMMERCIAL	FIXTURE	0.159	754.8	10	\$ 1,152	\$ 1,140	\$ 1,130
FIXTURE-T5 LAMP	New	CINC	CS-COLD STORAGE	FIXTURE	0.159	754.8	10	\$ 1,152	\$ 1,140	\$ 1,130
FIXTURE-T5 LAMP	New	CINC	E-EDUCATION	FIXTURE	0.159	754.8	10	\$ 1,152	\$ 1,140	\$ 1,130
FIXTURE-T5 LAMP	New	CINC	G-GROCERY	FIXTURE	0.159	754.8	10	\$ 1,152	\$ 1,140	\$ 1,130
FIXTURE-T5 LAMP	New	CINC	H-HEALTH	FIXTURE	0.159	754.8	10	\$ 1,152	\$ 1,140	\$ 1,130
FIXTURE-T5 LAMP	New	CINC	HM-HOTEL/MOTEL	FIXTURE	0.159	754.8	10	\$ 1,152	\$ 1,140	\$ 1,130
FIXTURE-T5 LAMP	New	CINC	I-MISCELLANEOUS INDUSTRIAL	FIXTURE	0.159	754.8	10	\$ 1,152	\$ 1,140	\$ 1,130
FIXTURE-T5 LAMP	New	CINC	O-OFFICE	FIXTURE	0.159	754.8	10	\$ 1,152	\$ 1,140	\$ 1,130
FIXTURE-T5 LAMP	New	CINC	RS-RESTAURANT	FIXTURE	0.159	754.8	10	\$ 1,152	\$ 1,140	\$ 1,130
FIXTURE-T5 LAMP	New	CINC	RT-RETAIL	FIXTURE	0.159	754.8	10	\$ 1,152	\$ 1,140	\$ 1,130
FIXTURE-T5 LAMP	New	CINC	W-WAREHOUSE	FIXTURE	0.159	754.8	10	\$ 1,152	\$ 1,140	\$ 1,130
FIXTURE-T5 HO LAMP	New	CINC	C-ALL COMMERCIAL	FIXTURE	0.159	754.8	10	\$ 1,152	\$ 1,140	\$ 1,130
FIXTURE-T5 HO LAMP	New	CINC	CM-MISC COMMERCIAL	FIXTURE	0.159	754.8	10	\$ 1,152	\$ 1,140	\$ 1,130
FIXTURE-T5 HO LAMP	New	CINC	CS-COLD STORAGE	FIXTURE	0.159	754.8	10	\$ 1,152	\$ 1,140	\$ 1,130
FIXTURE-T5 HO LAMP	New	CINC	E-EDUCATION	FIXTURE	0.159	754.8	10	\$ 1,152	\$ 1,140	\$ 1,130
FIXTURE-T5 HO LAMP	New	CINC	G-GROCERY	FIXTURE	0.159	754.8	10	\$ 1,152	\$ 1,140	\$ 1,130
FIXTURE-T5 HO LAMP	New	CINC	H-HEALTH	FIXTURE	0.159	754.8	10	\$ 1,152	\$ 1,140	\$ 1,130
FIXTURE-T5 HO LAMP	New	CINC	HM-HOTEL/MOTEL	FIXTURE	0.159	754.8	10	\$ 1,152	\$ 1,140	\$ 1,130
FIXTURE-T5 HO LAMP	New	CINC	I-MISCELLANEOUS INDUSTRIAL	FIXTURE	0.159	754.8	10	\$ 1,152	\$ 1,140	\$ 1,130



Program Year 2009 Measure Tracking

County Generation and T&D Losses		
Oahu	Maui	Hawaii
11.17%	9.96%	9.00%

2009 NPV TRB per Unit System by Island										
Equipment Description	Project Type	Program	Business / Residential Type	Measure Unit	kW savings per unit	kWh savings per unit	Life (years)	Oahu	Maui County	Hawaii County
FIXTURE-T5 HO LAMP	New	CINC	O -OFFICE	FIXTURE	0.159	754.8	10	\$ 1,152	\$ 1,140	\$ 1,130
FIXTURE-T5 HO LAMP	New	CINC	RS-RESTAURANT	FIXTURE	0.159	754.8	10	\$ 1,152	\$ 1,140	\$ 1,130
FIXTURE-T5 HO LAMP	New	CINC	RT-RETAIL	FIXTURE	0.159	754.8	10	\$ 1,152	\$ 1,140	\$ 1,130
FIXTURE-T5 HO LAMP	New	CINC	W-WAREHOUSE	FIXTURE	0.159	754.8	10	\$ 1,152	\$ 1,140	\$ 1,130
FIXTURE-SUPER T8 LAMP REPLACING T8 LAMP	New	CINC	C -ALL COMMERCIAL	FIXTURE	0.021	131.8	10	\$ 182	\$ 180	\$ 178
FIXTURE-SUPER T8 LAMP REPLACING T8 LAMP	New	CINC	CM-MISC COMMERCIAL	FIXTURE	0.021	131.8	10	\$ 182	\$ 180	\$ 178
FIXTURE-SUPER T8 LAMP REPLACING T8 LAMP	New	CINC	CS-COLD STORAGE	FIXTURE	0.021	131.8	10	\$ 182	\$ 180	\$ 178
FIXTURE-SUPER T8 LAMP REPLACING T8 LAMP	New	CINC	E -EDUCATION	FIXTURE	0.021	131.8	10	\$ 182	\$ 180	\$ 178
FIXTURE-SUPER T8 LAMP REPLACING T8 LAMP	New	CINC	G -GROCERY	FIXTURE	0.021	131.8	10	\$ 182	\$ 180	\$ 178
FIXTURE-SUPER T8 LAMP REPLACING T8 LAMP	New	CINC	H -HEALTH	FIXTURE	0.021	131.8	10	\$ 182	\$ 180	\$ 178
FIXTURE-SUPER T8 LAMP REPLACING T8 LAMP	New	CINC	HM-HOTEL/MOTEL	FIXTURE	0.021	131.8	10	\$ 182	\$ 180	\$ 178
FIXTURE-SUPER T8 LAMP REPLACING T8 LAMP	New	CINC	I -MISCELLANEOUS INDUSTRIAL	FIXTURE	0.021	131.8	10	\$ 182	\$ 180	\$ 178
FIXTURE-SUPER T8 LAMP REPLACING T8 LAMP	New	CINC	O -OFFICE	FIXTURE	0.021	131.8	10	\$ 182	\$ 180	\$ 178
FIXTURE-SUPER T8 LAMP REPLACING T8 LAMP	New	CINC	RS-RESTAURANT	FIXTURE	0.021	131.8	10	\$ 182	\$ 180	\$ 178
FIXTURE-SUPER T8 LAMP REPLACING T8 LAMP	New	CINC	RT-RETAIL	FIXTURE	0.021	131.8	10	\$ 182	\$ 180	\$ 178
FIXTURE-SUPER T8 LAMP REPLACING T8 LAMP	New	CINC	W -WAREHOUSE	FIXTURE	0.021	131.8	10	\$ 182	\$ 180	\$ 178
METAL HALID HID FIXTURE	New	CINC	C -ALL COMMERCIAL	FIXTURE	0.073	851.8	6	\$ 638	\$ 631	\$ 626
METAL HALID HID FIXTURE	New	CINC	CM-MISC COMMERCIAL	FIXTURE	0.073	851.8	6	\$ 638	\$ 631	\$ 626
METAL HALID HID FIXTURE	New	CINC	CS-COLD STORAGE	FIXTURE	0.052	1,069.3	6	\$ 732	\$ 724	\$ 718
METAL HALID HID FIXTURE	New	CINC	E -EDUCATION	FIXTURE	0.075	738.9	6	\$ 574	\$ 568	\$ 563
METAL HALID HID FIXTURE	New	CINC	G -GROCERY	FIXTURE	0.104	1,856.3	6	\$ 1,295	\$ 1,281	\$ 1,270
METAL HALID HID FIXTURE	New	CINC	H -HEALTH	FIXTURE	0.055	992.9	6	\$ 692	\$ 684	\$ 678
METAL HALID HID FIXTURE	New	CINC	HM-HOTEL/MOTEL	FIXTURE	0.122	1,726.8	6	\$ 1,249	\$ 1,235	\$ 1,224
METAL HALID HID FIXTURE	New	CINC	I -MISCELLANEOUS INDUSTRIAL	FIXTURE	0.073	851.8	6	\$ 638	\$ 631	\$ 626
METAL HALID HID FIXTURE	New	CINC	O -OFFICE	FIXTURE	0.090	1,142.4	6	\$ 842	\$ 833	\$ 826
METAL HALID HID FIXTURE	New	CINC	RS-RESTAURANT	FIXTURE	0.087	1,564.1	6	\$ 1,090	\$ 1,078	\$ 1,069
METAL HALID HID FIXTURE	New	CINC	RT-RETAIL	FIXTURE	0.088	1,280.2	6	\$ 922	\$ 911	\$ 904
METAL HALID HID FIXTURE	New	CINC	W -WAREHOUSE	FIXTURE	0.081	1,061.0	6	\$ 778	\$ 769	\$ 763
PULSE START METAL HALIDE HID FIXTURE	New	CINC	C -ALL COMMERCIAL	FIXTURE	0.095	476.2	8	\$ 588	\$ 582	\$ 577
PULSE START METAL HALIDE HID FIXTURE	New	CINC	CM-MISC COMMERCIAL	FIXTURE	0.095	476.2	8	\$ 588	\$ 582	\$ 577
PULSE START METAL HALIDE HID FIXTURE	New	CINC	CS-COLD STORAGE	FIXTURE	0.095	476.2	8	\$ 588	\$ 582	\$ 577
PULSE START METAL HALIDE HID FIXTURE	New	CINC	E -EDUCATION	FIXTURE	0.095	476.2	8	\$ 588	\$ 582	\$ 577
PULSE START METAL HALIDE HID FIXTURE	New	CINC	G -GROCERY	FIXTURE	0.095	476.2	8	\$ 588	\$ 582	\$ 577
PULSE START METAL HALIDE HID FIXTURE	New	CINC	H -HEALTH	FIXTURE	0.095	476.2	8	\$ 588	\$ 582	\$ 577
PULSE START METAL HALIDE HID FIXTURE	New	CINC	HM-HOTEL/MOTEL	FIXTURE	0.095	476.2	8	\$ 588	\$ 582	\$ 577
PULSE START METAL HALIDE HID FIXTURE	New	CINC	I -MISCELLANEOUS INDUSTRIAL	FIXTURE	0.095	476.2	8	\$ 588	\$ 582	\$ 577
PULSE START METAL HALIDE HID FIXTURE	New	CINC	O -OFFICE	FIXTURE	0.095	476.2	8	\$ 588	\$ 582	\$ 577
PULSE START METAL HALIDE HID FIXTURE	New	CINC	RS-RESTAURANT	FIXTURE	0.095	476.2	8	\$ 588	\$ 582	\$ 577
PULSE START METAL HALIDE HID FIXTURE	New	CINC	RT-RETAIL	FIXTURE	0.095	476.2	8	\$ 588	\$ 582	\$ 577
PULSE START METAL HALIDE HID FIXTURE	New	CINC	W -WAREHOUSE	FIXTURE	0.095	476.2	8	\$ 588	\$ 582	\$ 577
HIGH PRESSURE SODIUM HID FIXTURE	New	CINC	C -ALL COMMERCIAL	FIXTURE	0.100	1,160.6	15	\$ 1,843	\$ 1,823	\$ 1,807
HIGH PRESSURE SODIUM HID FIXTURE	New	CINC	CM-MISC COMMERCIAL	FIXTURE	0.100	1,160.6	15	\$ 1,843	\$ 1,823	\$ 1,807
HIGH PRESSURE SODIUM HID FIXTURE	New	CINC	CS-COLD STORAGE	FIXTURE	0.071	1,457.8	15	\$ 2,100	\$ 2,077	\$ 2,059
HIGH PRESSURE SODIUM HID FIXTURE	New	CINC	E -EDUCATION	FIXTURE	0.103	1,007.9	15	\$ 1,664	\$ 1,646	\$ 1,631
HIGH PRESSURE SODIUM HID FIXTURE	New	CINC	G -GROCERY	FIXTURE	0.142	2,530.5	15	\$ 3,718	\$ 3,678	\$ 3,646

Hawaii Energy Program Year 2009 Measure Tracking

County Generation and T&D Losses		
Oahu	Maui	Hawaii
11.17%	9.96%	9.00%

2009 NPV TRB per Unit System by Island										
Equipment Description	Project Type	Program	Business / Residential Type	Measure Unit	kW savings per unit	kWh savings per unit	Life (years)	Oahu	Maui County	Hawaii County
HIGH PRESSURE SODIUM HID FIXTURE	New	CINC	H - HEALTH	FIXTURE	0.074	1,354.9	15	\$ 1,983	\$ 1,961	\$ 1,944
HIGH PRESSURE SODIUM HID FIXTURE	New	CINC	HM-HOTEL/MOTEL	FIXTURE	0.166	2,352.8	15	\$ 3,591	\$ 3,552	\$ 3,521
HIGH PRESSURE SODIUM HID FIXTURE	New	CINC	I - MISCELLANEOUS INDUSTRIAL	FIXTURE	0.100	1,160.6	15	\$ 1,843	\$ 1,823	\$ 1,807
HIGH PRESSURE SODIUM HID FIXTURE	New	CINC	O - OFFICE	FIXTURE	0.123	1,555.8	15	\$ 2,427	\$ 2,400	\$ 2,379
HIGH PRESSURE SODIUM HID FIXTURE	New	CINC	RS-RESTAURANT	FIXTURE	0.119	2,132.0	15	\$ 3,130	\$ 3,096	\$ 3,069
HIGH PRESSURE SODIUM HID FIXTURE	New	CINC	RT-RETAIL	FIXTURE	0.120	1,743.4	15	\$ 2,649	\$ 2,620	\$ 2,597
HIGH PRESSURE SODIUM HID FIXTURE	New	CINC	W - WAREHOUSE	FIXTURE	0.111	1,447.9	15	\$ 2,245	\$ 2,220	\$ 2,201
OCCUPANCY SENSOR	New	CINC	C - ALL COMMERCIAL	FIXTURE	0.013	23.8	8	\$ 49	\$ 48	\$ 48
OCCUPANCY SENSOR	New	CINC	CM-MISC COMMERCIAL	FIXTURE	0.013	23.8	8	\$ 49	\$ 48	\$ 48
OCCUPANCY SENSOR	New	CINC	CS-COLD STORAGE	FIXTURE	0.010	30.1	8	\$ 46	\$ 46	\$ 46
OCCUPANCY SENSOR	New	CINC	E - EDUCATION	FIXTURE	0.013	20.7	8	\$ 46	\$ 46	\$ 45
OCCUPANCY SENSOR	New	CINC	G - GROCERY	FIXTURE	0.019	51.8	8	\$ 84	\$ 83	\$ 82
OCCUPANCY SENSOR	New	CINC	H - HEALTH	FIXTURE	0.009	28.0	8	\$ 42	\$ 42	\$ 42
OCCUPANCY SENSOR	New	CINC	HM-HOTEL/MOTEL	FIXTURE	0.024	47.7	8	\$ 92	\$ 91	\$ 91
OCCUPANCY SENSOR	New	CINC	I - MISCELLANEOUS INDUSTRIAL	FIXTURE	0.013	23.8	8	\$ 49	\$ 48	\$ 48
OCCUPANCY SENSOR	New	CINC	O - OFFICE	FIXTURE	0.017	32.1	8	\$ 64	\$ 64	\$ 63
OCCUPANCY SENSOR	New	CINC	RS-RESTAURANT	FIXTURE	0.017	43.5	8	\$ 73	\$ 72	\$ 72
OCCUPANCY SENSOR	New	CINC	RT-RETAIL	FIXTURE	0.017	36.3	8	\$ 67	\$ 67	\$ 66
OCCUPANCY SENSOR	New	CINC	W - WAREHOUSE	FIXTURE	0.016	30.1	8	\$ 60	\$ 60	\$ 59
COMPACT FLUORESCENT LIGHT	New	CINC	C - ALL COMMERCIAL	FIXTURE	0.033	166.3	5	\$ 132	\$ 130	\$ 129
COMPACT FLUORESCENT LIGHT	New	CINC	CM-MISC COMMERCIAL	FIXTURE	0.033	166.3	5	\$ 132	\$ 130	\$ 129
COMPACT FLUORESCENT LIGHT	New	CINC	CS-COLD STORAGE	FIXTURE	0.033	166.3	5	\$ 132	\$ 130	\$ 129
COMPACT FLUORESCENT LIGHT	New	CINC	E - EDUCATION	FIXTURE	0.033	166.3	5	\$ 132	\$ 130	\$ 129
COMPACT FLUORESCENT LIGHT	New	CINC	G - GROCERY	FIXTURE	0.033	166.3	5	\$ 132	\$ 130	\$ 129
COMPACT FLUORESCENT LIGHT	New	CINC	H - HEALTH	FIXTURE	0.033	166.3	5	\$ 132	\$ 130	\$ 129
COMPACT FLUORESCENT LIGHT	New	CINC	HM-HOTEL/MOTEL	FIXTURE	0.033	166.3	5	\$ 132	\$ 130	\$ 129
COMPACT FLUORESCENT LIGHT	New	CINC	I - MISCELLANEOUS INDUSTRIAL	FIXTURE	0.033	166.3	5	\$ 132	\$ 130	\$ 129
COMPACT FLUORESCENT LIGHT	New	CINC	MM-MULTI FAMILY, MASTER METER	FIXTURE	0.012	65.4	5	\$ 50	\$ 50	\$ 49
COMPACT FLUORESCENT LIGHT	New	CINC	O - OFFICE	FIXTURE	0.033	166.3	5	\$ 132	\$ 130	\$ 129
COMPACT FLUORESCENT LIGHT	New	CINC	RS-RESTAURANT	FIXTURE	0.033	166.3	5	\$ 132	\$ 130	\$ 129
COMPACT FLUORESCENT LIGHT	New	CINC	RT-RETAIL	FIXTURE	0.033	166.3	5	\$ 132	\$ 130	\$ 129
COMPACT FLUORESCENT LIGHT	New	CINC	W - WAREHOUSE	FIXTURE	0.033	166.3	5	\$ 132	\$ 130	\$ 129
HIGH EFFICIENCY INDUSTRIAL MOTOR	New	CINC	C - ALL COMMERCIAL	HORSEPOWER	0.007	40.1	15	\$ 78	\$ 77	\$ 76
HIGH EFFICIENCY INDUSTRIAL MOTOR	New	CINC	CM-MISC COMMERCIAL	HORSEPOWER	0.007	40.1	15	\$ 78	\$ 77	\$ 76
HIGH EFFICIENCY INDUSTRIAL MOTOR	New	CINC	CS-COLD STORAGE	HORSEPOWER	0.007	40.1	15	\$ 78	\$ 77	\$ 76
HIGH EFFICIENCY INDUSTRIAL MOTOR	New	CINC	E - EDUCATION	HORSEPOWER	0.007	40.1	15	\$ 78	\$ 77	\$ 76
HIGH EFFICIENCY INDUSTRIAL MOTOR	New	CINC	G - GROCERY	HORSEPOWER	0.007	40.1	15	\$ 78	\$ 77	\$ 76
HIGH EFFICIENCY INDUSTRIAL MOTOR	New	CINC	H - HEALTH	HORSEPOWER	0.007	40.1	15	\$ 78	\$ 77	\$ 76
HIGH EFFICIENCY INDUSTRIAL MOTOR	New	CINC	HM-HOTEL/MOTEL	HORSEPOWER	0.007	40.1	15	\$ 78	\$ 77	\$ 76
HIGH EFFICIENCY INDUSTRIAL MOTOR	New	CINC	I - MISCELLANEOUS INDUSTRIAL	HORSEPOWER	0.007	40.1	15	\$ 78	\$ 77	\$ 76
HIGH EFFICIENCY INDUSTRIAL MOTOR	New	CINC	O - OFFICE	HORSEPOWER	0.007	40.1	15	\$ 78	\$ 77	\$ 76
HIGH EFFICIENCY INDUSTRIAL MOTOR	New	CINC	RS-RESTAURANT	HORSEPOWER	0.007	40.1	15	\$ 78	\$ 77	\$ 76
HIGH EFFICIENCY INDUSTRIAL MOTOR	New	CINC	RT-RETAIL	HORSEPOWER	0.007	40.1	15	\$ 78	\$ 77	\$ 76
HIGH EFFICIENCY INDUSTRIAL MOTOR	New	CINC	W - WAREHOUSE	HORSEPOWER	0.007	40.1	15	\$ 78	\$ 77	\$ 76
HIGH EFFICIENCY VENTILATING MOTOR	New	CINC	C - ALL COMMERCIAL	HORSEPOWER	0.007	40.1	15	\$ 78	\$ 77	\$ 76

 Program Year 2009 Measure Tracking

County Generation and T&D Losses		
Oahu	Maui	Hawaii
11.17%	9.96%	9.00%

2009 NPV TRB per Unit System by Island										
Equipment Description	Project Type	Program	Business / Residential Type	Measure Unit	kW savings per unit	kWh savings per unit	Life (years)	Oahu	Maui County	Hawaii County
HIGH EFFICIENCY VENTILATING MOTOR	New	CINC	CM-MISC COMMERCIAL	HORSEPOWER	0.007	40.1	15	\$ 78	\$ 77	\$ 76
HIGH EFFICIENCY VENTILATING MOTOR	New	CINC	CS-COLD STORAGE	HORSEPOWER	0.007	40.1	15	\$ 78	\$ 77	\$ 76
HIGH EFFICIENCY VENTILATING MOTOR	New	CINC	E-EDUCATION	HORSEPOWER	0.007	40.1	15	\$ 78	\$ 77	\$ 76
HIGH EFFICIENCY VENTILATING MOTOR	New	CINC	G-GROCERY	HORSEPOWER	0.007	40.1	15	\$ 78	\$ 77	\$ 76
HIGH EFFICIENCY VENTILATING MOTOR	New	CINC	H-HEALTH	HORSEPOWER	0.007	40.1	15	\$ 78	\$ 77	\$ 76
HIGH EFFICIENCY VENTILATING MOTOR	New	CINC	HM-HOTEL/MOTEL	HORSEPOWER	0.007	40.1	15	\$ 78	\$ 77	\$ 76
HIGH EFFICIENCY VENTILATING MOTOR	New	CINC	I-MISCELLANEOUS INDUSTRIAL	HORSEPOWER	0.007	40.1	15	\$ 78	\$ 77	\$ 76
HIGH EFFICIENCY VENTILATING MOTOR	New	CINC	O-OFFICE	HORSEPOWER	0.007	40.1	15	\$ 78	\$ 77	\$ 76
HIGH EFFICIENCY VENTILATING MOTOR	New	CINC	RS-RESTAURANT	HORSEPOWER	0.007	40.1	15	\$ 78	\$ 77	\$ 76
HIGH EFFICIENCY VENTILATING MOTOR	New	CINC	RT-RETAIL	HORSEPOWER	0.007	40.1	15	\$ 78	\$ 77	\$ 76
HIGH EFFICIENCY VENTILATING MOTOR	New	CINC	W-WAREHOUSE	HORSEPOWER	0.007	40.1	15	\$ 78	\$ 77	\$ 76
HIGH EFFICIENCY AIR CONDITIONER	New	CINC	C-ALL COMMERCIAL	TON	0.127	442.8	20	\$ 1,271	\$ 1,258	\$ 1,247
HIGH EFFICIENCY AIR CONDITIONER	New	CINC	CM-MISC COMMERCIAL	TON	0.127	442.8	20	\$ 1,271	\$ 1,258	\$ 1,247
HIGH EFFICIENCY AIR CONDITIONER	New	CINC	CS-COLD STORAGE	TON	0.128	399.7	20	\$ 1,212	\$ 1,198	\$ 1,188
HIGH EFFICIENCY AIR CONDITIONER	New	CINC	E-EDUCATION	TON	0.164	371.9	20	\$ 1,342	\$ 1,328	\$ 1,316
HIGH EFFICIENCY AIR CONDITIONER	New	CINC	G-GROCERY	TON	0.120	580.5	20	\$ 1,444	\$ 1,428	\$ 1,416
HIGH EFFICIENCY AIR CONDITIONER	New	CINC	H-HEALTH	TON	0.133	709.5	20	\$ 1,700	\$ 1,681	\$ 1,667
HIGH EFFICIENCY AIR CONDITIONER	New	CINC	HM-HOTEL/MOTEL	TON	0.122	553.0	20	\$ 1,413	\$ 1,397	\$ 1,385
HIGH EFFICIENCY AIR CONDITIONER	New	CINC	I-MISCELLANEOUS INDUSTRIAL	TON	0.127	442.8	20	\$ 1,271	\$ 1,258	\$ 1,247
HIGH EFFICIENCY AIR CONDITIONER	New	CINC	O-OFFICE	TON	0.111	474.3	20	\$ 1,242	\$ 1,228	\$ 1,218
HIGH EFFICIENCY AIR CONDITIONER	New	CINC	RS-RESTAURANT	TON	0.116	564.4	20	\$ 1,401	\$ 1,386	\$ 1,374
HIGH EFFICIENCY AIR CONDITIONER	New	CINC	RT-RETAIL	TON	0.127	435.2	20	\$ 1,260	\$ 1,246	\$ 1,235
HIGH EFFICIENCY AIR CONDITIONER	New	CINC	W-WAREHOUSE	TON	0.121	420.7	20	\$ 1,210	\$ 1,196	\$ 1,186
WINDOW ROOM AIR CONDITIONER	New	CINC	C-ALL COMMERCIAL	TON	0.195	561.2	12	\$ 1,245	\$ 1,231	\$ 1,221
WINDOW ROOM AIR CONDITIONER	New	CINC	CM-MISC COMMERCIAL	TON	0.195	561.2	12	\$ 1,245	\$ 1,231	\$ 1,221
WINDOW ROOM AIR CONDITIONER	New	CINC	CS-COLD STORAGE	TON	0.195	561.2	12	\$ 1,245	\$ 1,231	\$ 1,221
WINDOW ROOM AIR CONDITIONER	New	CINC	E-EDUCATION	TON	0.195	561.2	12	\$ 1,245	\$ 1,231	\$ 1,221
WINDOW ROOM AIR CONDITIONER	New	CINC	G-GROCERY	TON	0.195	561.2	12	\$ 1,245	\$ 1,231	\$ 1,221
WINDOW ROOM AIR CONDITIONER	New	CINC	H-HEALTH	TON	0.195	561.2	12	\$ 1,245	\$ 1,231	\$ 1,221
WINDOW ROOM AIR CONDITIONER	New	CINC	HM-HOTEL/MOTEL	TON	0.195	561.2	12	\$ 1,245	\$ 1,231	\$ 1,221
WINDOW ROOM AIR CONDITIONER	New	CINC	I-MISCELLANEOUS INDUSTRIAL	TON	0.195	561.2	12	\$ 1,245	\$ 1,231	\$ 1,221
WINDOW ROOM AIR CONDITIONER	New	CINC	MM-MULTI FAMILY, MASTER METER	TON	0.190	373.0	12	\$ 1,028	\$ 1,016	\$ 1,008
WINDOW ROOM AIR CONDITIONER	New	CINC	O-OFFICE	TON	0.195	561.2	12	\$ 1,245	\$ 1,231	\$ 1,221
WINDOW ROOM AIR CONDITIONER	New	CINC	RS-RESTAURANT	TON	0.195	561.2	12	\$ 1,245	\$ 1,231	\$ 1,221
WINDOW ROOM AIR CONDITIONER	New	CINC	RT-RETAIL	TON	0.195	561.2	12	\$ 1,245	\$ 1,231	\$ 1,221
WINDOW ROOM AIR CONDITIONER	New	CINC	W-WAREHOUSE	TON	0.195	561.2	12	\$ 1,245	\$ 1,231	\$ 1,221
HIGH EFFICIENCY CHILLER	New	CINC	C-ALL COMMERCIAL	TON	0.176	603.7	20	\$ 1,747	\$ 1,728	\$ 1,713
HIGH EFFICIENCY CHILLER	New	CINC	CM-MISC COMMERCIAL	TON	0.176	603.7	20	\$ 1,747	\$ 1,728	\$ 1,713
HIGH EFFICIENCY CHILLER	New	CINC	CS-COLD STORAGE	TON	0.198	628.4	20	\$ 1,889	\$ 1,869	\$ 1,852
HIGH EFFICIENCY CHILLER	New	CINC	E-EDUCATION	TON	0.230	524.0	20	\$ 1,886	\$ 1,866	\$ 1,849
HIGH EFFICIENCY CHILLER	New	CINC	G-GROCERY	TON	0.153	726.6	20	\$ 1,821	\$ 1,801	\$ 1,786
HIGH EFFICIENCY CHILLER	New	CINC	H-HEALTH	TON	0.195	1,025.0	20	\$ 2,469	\$ 2,442	\$ 2,421
HIGH EFFICIENCY CHILLER	New	CINC	HM-HOTEL/MOTEL	TON	0.149	722.1	20	\$ 1,795	\$ 1,776	\$ 1,760
HIGH EFFICIENCY CHILLER	New	CINC	I-MISCELLANEOUS INDUSTRIAL	TON	0.176	603.7	20	\$ 1,747	\$ 1,728	\$ 1,713
HIGH EFFICIENCY CHILLER	New	CINC	O-OFFICE	TON	0.132	592.2	20	\$ 1,519	\$ 1,503	\$ 1,490



Program Year 2009 Measure Tracking

County Generation and T&D Losses		
Oahu	Maui	Hawaii
11.17%	9.96%	9.00%

2009 NPV TRB per Unit System by Island

Equipment Description	Project Type	Program	Business / Residential Type	Measure Unit	kW savings per unit	kWh savings per unit	Life (years)	Oahu	Maui County	Hawaii County
HIGH EFFICIENCY CHILLER	New	CINC	RS-RESTAURANT	TON	0.151	738.2	20	\$ 1,829	\$ 1,809	\$ 1,793
HIGH EFFICIENCY CHILLER	New	CINC	RT-RETAIL	TON	0.190	628.6	20	\$ 1,851	\$ 1,831	\$ 1,815
HIGH EFFICIENCY CHILLER	New	CINC	W -WAREHOUSE	TON	0.174	659.8	20	\$ 1,822	\$ 1,802	\$ 1,786
SPLIT SYSTEM AIR CONDITIONER	New	CINC	MF-MULTI FAMILY	TON	0.315	545.0	12	\$ 1,626	\$ 1,608	\$ 1,594
SPLIT SYSTEM AIR CONDITIONER	New	CINC	MM-MULTI FAMILY, MASTER METER	TON	0.315	545.0	12	\$ 1,626	\$ 1,608	\$ 1,594
SPLIT SYSTEM AIR CONDITIONER	New	CINC	SF-SINGLE FAMILY	TON	0.315	545.0	12	\$ 1,626	\$ 1,608	\$ 1,594
SOLAR WATER HEATER	New	CINC	MM-MULTI FAMILY, MASTER METER	WATER HEATER	0.510	2,248.0	15	\$ 4,814	\$ 4,762	\$ 4,720
SOLAR WATER HEATER - New Military	New	CINC	MSF - Single family	WATER HEATER	0.514	2,731.0	15	\$ 5,433	\$ 5,374	\$ 5,327
SOLAR WATER HEATER - Commercial	New	CINC	MSF - Single family	WATER HEATER	0.514	2,731.0	15	\$ 5,433	\$ 5,374	\$ 5,327
HVAC fan VFD	New	CINC	C -ALL COMMERCIAL	hp	0.200	760.9	20	\$ 2,097	\$ 2,075	\$ 2,056
HVAC pump VFD	New	CINC	C -ALL COMMERCIAL	hp	0.245	902.7	20	\$ 2,525	\$ 2,498	\$ 2,476
CINC Totals	New	CINC								
CUSTOM EQUIPMENT	Existing	CICR	C -ALL COMMERCIAL	MWH	0.010	100.0	15	\$ 164	\$ 162	\$ 161
CUSTOM EQUIPMENT	Existing	CICR	CM-MISC COMMERCIAL	MWH	0.010	100.0	15	\$ 164	\$ 162	\$ 161
CUSTOM EQUIPMENT	Existing	CICR	CS-COLD STORAGE	MWH	0.010	100.0	15	\$ 164	\$ 162	\$ 161
CUSTOM EQUIPMENT	Existing	CICR	E -EDUCATION	MWH	0.010	100.0	15	\$ 164	\$ 162	\$ 161
CUSTOM EQUIPMENT	Existing	CICR	G -GROCERY	MWH	0.010	100.0	15	\$ 164	\$ 162	\$ 161
CUSTOM EQUIPMENT	Existing	CICR	H -HEALTH	MWH	0.010	100.0	15	\$ 164	\$ 162	\$ 161
CUSTOM EQUIPMENT	Existing	CICR	HM-HOTEL/MOTEL	MWH	0.010	100.0	15	\$ 164	\$ 162	\$ 161
CUSTOM EQUIPMENT	Existing	CICR	I -MISCELLANEOUS INDUSTRIAL	MWH	0.010	100.0	15	\$ 164	\$ 162	\$ 161
CUSTOM EQUIPMENT	Existing	CICR	O -OFFICE	MWH	0.010	100.0	15	\$ 164	\$ 162	\$ 161
CUSTOM EQUIPMENT	Existing	CICR	RS-RESTAURANT	MWH	0.010	100.0	15	\$ 164	\$ 162	\$ 161
CUSTOM EQUIPMENT	Existing	CICR	RT-RETAIL	MWH	0.010	100.0	15	\$ 164	\$ 162	\$ 161
CUSTOM EQUIPMENT	Existing	CICR	W -WAREHOUSE	MWH	0.010	100.0	15	\$ 164	\$ 162	\$ 161
CUSTOM EQUIPMENT	New	CICR	C -ALL COMMERCIAL	MWH	0.010	100.0	15	\$ 164	\$ 162	\$ 161
CUSTOM EQUIPMENT	New	CICR	CM-MISC COMMERCIAL	MWH	0.010	100.0	15	\$ 164	\$ 162	\$ 161
CUSTOM EQUIPMENT	New	CICR	CS-COLD STORAGE	MWH	0.010	100.0	15	\$ 164	\$ 162	\$ 161
CUSTOM EQUIPMENT	New	CICR	E -EDUCATION	MWH	0.010	100.0	15	\$ 164	\$ 162	\$ 161
CUSTOM EQUIPMENT	New	CICR	G -GROCERY	MWH	0.010	100.0	15	\$ 164	\$ 162	\$ 161
CUSTOM EQUIPMENT	New	CICR	H -HEALTH	MWH	0.010	100.0	15	\$ 164	\$ 162	\$ 161
CUSTOM EQUIPMENT	New	CICR	HM-HOTEL/MOTEL	MWH	0.010	100.0	15	\$ 164	\$ 162	\$ 161
CUSTOM EQUIPMENT	New	CICR	I -MISCELLANEOUS INDUSTRIAL	MWH	0.010	100.0	15	\$ 164	\$ 162	\$ 161
CUSTOM EQUIPMENT	New	CICR	O -OFFICE	MWH	0.010	100.0	15	\$ 164	\$ 162	\$ 161
CUSTOM EQUIPMENT	New	CICR	RS-RESTAURANT	MWH	0.010	100.0	15	\$ 164	\$ 162	\$ 161
CUSTOM EQUIPMENT	New	CICR	RT-RETAIL	MWH	0.010	100.0	15	\$ 164	\$ 162	\$ 161
CUSTOM EQUIPMENT	New	CICR	W -WAREHOUSE	MWH	0.010	100.0	15	\$ 164	\$ 162	\$ 161
CICR Totals		CICR								

Attachment H

PY2009 Outreach Report

Event or Trade Ally	Action	Result	Other Energy Efficiency Activities	Electric Utilities	Trade Allies	Commercial Marketing	Consumer Marketing	Develop independent funding sources	Commission proceedings	Transition	Installation of energy efficient measures
September 2009											
HonuGuide and Sustain Hawaii	Meeting	Will consider for future advertising					✓				
Doug Carlson	Meeting	Under consideration for Blog Mediator					✓				
Honolulu Magazine	Meeting	Will consider for future advertising					✓				
Asia Pacific Clean Energy Summit & Expo	Participated in Event	Attended as an Attendee. Note SAIC did have an Exhibitor Booth				✓					
2009 Maui County Energy Expo	Participated in Event	Presenter at the event and was an Exhibitor			✓	✓	✓				
Rebuild Hawaii	Participated in Event	Presenter at the event			✓					✓	
Grainger (Trade Ally) - Maui	Participated in Training Event	Presenter at the event about how to working with Hawaii Energy			✓	✓					
WESCO/Philips Lighting (Trade Ally) - Maui	Participated in Training Event	Presenter at the event about how to working with Hawaii Energy			✓	✓					
Blue Planet, UH Sustainability and Kanu	Meeting	Provide assistance to home makeover show.			✓		✓				
Energy Industries	Meeting	Energy Studies and Recommissioning collaboration			✓						
Chelsea Group	Meeting	Discussion on Energy Studies and Recommissioning, LED Parking Lot Lighting, PV Incentive			✓						
Hawaii Solar Energy Association (HSEA).	Meeting	Solar savings evaluation / Program incentive revisions			✓					✓	
Hawaii Clean Energy Initiative (HCEI) Energy Working group (EUEWG)	Meeting	Participated in discussion.		✓							

Event or Trade Ally	Action	Result	Other Energy Efficiency Activities	Electric Utilities	Trade Allies	Commercial Marketing	Consumer Marketing	Develop independent funding sources	Commission proceedings	Transition	Installation of energy efficient measures
October 2009											
TV Commercial for Blue Planet Home Make Over	Television Commercial	Created 30 second TV commercial and place on "You Tube" and Hawaii Energy Website			✓		✓				
Hawaii Clean Energy Initiative (HCEI) Energy Working group (EUEWG)	Meeting	Quarterly Participation - Working Group Meetings in developing Legislature Recommendations		✓							
Council for Native Hawaiian Advancement (CNHA)	Meeting	Energy Loan Program - Collaborate on financial options for energy projects			✓		✓				
WESCO/Philips Lighting (Trade Ally) - Kona, Hawaii	Participated in Training Event	Presenter at the event about how to working with Hawaii Energy			✓						
WESCO/Philips Lighting (Trade Ally) - Honolulu	Participated in Training Event	Presenter at the event about how to working with Hawaii Energy		✓	✓						
Live Energy Lite	Participated in Event	Exhibitor					✓				
Pacific Coast Electrical Association Conference & Expo (PCEA)	Participated in Event	Presenter at the event and was an Exhibitor		✓	✓						
Lana'i Community Event	Participated in Event	Was an Exhibitor on CFLs and Residential rebate offerings					✓				
Chamber of Commerce 2009 Sustainability for Business Forum	Participated in Event	Presenter at the event and was an Exhibitor	✓				✓				
Grainger (Trade Ally) - Kona	Participated in Event	Presenter at the event about how to working with Hawaii Energy			✓						
Grainger (Trade Ally) - Hilo	Participated in Event	Presenter at the event about how to working with Hawaii Energy			✓						
Panasonic Factory Representatives	Meeting	Will consider residential Efficient Exhaust Ventilation Fans as a future measure to incentivize			✓						
AirExtreme	Meeting	Introduction to Hawaii Energy's program and how to work with the program			✓						
Office of Community Services (OCS) - WAP-ARRA Funding	Meeting	Hawaii Energy will be helping with Solar Water Heating System Inspections and Training			✓						
Blue Planet	Conference call	Molokai CFL Project - Hawaii Energy help got the CFL Procurement, shipping and funding taken cared of with the help of two trade allies, FEIT Electric and Costco	✓				✓				

Event or Trade Ally	Action	Result	Other Energy Efficiency Activities	Electric Utilities	Trade Allies	Commercial Marketing	Consumer Marketing	Develop independent funding sources	Commission proceedings	Transition	Installation of energy efficient measures
November 2009											
Bennet Group Strategic Communications (Public Relations)	Meeting	Will consider hiring for Public Relations support			✓						
Honolulu Community Action Program	Meeting	Training on Residential Energy Savings and development of paper flow for solar inspections	✓								
Research Corporation of the University of Hawaii (RCUH)	Meeting	Coordinate predictions of economic models of energy conservation activities with real projects.	✓								
Tokyo Gas Co., Ltd. and Jyukankyo Research Institute	Meeting	Introduction to Hawaii Energy					✓				
GEXPRO (GE Lighting Supply)	Meeting	Introduction to Hawaii Energy and the rebates offered and LED technologies					✓				
Longs Drugs / WEBCO	Meeting	Introduction to Hawaii Energy to join the retail CFL Program					✓				
City Mill Presentation	Meeting	Introduction to Hawaii Energy to join the retail CFL Program					✓				
Foodland	Meeting	Introduction to Hawaii Energy to join the retail CFL Program					✓				
WEBCO/Don Quixote Presentation	Meeting	Introduction to Hawaii Energy to join the retail CFL Program					✓				
Graham Builders	Meeting	Introduction to Hawaii Energy's program and how to work with the program			✓		✓				
ABM Family - Honolulu, Oahu	Meeting	Introduction to Hawaii Energy's program and how to work with the program			✓		✓				
Mechanical Contractors/Consultants/HVAC Presentation	Meeting	Introduction to Hawaii Energy's program and how to work with the program	✓		✓		✓				
Aina Energy	Meeting	Introduction to Hawaii Energy and the rebates offered and LED technologies					✓				
GE Lighting	Meeting	Introduction to Hawaii Energy and the rebates offered and LED technologies			✓		✓				

Event or Trade Ally	Action	Result	Other Energy Efficiency Activities	Electric Utilities	Trade Allies	Commercial Marketing	Consumer Marketing	Develop independent funding sources	Commission proceedings	Transition	Installation of energy efficient measures
December 2009											
Doug Carlson	Meeting	Potential PR and Online Forum Mgr			✓						
Consortium for Energy Efficiency (CEE)	Web Conference	Introduction to Membership benefits by joining CEE	✓								
Kauai Island Utilities Cooperative	Meeting	WAP-ARRA discussion with OCS and MEO for support for solar hot water heater program	✓	✓	✓						
State Representative Coffman	Meeting	Solar Rebate for WAP solar installations			✓						
Hawaii Energy Policy Forum (HEPF) Meeting	Meeting	2010 Legislative Initiatives	✓	✓			✓				
DBEDT – Staff	Meeting	Potential Additional Funding for Efficiency Programs	✓		✓			✓			
Rebuild Hawaii	Meeting	Program Update Presentation – Starling/Chang					✓				
Optimum Energy	Meeting	Introduction to Hawaii Energy's program and how to work with Optimum Energy			✓		✓				
JCI Utility	Meeting	Introduction to Hawaii Energy's program and how to work with JCI Utility Services			✓		✓				
Times Supermarket/WEBCO	Meeting	Introduction to Hawaii Energy to join the retail CFL Program					✓				
Blue Planet	Meeting	Market Outreach Collaboration on the Low Income Program for CFLs	✓		✓		✓				
T&T Tinting Specialists	Meeting	Introduction to Hawaii Energy's program and introduction on new window film products			✓						
Energy Industries, GEXPRO, GE Lighting	Meeting	Presenter at the event for GE lighting	✓		✓		✓				
Renewable Energy Development Venture – Maurice Kaya	Meeting	Market Outreach Collaboration					✓				
Hawaiian Electric Company	Meeting	Coordination between Account Managers and Hawaii Energy			✓					✓	
Siebert Brandford Shank & Co., LLC - Peter Wong	Meeting	Financing program for Efficiency Programs			✓						

Event or Trade Ally	Action	Result	Other Energy Efficiency Activities	Electric Utilities	Trade Allies	Commercial Marketing	Consumer Marketing	Develop independent funding sources	Commission proceedings	Transition	Installation of energy efficient measures
January 2010											
PNPR	Meeting	Discussion for possible hiring to create content for new website.			✓						
Bennet Group Strategic Communications (Public Relations)	Meeting	Discussion for possible hiring for Public Relations support.			✓						
Hawaii Energy Policy Forum (HEPF) Meeting	Meeting	Brief 2010 Legislature	✓				✓				
Hawaii Energy Technical Advisory Group (TAG) Meeting	Meeting	Evaluation, Measurement & Verification (EM&V)	✓		✓		✓				
Representative Morita	Meeting	Program Updates			✓						
Hawaii Public Utilities Commission (HPUC)	Meeting	Hawaii Energy Efficiency Program: Evaluation, Measurement & Verification (EM&V) Review of Draft EM&V Work plan for Program Year 2009 - 2010	✓	✓	✓						
State of Hawaii	Announcement	State of the State Address by Governor Linda Lingle	✓		✓						
Hawaii Clean Energy Initiative	Meeting	Plenary Session and Efficiency Working Group	✓		✓						
University of Hawaii at Manoa	Meeting	Presentation to Graduate level Information Technology Students who may be helping with Hawaii Energy's next website for class credit	✓								
Maui Inspections/Meetings	Meeting	Hawaii Energy Efficiency Program Updates	✓							✓	
Half Moon Seminars Workshop	Seminar	Presented to Residential and Commercial Architects					✓				
Hilo Inspections	Meeting	Hawaii Energy Efficiency Program Updates	✓							✓	
Hawaii Solar Energy Association (HSEA)	Meeting	Coordination on common issues in support of HCEI and legislation to be introduced in Hawaii Legislature	✓								
Hawaii Renewable Energy Alliance (HREA)	Meeting	Coordination on common issues in support of HCEI and legislation to be introduced in Hawaii Legislature	✓								
Light bulb Source	Meeting	Training – New lighting worksheets and LED customized process.	✓								
Schlack Ito Lockwood Piper & Elkind Law	Meeting	"Climate Change Law and Policy: What Every Lawyer Should Know"	✓								
First Hawaiian Bank	Meeting	Discussion for designing a Solar Water Heater Loan Program			✓		✓				
DWE Construction	Meeting	Discuss of up coming projects and potential new projects for energy saving potentials					✓				
Hawaii County Dept of Water	Meeting	Tour of the Kekuaaoa St. offices and Leilani yard for potential energy projects	✓								✓
University of Hawaii, Hilo	Meeting	Discussion of upcoming and current energy saving projects									✓
Ced's Plumbing	Meeting	Introduction to Hawaii Energy's program and detail discussion commercial solar hot water projects					✓				
Kamehameha Schools Hawaii Campus	Meeting	Discussion on potential energy saving projects on the Hilo campus				✓					
Coldwell Banker	Meeting	Introduction to Hawaii Energy's program and created an editorial for a Coldwell Banker's April Publication about rebate offering for Solar Water Heating.					✓				
Hawaii Solar Energy Association	Meeting	Discuss Hawaii Energy 2010 Program updates on Solar water heating			✓						

Event or Trade Ally	Action	Result	Other Energy Efficiency Activities	Electric Utilities	Trade Allies	Commercial Marketing	Consumer Marketing	Develop independent funding sources	Commission proceedings	Transition	Installation of energy efficient measures
February 2010											
The Bennet Group	Meeting	Hired to provide public relations support			✓						
PNPR	Meeting	Hired to write website content information			✓						
UHERO	Meeting	Introduction to Hawaii Energy's program and started the discussion on joint future colorations			✓						
Public Utilities Commission	Meeting	Clean Energy Scenario Planning							✓		
Housing and Urban Development (HUD)	Meeting	Meeting with the Western Region Director of HUD on Hawaii Energy and the ways we could work together.			✓		✓				
Honolulu Community Action Program (HCAP) & State of Hawaii's Office of Community Services	Meeting	Discuss the potential of adding Smart Strips to the current offerings of Solar Inspections and low flow showerheads									✓
State of Hawaii Energy Offices	Meeting	State Energy Efficient Appliance Rebate Program (SEEARP)						✓			
Hahaione Elementary Renewable Energy Discussion	Meeting	Presentation to 5th grade students on Renewable energy and Hawaii Energy					✓				
Environment Protection Agency (EPA) Waste Water Workshop on the Island of Hawaii	Meeting	Hawaii Energy coordinated room location and lunch with EPA funding and doing a presentation on Hawaii Energy Program	✓		✓						
Environment Protection Agency (EPA) Waste Water Workshop on the Island of Maui	Meeting	Hawaii Energy coordinated room location and lunch with EPA funding and doing a presentation on Hawaii Energy Program	✓		✓						
Environment Protection Agency (EPA) Waste Water Workshop on the Island of Oahu	Meeting	Hawaii Energy coordinated room location and lunch with EPA funding and doing a presentation on Hawaii Energy Program	✓		✓						
Solar Water Contractors – Island of Hawaii	Meeting	Semi-Annual Program Status Meeting for Participating Solar Water Heating Contractors, presented on Hawaii Energy budget situation for all programs offered.			✓						
Business Incentives Update Meeting – Island of Hawaii	Meeting	Held a meeting for various Trade Allies introducing Hawaii Energy's offerings and how to work with the program			✓						
Solar Water Contractors – Island of Oahu	Meeting	Semi-Annual Program Status Meeting for Participating Solar Water Heating Contractors, presented on Hawaii Energy budget situation for all programs offered.			✓						
Air Condition and Lighting Contractors Meeting - Maui	Meeting	Held a meeting for various Trade Allies introducing Hawaii Energy's offerings and how to work with the program			✓						
Solar Water Contractors – Island of Maui	Meeting	Semi-Annual Program Status Meeting for Participating Solar Water Heating Contractors, presented on Hawaii Energy budget situation for all programs offered.			✓						
ASHRAE Hawaii Chapter Technical Seminar	Meeting	Presented new Commercial Solar Water Heating incentive			✓						
Taiwan Government Officials	Meeting	Discussion on Hawaii Energy Program and Taiwan Energy Efficiency Programs	✓								
Webco Hawaii	Meeting	Required documentation for CFL rebate reimbursements and process flow for servicing retailers			✓						
Hawaii Home and Remodeling	Meeting	Editor media stories and advertizing opportunities			✓		✓				
Legend Power	Meeting	Discussion on potential incentives for Voltage control system									✓

Event or Trade Ally	Action	Result	Other Energy Efficiency Activities	Electric Utilities	Trade Allies	Commercial Marketing	Consumer Marketing	Develop independ ent funding sources	Commission proceedings	Transition	Installation of energy efficient measures
Pearl Harbor	Meeting	Outstanding Applications, Potential New Projects and how to proceed with customized.				✓				✓	✓
Board of Water Supply	Meeting	Working to coordinate water and energy conservation messages and projects			✓	✓					
Blue Planet	Meeting	Follow-up on CFL distribution for the island of Molokai			✓		✓				

Event or Trade Ally	Action	Result	Other Energy Efficiency Activities	Electric Utilities	Trade Allies	Commercial Marketing	Consumer Marketing	Develop independent funding sources	Commission proceedings	Transition	Installation of energy efficient measures
March 2010											
University of Hawaii – Manoa Campus – Room ICS 414	Meeting	Website gadgets to imbed in website					✓				
Hawaii Home and Remodeling Magazine	Meeting	Interview for an article for the Green Build Issue					✓				
Trade Publishing	Meeting	Discussion on Advertising Potential					✓				
Honolulu Magazine	Meeting	Discussion on Advertising Potential					✓				
United States Pacific Command	Meeting	Dr. George Kailiwai briefing on energy saving projects	✓								
International Energy Conservation Code	Conference call	2009 committee meeting	✓								
Housing and Urban Development	Meeting	Meeting to find potential Low Income housing for CFL distribution			✓						
Hawaii County Mayors Energy Advisory Commission	Meeting	Coordination efforts of county and Hawaii Energy activities	✓								
Hawaii Clean Energy Initiative	Meeting	Steering committee meeting	✓								
Department of Business, Economic Development and Tourism, Kauai Island Utility Cooperative, Honeywell, Bennet Group, Wall to Wall	Meeting	American Recovery and Reinvestment Act Public Relations Planning for starting the "Trade-up for Cool Cash" offering					✓	✓			✓
Hawaii Buildings, Facilities and Property Management Expo	Conference	Presented Hawaii Energy's offering to Contractors/Building, Facilities, Property Management/Vendors and had a table presentation			✓	✓					
Rebuild Hawaii Consortium Quarterly Meeting	Meeting	Net Zero Energy Buildings, Residential Solar Financing, Behavioral Change and Energy Conservation, and Lead by Example									
Energy Industries	Meeting	Discussion on the small business direct install program design			✓						
Webco Hawaii	Meeting	Attended WEBCO's Annual "Buy Show" for the consumable retailer market for Hawaii					✓				
National Renewable Energy Laboratory	Meeting	Introduction to the new NREL representative for Hawaii	✓								
Blue Planet	Meeting	Making Clean Energy Accessible			✓						
Hawaii Solar Energy Association (HSEA)	Meeting	Discussions on issues for HCEI			✓						
Lithonia Lighting	Meeting	Discussion on Manufactures future new LED Office fixture for incentive potential			✓						
SolarPro Hawaii	Meeting	Discussion on issues surrounding becoming a Participating Solar Contractor					✓				
Holophane lighting	Meeting	Introduction to Hawaii Energy and help with the TRM for HID lighting.			✓						
TNT Tinting	Meeting	Discussion on neighbor island "Sale offering" for window film			✓						
Daniel Duval	Meeting	Discussion on potential of holding a "Rock the Bulb Campaign" here on the islands.			✓						
Consortium for Energy Efficiency (CEE)	Meeting	Orientation meeting for joining CEE	✓								

Event or Trade Ally	Action	Result	Other Energy Efficiency Activities	Electric Utilities	Trade Allies	Commercial Marketing	Consumer Marketing	Develop independent funding sources	Commission proceedings	Transition	Installation of energy efficient measures
April 2010											
KHVN – Radio Taping – Mike Buck	Interview	Radio taping for Earth Day Event at Tamarind Park					✓				
KHON Video Interview	Interview	Compact Florescent Lamps for Earth Day					✓				
COX Radio – Crater	Interview	Taping of Earth Day Interview on Compact Florescent Lamps					✓				
KITV – Interview with Catherine Cruz	Interview	Earth Day – Compact Florescent Lamps					✓				
KJKS – Radio Interview	Interview	Compact Florescent Lamps					✓				
B93/B97 – Radio Interview	Interview	Compact Florescent Lamps					✓				
Honolulu Weekly Magazine	Expo	Green Markets					✓				
Department of Hawaiian Homes Land	Meeting	Discussions on collaboration			✓			✓			
Counsel for Native Hawaiian Advancement	Meeting	Low income demographics, solar water heaters, shower heads, smart strips, CFL's			✓						
Public Utilities Commission	Meeting	Amendments to IRP Framework							✓		
Hawaii Energy Policy Forum	Meeting	Exploratory Meeting about Hawaii Energy	✓						✓		
Salt Lake Elementary First Grade	Presentation	Earth Day Energy Efficiency Resolutions (easy ways to conserve; included distribution of low-flow showerheads)					✓				
Lanakila Elementary Second Grade	Presentation	Earth Day Energy Efficiency Resolutions (easy ways to conserve; included distribution of low-flow showerheads)					✓				
Food & Energy Sustainability Committee	Presentation	Presentation on saving energy					✓				
ADMOR Annual Dealer Meeting - Oahu	Presentation	Introduction to Hawaii Energy's Efficiency Rebate Programs			✓						
ADMOR Annual Dealer Meeting - Hawaii	Presentation	Introduction to Hawaii Energy's Efficiency Rebate Programs			✓						
ADMOR Annual Dealer Meeting - Maui	Presentation	Introduction to Hawaii Energy's Efficiency Rebate Programs			✓	✓					
Green Now Conference – Kapiolani Community College	Presentation	Renewable energy technologies and sustainability initiatives with Blue Planet					✓				
Earth Day at Tamarind Park	Booth	Energy efficiency, energy reduction, green methods					✓				
Heliodyne	Meeting	Solar water heaters monitoring system			✓						
Energy Industries, EMCC, Lighting Services	Meeting	Small Business Lighting Direct Install Program			✓						
Asia Yeary & Shannah Trevenna	Meeting	University of Hawaii at Manoa Student Sustainability Internship Program (SSIP)						✓			
Longs/Webco	Meeting	Compact fluorescent lamps sales efforts			✓		✓				
New Home Developers – Gentry, Pacific Building, Mark Development, Castle & Cook, Haseko	Meeting	Hawaii Energy hosted a discussion with new residential home developers about new incentive offerings for the Residential New Construction Program (RNC)			✓		✓				

Event or Trade Ally	Action	Result	Other Energy Efficiency Activities	Electric Utilities	Trade Allies	Commercial Marketing	Consumer Marketing	Develop independent funding sources	Commission proceedings	Transition	Installation of energy efficient measures
May 2010											
Pacific Business News	Interview	Energy incentives and savings article					✓				
Press conference – Hawaii press	Interview	Announcement for “Trade Up for Cool Cash” program and other energy efficiency programs.					✓				
KPOA – Radio interview	Interview	Announcement for “Trade Up for Cool Cash” program and other energy efficiency programs.					✓				
KSSK – Radio interview	Interview	Announcement for “Trade Up for Cool Cash” program and other energy efficiency programs.					✓				
KJKS – Radio interview	Interview	Announcement for “Trade Up for Cool Cash” program and other energy efficiency programs.					✓				
Hawaii Clean Energy Initiative	Meeting	Steering Committee, Plenary Session and End Use Efficiency Working Group meetings	✓								
2010 Pacific Peer Exchange Meeting	Presentation	Energy Offices of the Territories of American Samoa, Guam, State of Hawaii, Hawaii Counties, and representatives from the mainland, U.S. Department of Energy.	✓								
HELCO Meeting at Hapuna Beach Hotel	Presentation	Energy conservation and efficiency		✓		✓					
2010 Small Business Fair at Kapolei High School/Bank of Hawaii	Presentation	Learn about incentives and tax credits to help business.			✓		✓				
10 th Annual Hawaii Build and Buy Green Conference & Expo	Presentation	Green resources and energy efficiency	✓		✓						
Council for Native Hawaiian Advancement	Presentation	Hawaii Energy Educational Training			✓		✓				
Building Owners & Management Association	Presentation	Energy efficiency for buildings					✓				
Windward Community College	Presentation	Energy efficiency measures in the home					✓				
Moanalua Elementary School	Presentation	Energy savings in the household using compact florescent light bulbs									
Honolulu Boys & Girls Club	Meeting	Collaboration on energy conservation and efficiency efforts			✓		✓				
LSI Lighting	Meeting	Customized rebates and LED canopy lighting			✓						
Forest City and Actus Lend Lease	Meeting	Collaboration on energy savings efforts in Public-Private Venture (PPV) military housing			✓	✓					
Sears	Meeting	Hawaii Federal stimulus funds program with Sears.			✓		✓				
Blue Planet	Meeting	Future energy savings programs and ideas			✓						
Hawaii Solar Energy Association	Meeting	Meeting to discuss collaboration in Energy Efficiency Portfolio Standards (EEPS)			✓						
Energy Efficiency Program Sponsors	Meeting	Meeting with Hawaii Solar Energy Association and Blue Planet Foundation			✓						
Power and Systems Inspections Group	Meeting	Training on the importance of energy measurement			✓						
Hawaiian Electric Company	Meeting	Cooperative communication opportunities with HECO's Corp Comn		✓							

Event or Trade Ally	Action	Result	Other Energy Efficiency Activities	Electric Utilities	Trade Allies	Commercial Marketing	Consumer Marketing	Develop independent funding sources	Commission proceedings	Transition	Installation of energy efficient measures
June 2010											
Press Conference at Hawaii State Rotunda	Conference	Press Conference on Comprehensive Climate and Clean Energy Bill - 6/8	✓								
COX Radio	Meeting	Informative meeting of program and potential future public relations opportunity - 6/14					✓				
Kuhio Park Terrace	Community Action	CFL distribution with Blue Planet Foundation			✓		✓				
Maui Community College	Presentation	Program and Energy Efficiency Q&A with Building Operator's Certification (BOC) class			✓	✓					
Ke Nani Kai Condo Association	Meeting	Introduction to Hawaii Energy's Efficiency Rebate Programs				✓					
Castle Molokai Shores & Castle Kaluakoi Villas Hotel	Meeting	Introduction to Hawaii Energy's Efficiency Rebate Programs				✓					
Aqua Hotel Molokai	Meeting	Introduction to Hawaii Energy's Efficiency Rebate Programs				✓					
New Kailua-Kona Ross Store	Meeting	Introduction to Hawaii Energy's Efficiency Rebate Programs				✓					
KTA stores	Meeting	Introduction to Hawaii Energy's Efficiency Rebate Programs Energy study and audit				✓					
King Kamehameha Kona Beach Hotel	Meeting	Program introductions and feedback from Customer about energy efficiency actions.				✓					✓
West Hawaii Community Center	Meeting	Status of construction project				✓					✓
ACS (Air Conditioning Specialist Inc.)	Meeting	Discussed upcoming AC project at shopping mall				✓					
Committee for City & County of Honolulu Sustainability Task Force	Meeting	Introduction to Hawaii Energy's Efficiency Rebate Programs				✓					
PUC Energy Efficiency Portfolio Standards (EEPS) Docket	Meeting	Participation and planning							✓		
Hawaii Clean Energy Day II	Community Action	Energy efficiency, living green				✓					
Hawaii Medical Service Association (HMSA) Building Lunch & Learn Session	Presentation	Introduction to Hawaii Energy's Efficiency Rebate Programs for residential use.					✓				
Hawaii Youth Conservation Corps	Presentation	Environmental Fair			✓		✓				
Blue Planet	Presentation	Participate in Blue Planet training sessions and events - 6/3, 6/7, 6/16 for the Blue Agents			✓						
University of Hawaii - UHERO/Energy Greenhouse Gas Solutions Project	Meeting	Future discussion and collaboration on working together.			✓						
Cooper Lighting	Meeting	Introduction to Hawaii Energy's Efficiency Rebate Programs			✓						

Attachment I

Individual Program Incentive Record Variances

Individual Program Incentive Record Variances

In review for the Annual Report, it was realized that the individual Program level incentive records differ from the financial tables by the following:

- CIEE by the net amount of \$20,833.12^{1, 3, 7}
- Increase CICR by the net amount of \$6,460.00²
- Increase CINC by the net amount of \$33,334.00^{1,2}
- Increase RNC by the net amount of \$1,000.00^{3, 4, 5, 6}
- Reduce REWH by the net amount of \$17,000.00^{4, 5, 6}
- Reduce RLI by the net amount of \$2,960.88⁷

Reasons for the adjustments are to balance financial records against the application tracking records and savings calculations.

- ¹Commercial applications on HW-211503 invoice were allocated for the CIEE program, but \$20,642 was actually under the CINC program.
 - o (add \$20,642 to CINC, subtract \$20,642 from CIEE)
- ²Commercial applications on HW-211511 invoice were allocated for the CINC program, but \$6,400 was actually for the CICR program.
 - o (add \$6,400 to CINC, subtract \$6,400 from CICR)
- ³Commercial applications on HW-211679 invoice were allocated for the CIEE program, but \$19,152 was actually RNC.
 - o (add \$19,152 to RNC, subtract \$19,152 from CIEE)
- ⁴\$2,000 of credit memos on HW-211517 were misallocated to the REWH Program.
 - o (add \$2,000 to RNC, subtract \$2,000 from REWH)
- ⁵A \$1,000 credit memo on HW-211689 was misallocated to the RNC Program.
 - o (add \$1,000 to REWH, subtract \$1,000 from RNC)
- ⁶On HW-211485, HW-211506, HW-211579, HW-211727, HW-211767 Applications for "Commanding General" (Military) for \$16,000 was moved from the Residential (REWH) program to Commercial (CIEE) program.
 - o (add \$16,000 to CIEE, subtract \$16,000 from REWH)
- ⁷On SMART-201003240805-355099 Invoice for the amount of \$5,921.75, it is needed to be evenly split between RLI Program and CIEE Program, instead of all RLI.
 - o (add \$2,960.88 to CIEE, subtract \$2,960.88 from RLI)

Table 1 includes the details in tabular format.

Table 1 - Adjustments to Accounting to Match Savings and Application Records

Accounting Adjustments	REWH	RNC	ESH	RLI	CIEE	CINC	CICR	New
HW invoice 211503					(20,642.00)			
HW Invoice 211511						(6,460.00)	6,460.00	
HW Invoice 211679					(19,152.00)	19,152.00		
HW Invoice 211517	(2,000.00)	2,000.00						
HW Invoice 211689	1,000.00	(1,000.00)						
211485, 211506, 211579, 211727, 211767	(16,000.00)				16,000.00			
SMART-201003240805-355099				(2,960.88)	2,960.88			
Total	(17,000.00)	1,000.00	0.00	(2,960.88)	(20,833.12)	12,692.00	6,460.00	0.00

Attachment J

Program Organization Transition Plan



Hawaii Energy - PY2010 ANNUAL PLAN - Program Organization Transition Plan

This proposed program organization plan makes a transition from the PY2009 program organization, through a PY2010 Transition year that condenses the budget categories and then to a final PY2011 organization that would provide an organization that is clear with categories of measures that clearly reflects to the public the activities and offerings within each program.

RESIDENTIAL PROGRAMS		
PY2009	Program	
	ESH	Energy Solutions for the Home
	REWH	Residential Efficient Water Heating
	RNC	Residential New Construction
	NEW	New
	RLI	Residential Low Income

BUSINESS PROGRAMS		
PY2009	Program	Category
	CIEE	Commercial & Industrial Energy Efficiency
	CINC	Commercial & Industrial New Construction
	CICR	Commercial & Industrial Custom Rebate
	NEW	New
	PV	Photo-Voltaic

RESIDENTIAL PROGRAMS		
PY2010	Program	Category
	REEM	Residential Energy Efficiency Measures High Efficiency Water Heating High Efficiency Lighting High Efficiency Air Conditioning High Efficiency Appliances Energy Awareness, Measurement and Control Systems
	NEW	New Residential Programs Incubator Residential Service & Maintenance Residential Design & Audits
	RLI	Residential Low Income

BUSINESS PROGRAMS		
PY2010	Program	Category
	BEEM	Business Energy Efficiency Measures High Efficiency Lighting High Efficiency Air Conditioning High Efficiency Water Heating High Efficiency Water Pumping High Efficiency Motors Building Envelope Improvements Energy Star Business Equipment Energy Awareness, Measurement and Control Systems
	CBEEM	Custom Business Energy Efficiency Measures
	NEW	New Programs Business Service & Maintenance Business Direct Installation Business Design, Audits & Commissioning
	BREP	Business Renewable Energy Promotion Non-Profit & Government PV

RESIDENTIAL PROGRAMS		
PY2011	Program	Category
	ESH	Energy Solutions for the Home High Efficiency Water Heating High Efficiency Lighting High Efficiency Air Conditioning High Efficiency Appliances Energy Awareness, Measurement and Control Systems
	CESH	Custom Energy Solutions for the Home
	RESAM	Residential Energy Services & Maintenance Residential Direct Installation Residential Design & Audits
	NEW	New Residential Programs Incubator
	RLI	Residential Low Income
	RREP	Residential Renewable Energy Promotion Financial Analysis Renewable Energy Curtailment Avoidance Technology Education Standards & Specifications
BUSINESS PROGRAMS		
PY2011	Program	Category
	BEEM	Business Energy Efficiency Measures High Efficiency Lighting High Efficiency Air Conditioning High Efficiency Water Heating High Efficiency Water Pumping High Efficiency Motors Building Envelope Improvements Energy Star Business Equipment Energy Awareness, Measurement and Control Systems
	CBEEM	Custom Business Energy Efficiency Measures
	BESAM	Business Energy Services & Maintenance Business Service & Maintenance Business Direct Installation Business Design, Audits & Commissioning
	BREP	Business Renewable Energy Promotion Financial Analysis Non-Profit & Government PV Incentives Renewable Energy Curtailment Avoidance Technology Education Standards & Specifications
	NEW	New Business Programs Incubator

Attachment K

PY2009 Program Feedback



Hawaii Energy - PY2010 ANNUAL PLAN - SUMMARY PRESENTATION OF PROGRAM FEEDBACK

Residential Programs					
Program	Category	Measures	Market Intervention	Feedback/Lessons	Changes
REEM	Residential Energy Efficiency Measures				
	High Efficiency Water Heating				
		Solar Water Heater (SWH) Incentive	- Contractor Incentives - First Cost - Standard & Specs - Inspections provides confidence in quality installation - Consumer Awareness - discussion of Benefits / Show participating Contractors	- Budget for all units install - 45% Rental Market (would be addressed greatly by PACE program) - Request for program media presence - Solar power pumps (mixed reliability comments)	- Sample & Simplify Inspections - Provide Gift Pack - Home Energy Educational Materials - Develop tier for energy only on shaded homes - Utility bill stuffer by islands
		Solar Water Heater Interest Buydown			- Leverage ARRA SEP Funding - 6% up to \$1,000 (1/4 PBF Contribution) - Provide Gift Pack
		Solar Water Heater (SWH) Incentive ARRA SEP Leveraged			- Leverage ARRA SEP Funding - In inspection sample pool - Provide Gift Pack - Home Energy Educational Materials
		Solar Water Heater Energy Hero Gift Packs	- Education - Positive feedback of appreciation		- Energy Hero Gift Pack - 3 CFLs - Branded w Hawaii Energy - 1 Smart Strip - 1 Shower head - Educational Material
		Heat Pumps	- Incentives	- Savings could be higher then SWH - May be more cost effective - Longer recovery rates - Maintenance needs	- New integrated tanks in market - Add-on units being promoted - Modify savings amounts
		High Efficiency Water Heaters		- Good ENERGY STAR market saturation - Retrofit - Replace on burnout - New - Developer participation / low first cost	- Modify incentive (\$50 - \$25)
		(pilot) High Efficiency Water Heaters w/Timer			- Investigate Tank Timer Incentive (w/load control?)
		(pilot) Instantaneous Water Heaters	- Education of Technology - Benefits/Shortfalls	- New - Instantaneous water heaters (gas/electric) increasingly chosen	- Investigate market - load characteristics



Residential Programs Cont.						
Program	Category	Measures	Market Intervention	Feedback/Lessons	Changes	
	High Efficiency Lighting					
		CFLs	- Offer point-of-purchase rebates - Work with manufacturers and retailers to: - learn about CFL technology - Product use - product placements in store - Media Placement - Radio, Print, TV, Social Media - Limited time "promotions" for neighbor islands and end-of-year push to match media	- Public concerns about Mercury content - Limited ways to properly dispose - Do not last as long as advertised	- Educate on proper locations - Improve Point-of-Purchase education	
		LED	- Offer point-of-purchase rebates - Work with manufacturers and retailers to: - learn about LED technology - Product use - product placements in store - Media Placement - Social Media	- More education about benefits - Product quality concerns - Fake UL listings	- Prescriptive for ENERGY STAR labeled	
	High Efficiency Air Conditioning					
		Window AC	- Mail-In Rebate	- Majority of small AC units are under \$100 lending them to become impulse purchases where they would not be bought if over \$100. - 12.0 EER in enhanced case may be high for actual units sold that are in the 10.8 EER range for small units. - Inverter drive systems can save from 25% to 35% over single and two speed units	- Eliminate < 12,000 BTU incentives - Reduce Incentive (\$75 to \$50)	
		Split System AC			- Use IEER Ratings versus EER/SEER - Add Inverter Drive category with new savings value if IEER does not address.	
		Ceiling Fans	- Mail-In Rebate			
		Solar Attic and Whole House Fans	- Mail-In Rebate	- No rebates	- Implement Point-of-Purchase in capable stores	
		(new)		- Contractor Direct Incentives	- Need to bring awareness and credibility to technologies	- Add Prescriptive Incentives - Develop Savings Values (using \$0.10/kWh proxy)



Hawaii Energy - PY2010 ANNUAL PLAN - SUMMARY PRESENTATION OF PROGRAM FEEDBACK

Residential Programs Cont.

Program	Category	Measures	Market Intervention	Feedback/Lessons	Changes
High Efficiency Appliances					
		Refrigerator	- Mail-In Rebate - Media Placement - Radio PSAs	- Extra cost for recycling haul away - Often old unit is turned put on curb for City pickup or put in garage	- Implement Point-of-Purchase in capable stores - Unbundle savings from Dishwasher/Clotheswasher incentives
		Refrigerator with Recycling	- Mail-In Rebate - Media Placement - Radio PSAs	- Extra cost for recycling haul away - Often old unit is turned put on curb for City pickup or put in garage	- Implement Point-of-Purchase in capable stores - Bonus for recycling - Unbundle savings from Dishwasher/Clotheswasher incentives - Modify savings for recycled unit - Modify incentive (\$50 to \$125)
	(pilot)	Garage Refrigerator / Freezer Bounty	- Mail-In Rebate - Media Placement - Radio PSAs		- Direct Uninstall Program for removal of working Refrigerator/Freezer - Work with Recycler to pick up at home. - "Green for Garage Fridge"
	(pilot)	Residential Energy Awareness and Action Competitions			
		Clothes Washer	- Mail Rebate		- Implement Point-of-Purchase in capable stores - Unbundle savings / incentives from Refrigerator / Dishwashers
		Dishwasher	- Mail Rebate		- Implement Point-of-Purchase in capable stores Unbundle savings / incentives from Refrigerator / Clotheswashers
Energy Awareness, Measurement and Control Systems					
	(pilot)	Room Occupancy Sensors	- Mail Rebate - Point-of-Purchase in capable stores	- Incentive asked for by customers - Promoted as low-cost tips in many audit tools	- Implement Point-of-Purchase in capable stores - Add Prescriptive Incentives - Develop Savings Values (using \$0.14/kWh proxy)
	(pilot)	Whole House Energy Metering			
NEW New Residential Programs Incubator					
Residential Energy Services & Maintenance					
		AC Annual Tune Up	- Direct offer through Mechanical Contractors - Worksheet for before and after measurement - Payment directly to Mechanical Contractors	- Not much promotion by Contractors	- Add Split Systems
	(pilot)	Solar Water Heater Tune Up	- Direct offer through Solar Contractors - Worksheet for before and after measurement - Payment directly to Solar Contractors	- 7% of 3-year old systems may not be functioning properly due to timer settings or system controllers issues. - Few customers perform 5 year anode rod maintenance, tank blow down, leak inspections, mixing valve checks, tank setpoint adjustments.	- Add incentive for Customers, Solar Contractors to have systems inspected and maintained.
Residential Design and Audits					
	(new)	Efficiency Inside Home Design	- Direct to Home Developers	- Prescriptive program was never participated in due to restrictive bundling of measures. - Developers may make equipment changes to homes midstream - Some items are customer driven options and it is cumbersome to participate on a piecemeal basis	- Replace Existing prescriptive program with energy model based program
	(new)	Hawaii Energy Hero Audits	- Workforce Development Classes (MCC/WCC etc.) - Grass Roots Organizations - Kanu Hawaii, Blue Planet, etc. - Direct customer contact	- Need for residential education.	- Use Kanu Hawaii/ EPA Customized Home Audit - Incentive paid to third-party service provider



Hawaii Energy

Hawaii Energy - PY2010 ANNUAL PLAN - SUMMARY PRESENTATION OF PROGRAM FEEDBACK

Residential Programs Cont.					
Program	Category	Measures	Market Intervention	Feedback/Lessons	Changes
RLI	Residential Low Income				
		RLI Solar Inspections (ARRA WAP)	- Direct contract with customers through Office Community Services (OCS) and their subcontractors Honolulu Community Action Program (HCAP), Maui Economic Opportunity (MEO), Hawaii County Economic Opportunity Council (HCEOC) '- Give away Showerheads and Smart Strips	- Customers did not want to give much information about themselves or homes. Provided simplified forms.	- Change to Energy Hero Gift Packs
		RLI Solar Inspections (DHHL)	- Direct contract with Council for Native Hawaiian Advancement (CNHA) - Will start implementation PY10 - RLI Energy Hero Gift Packs		
		RLI Energy Hero Gift Packs	- Direct contract with customers through Office Community Services (OCS) and their subcontractors Honolulu Community Action Program (HCAP), Maui Economic Opportunity (MEO), Hawaii County Economic Opportunity Council (HCEOC)		- Energy Hero Gift Pack - Add 3 CFLs - Branded w Hawaii Energy - 1 Smart Strip - 1 Shower head - Educational Material
		RLI CFL Exchange	- Blue Planet exchange program to perform community group bulb exchanges.	- Blue Planet has proven effective in the distribution of energy savings devices through their grass root volunteer network.	- Provide CFL lamps to Blue Planet
		RLI Hawaii Energy Hero Audits (new)	- Kanu Hawaii volunteer network	- Kanu Hawaii is performing a study for the EPA to develop Hawaii-home based energy audits forms with educational materials with low-no cost measures.	- Develop delivery network and processes - Develop database to capture/analyse data



Hawaii Energy - PY2010 ANNUAL PLAN - SUMMARY PRESENTATION OF PROGRAM FEEDBACK

Business Programs

Program	Category	Measures	Market Intervention	Feedback/Lessons	Changes
BEEM	Business Energy Efficiency Measures				
	High Efficiency Lighting				
		CFL	- Incentives and Education - Direct give aways to small business	- Pin based CFL fixture should be given a higher rebate compared to screw-in CFL. - Resorts are moving to install CCFL because of the greater dimming performance.	- Modify Incentive levels for the lamp size as single incentive and savings is currently provided to all sizes. - Higher incentives for pin-mount CFLs.
		T8	"		- Eliminate 32W T8 Incentive
		T5	"		
		Delamp	"		
		Delamp/Reflector	"		
	(new)	LED	"	- Performance/longevity issues	- Prescriptive for ENERGY STAR labled
		HID	"	- Ceramic Metal Halide under 400 watts applications for high bay lighting provide good options for consumers.	- Review project feasibilities and revise incentive levels.
		HPS	"	- Industry is moving away from this lamps color rendition issues for security camera reasons	
		Induction	"	- Poor equipment life by some manufacturers	
		Sensors	"		- Tier incentives by load controlled
	(new)	Daylighting	"		
	High Efficiency HVAC				
		Chillers	- Incentives and Education - Reviews for weather coorelation to customers usage patterns to help make buying decisions or review savings from this weather sensitive technology.	- Review use of IPLV value for savings preditions as many machine do not operate in part load conditions. - Use of VFD chillers needs to come with education on the need to provide condenser water relief to allow energy savings to occur.	- Energy Competition
		VFD - Chilled Water	"		
		VFD - AHU	"		
		Package Units	"		- Adjust for IEER values
	High Efficiency ASplit Systems		- Incentives and Education '- Case-studies with pre-measurement of future inverter drive retrofits.		- Adjust for IEER values - Review additional promotion of Inverter drive VRF machines as they are showing 20-30% savings potential.
	High Efficiency Water Heating				
	(new)	Commercial Solar Water Heating			- Prescriptive from Customized
	(new)	Heat Pump			- Create Prescriptive Measures
	High Efficiency Water Pumping				
	(new)	VFD Domestic Water Booster Packages			- Prescriptive from Customized
	High Efficiency Motors				
		NEMA Premium Efficiency Motors			
	Building Envelope Improvements				
		Window Tinting			
		Cool Roof Technologies			
	Energy Star Business Equipment				
	(new)	Refridgerators			- Allow same as Residential ESH - Must pickup/recycle
	Energy Awareness, Measurement and Control Systems				
		Condominium Submetering Pilot	- Provide awareness of energy use and use compared to similar users - Education on ways to reduce energy use - Impact behavior		- Incentives per unit installed - Educational Meetings - Unit Audits top 5 / bottom 5 - ENERGY STAR Appliance deals
	(pilot)				
	(pilot)	Small Business Submetering Pilot			



Hawaii Energy - PY2010 ANNUAL PLAN - SUMMARY PRESENTATION OF PROGRAM FEEDBACK

Business Programs Cont.					
Program	Category	Measures	Market Intervention	Feedback/Lessons	Changes
CBEEM	Custom Business Energy Efficiency Measures				
	Customized Project Measures				
		Customized Project Measures	- Direct contact with consulting and construction firms.	- Need to get in earlier in decision process and be flexible as to project financials to get incentives effective in moving projects that are stuck	- Tiered incentives by payback - Kicker incentive for project sizes - Daypeak demand reduction incentive - Renewable curtailment avoidance incentive
NEW	New Business Programs Incubator				
	Business Service and Maintenance				
		Central Plant Performance Competition (new)		- Few central plant operators know their kW/ton and track their performance/operations to optimize complete plant efficiency.	- Develop criteria for plant efficiency measurement. - Work with ASHRAE and PAMCAH to develop training seminars and promote program with their members.
		Package & Split Annual tune-up (new)	- Demonstrate the benefits of tune-ups - Educate customer on savings		
	Business Direct Installation				
		Small Business Direct Lighting Retrofits (new)	- Direct installation with no cost to customer - Overcome time, risk and cost barriers - Serve underserved market		- 4 month repayments - Bonus Incentives - Self Audit Tool - Grass Roots / Workforce Allies
	Business Design, Audits and Commissioning				
		Energy Study Assistance	- Project identification - System opportunity energy assessment - Savings estimates		- change to \$/sq. ft. Incentive - tiered incentive to technologies to be reviewed
		Energy Project Catalyst (pilot)			- Full cost reimbursement - Must implement projects with <2 yr. paybacks
		Design Assistance	- Awareness - Project clarification for decision - Firm up savings estimates		
BREP	Business Renewable Energy Promotion				
		Non-Profit & Government PV Incentive (TBD)	- Education - Financial Analysis - Incentive for businesses that do not get tax credits		

Attachment L

Acronym List

ACRONYM	ACRONYM EXTENSION
ARRA	American Recovery and Reinvestment Act
ASHRAE	American Society of Heating, Refrigerating and Air Conditioning Engineers
ASIL-PACOM	American Society of International Law –Pacific Command
BWS	Board of Water Supply
BOMA	Building Owners and Managers Association International
BEEM	Business Energy Efficiency Measures
BESAM	Business Energy Services & Maintenance
BREP	Business Renewable Energy Promotion
CEE	Consortium for Energy Efficiency
CESP	Clean Energy Scenario Planning
CICR	Commercial & Industrial Custom Rebates
CIEE	Commercial & Industrial Energy Efficiency
CINC	Commercial & Industrial New Construction
CFL	Compact Florescent Lamps
CEE	Consortium for Energy Efficiency
CNHA	Council for Native Hawaiian Advancement
CBEEM	Custom Business Energy Efficiency Measures
CESH	Custom Energy Solutions for the Home
DSM	Demand Side Management
DBEDT	Department of Business, Economic Development & Tourism
DOD	Department of Defense
DOE	Department of Energy
DHHL	Department of Hawaiian Home Lands
DOH	Department of Health
EUEWG	End Use Efficiency Working Group
EEPS	Energy Efficiency Portfolio Standard
EER	Energy Efficiency Ratio
EMCS	Energy Management Control System
EPMIS	Energy Programs Management Information System
ESH	Energy Solutions for the Home
HBEA	Hawaii Building Engineers Association
HCEI	Hawaii Clean Energy Initiative
HCEOC	Hawaii County Economic Opportunity Council
HELCO	Hawaii Electric Light Company
HECEP	Hawaii Energy Conservation and Efficiency Programs
HECO	Hawaiian Electric Company
HREA	Hawaii Renewable Energy Alliance
HSEA	Hawaii Solar Energy Association

ACRONYM	ACRONYM EXTENSION
HID	High Intensity Discharge
HPS	High Pressure Sodium
HCAP	Honolulu Community Action Program
HUD	Housing and Urban Development
IRP	Integrated Resource Planning Framework
KIUC	Kauai Island Utilities Cooperative
LED	Light Emitting Diode
MCAP	Maui Community Action Program
MEO	Maui Economic Opportunity
MECO	Maui Electric Company, Ltd.
MOU	Memorandum of Understanding
NPV	Net Present Value
OCS	Office of Community Services
PTAC	Package Terminal Air Conditioner
PE	Photovoltaic
PV	Photovoltaic (PV) Incentive Program
PAMCA	Plumbing, Air Conditioning and Mechanical Contractors Association
POP	Point of Purchase
PACE	Property Assessed Clean Energy
PBFA	Public Benefits Fee Administrator
PUC	Public Utilities Commission
RCUH	Research Corporation of the University of Hawaii
RESAM	Residential Energy Services & Maintenance
REWH	Residential Efficient Water Heating
REEM	Residential Energy Efficiency Measures
RLI	Residential Low Income
RNC	Residential New Construction
RREP	Residential Renewable Energy Promotion
SAIC	Science Applications International Corporation
SEER	Seasonal Energy Efficiency Ratio
SEEARP	State Energy Efficient Appliance Rebate Program
SEP	State Energy Program
TAG	Technical Advisory Group
TRM	Technical Reference Manual
TRC	Total Resource Cost Ratio
UH	University of Hawaii at Manoa
VFD	Variable Speed Drive
WAP	Weatherization Assistance Program