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Request IR-1:

Please provide a Lexicon for the acronyms used in the evidence and appendices.

Response IR-1:

Acronym	Definition
ABL	Abitibi Bowater Liverpool
ASHP	Air Source Heat Pumps
BA	Balance Adjustment
BER	Business Energy Rebates
BNI	Business, Non-profit and Institutional
BOD	Board of Directors
C&I	Commercial and Industrial
CAM	Cost Allocation Model
CFLs	Compact Fluorescent Lamps
CGC	Canadian GeoExchange Coalition
CRA	Corporate Research Associates Inc.
CUSUM	Cumulative Sum
DCRR	DSM Cost Recovery Rider
DHP	Ductless Air Source Heat Pumps
DSM	Demand Side Management
DWHR	Drain Water Heat Recovery
EE/RE	Energy Efficiency and Renewable Energy
EGH	EnerGuide for Houses
ELI	Extra-Large Industrial
EMIS	Energy Management Information Systems
ENSC	Efficiency Nova Scotia Corporation
EPS /Canada	Energy Performance Services Inc.
EUL	Effective Useful Life
EVO	Efficiency Valuation Organization
FTE	Fulltime Equivalent
GSHP	Ground Source Heat Pumps
GWh	Gigawatt-hour

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Acronym	Definition
HSPF	Heating Seasonal Performance Factor
HVAC	Heating, Ventilating and Air Conditioning
IPMVP	International Performance Measurement and Verification Protocol
IRP	Integrated Resource Plan
kWh	kilowatt hour
LED	Light-Emitting Diode
LRAMs	Lost-Revenue Adjustment Mechanisms
M&V	Measurement & Verification
MW	Megawatt
NECB	National Energy Code for Buildings
NPPH	NewPage Port Hawkesbury
NSHBA	Nova Scotia Home Builders' Association
NSPI	Nova Scotia Power Inc.
NTG	Net-To-Gross
PAC	Program Administrator Cost
PB3	Power Boiler 3
PB4	Power Boiler 4
PDWG	Program Development Working Group
PI	Process Information
PP	Performance Plus
PV	Photovoltaic
RUL	Remaining Useful Life
SBES	Small Business Energy Solutions
SEP	Superior Energy Performance
SLC	Smart Lighting Choices
TRC	Total Resource Cost
UARB	Nova Scotia Utility and Review Board
WETT	Wood Energy Technology Transfer

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Request IR-2:

Reference: Econoler Report, February 23, 2012, E-03, p.3, Table 2

Please include columns to show \$ budget, \$ actual and TRC tests for each DSM program.

a) Please provide an explanation for any variance of 20% or more in spending or savings.

b) For each variance of 20% or more, please explain any program changes or other action taken by ENSC as a result of the variance. If no changes or actions were taken, please explain.

Response IR-2:

Attachment 1 summarizes the 2011 targets, results, budgets and expenditures for each program. As TRC is used as a program screening tool during development of the plan, TRC values based on actual spending and Evaluated results are not available.

a) The Low Income Households program exceeded its budget by 16% and its energy target by 164%, due to increased participation through collaboration with Provincial Government agencies.

Small Business Direct Install exceeded its energy target by 25%, due to ongoing program improvements and increasing delivery agent capacity.

EnerGuide for Existing Houses had a spending variance of 36% below budget, and fell short of its energy target by 18%. This program experienced market volatility due to the sudden cancellation of the complementing federal incentive program, which affected overall spending and energy savings. The budget variance was greater than the energy

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variance, as more cost-effective savings were delivered through a direct install pilot in 2011.

The Performance Plus (New Houses) program spending was 26% below budget, with savings 6% below target. The savings and budget shortfall are due mainly to insufficient market demand in early 2011, while the improvement in \$ per kWh unit costs relates to the Evaluator's reduction of new home baseline efficiency (EnerGuide 78 as opposed to 80).

The C&I Custom and C&I Prescriptive programs had savings variances of more than 20 percent below targets, with comparable budget variances. These variances were due to insufficient market demand in early 2011. As these two programs account for the majority of the total energy shortfall, a summary of the proposed changes is provided in (b) below.

- b) The changes planned or implemented for the Custom and Prescriptive programs are summarized below.

C&I Custom

- Increasing internal sales staff capacity in 2012.
- Increased internal marketing capacity in 2011/12 and recruited additional external marketing capacity in 2012.
- Continued targeting of vertical market segments.
- Launched an "Embedded Energy Manager" program in 2011, under which ENSC recruits technical employees and contracts their services to large customers. These

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employees receive training on ENSC services and work at the customers' premises to facilitate participation in ENSC programs.

- Sub-programs for compressed air system upgrades and building recommissioning were launched in 2011.
- Development of a sub-program to support implementation of Energy Management Information Systems is planned for 2012.
- Launch of a streamlined custom process is scheduled for 2012, to simplify participation for small projects.
- Launching a program in 2012 to assist large customers in developing and implementing long-term efficiency plans.

C&I Prescriptive Rebates

- A "Preferred Partner" trade ally engagement program was launched in 2011 and is being expanded in 2012 to include a focus on in-store promotion, partner training and additional marketing support.
- In 2012, technical literature will be added to the ENSC website to help customers identify measures and estimate savings without the need for added technical support.
- Publish customer testimonials.
- Delivery agents and equipment vendors will be trained to cross-sell all business programs in 2012.

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- 1 • Continue direct outreach to purchasing managers of large businesses, to include
2 eligible equipment in procurement policies and standard specifications.
3
- 4 • The suite of eligible products will continue to expand in 2012.
5
- 6 • ENSC is now assessing the use of online application forms to simplify
7 participation.

Line #

2011 Evaluated Results and Actual Spending by Program

C COLUMN FORMULA	A	B	C	D	E	F	G	H	I
					C / A	D / B			H / G
	Targets		Evaluated Results		Results as % of Target		Budget (\$M)	Expenditure (\$M, unaudited)	Expenditure as % of Budget
	GWh	MW	GWh	MW	GWh	MW			
Efficient Products (does not include Low Income Renter)	42.9	4.8	49.4	8.9	115.2%	185.4%	10.70	11.20	104.7%
EnerGuide for Existing Houses (includes Fuel Substitution)	7.8	2.1	6.4	2.3	81.7%	108.8%	3.35	2.13	63.6%
Low Income (includes Low Income Renter)	9.1	2.0	12.4	2.7	136.6%	135.0%	4.29	4.98	116.1%
Performance Plus (New Houses)	2.6	0.8	2.5	0.9	94.4%	109.0%	1.90	1.40	73.7%
C&I Prescriptive (BER and SLC)	29.8	6.5	15.0	3.5	50.1%	53.2%	5.23	2.97	56.9%
C&I Custom	47.8	10.4	32.9	3.8	68.9%	36.1%	7.98	3.69	46.3%
Small Business Direct Install (SBES)	18.5	4.3	23.2	6.8	125.4%	159.7%	6.37	6.46	101.4%
Totals	158.5	30.9	141.7	28.8	89.4%	93.2%	39.82	32.84	82.5%

*Values may not add due to rounding.

*ENSC budgets at the program level, not the program component level. This table therefore reflects Table 3 from Econoler's report (p. 4).

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Request IR-3:

Reference: ENSC Evidence, 2013 – 2015 DSM Plan.

- a) Please provide the “DSM Technical Tables” in the same form as ENSC Response to NPB IR-3(b) in the 2012 DSM Plan Application.
- b) With respect to the 2013 – 2015 DSM Plan, please provide customer participation rates for each of the programs for Residential and “Business, Non profit and Institutional” (“BNI”), (formerly Commercial and Industrial) presented in terms of the eligible customers, number of participants/units/facilities and participation rate.
- c) For the BNI programs, please provide a further breakdown of participation information among the eligible NSPI customer rate classes e.g. General Demand, Small Industrial etc. ...
- d) Please provide customer participation rates for each of the Residential and BNI DSM Programs, separately, for each of the years 2008 – 2009, 2010, 2011 and 2012F.
- e) For the BNI programs, please provide a further breakdown by year for each of the eligible NSPI customer rate classes.

Response IR-3:

- a) Please refer to Attachment 1.
- b) With respect to the 2013 – 2015 DSM Plan, the following tables provide estimated customer participation rates for each of the Residential and Business, Non profit and Institutional (BNI) programs, presented in terms of the eligible customers; number of participants (P), units (U), facilities (F); and participation rate.

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	A	B	C
2013	Estimated Total Eligible Customers	Number of Units/Participants/ Facilities	Participation Rate (C=B/A)
Efficient Product Rebates (Residential)	450,000	100,070 (U)	N/A*
Existing Residential ¹	415,000	10,000 (P)	2.41%
New Residential	4,000	1,150 (P)	28.75%
Energy Savings Actions	390,000	66,492 (P)	17.05%
Efficient Product Rebates (BNI)	40,000	242,682 (U)	N/A*
Custom Incentives	2,500	205 (F)	8.20%
Direct Installation	40,000	500 (F)	1.25%

*Not applicable: a customer may install multiple measures.

2

	A	B	C
2014	Estimated Total Eligible Customers	Number of Units/Participants/ Facilities	Participation Rate (C=B/A)
Efficient Product Rebates (Residential)	455,000	161,514 (U)	N/A*
Existing Residential ¹	415,000	11,000 (P)	2.65%
New Residential	4,000	1,375 (P)	34.38%
Energy Savings Actions	390,000	66,492 (P)	17.05%
Efficient Product Rebates (BNI)	40,000	223,911 (U)	N/A*
Custom Incentives	2,500	195 (F)	7.80%
Direct Installation	40,000	375 (F)	0.94%

* Not applicable: a customer may install multiple measures.

3

	A	B	C
2015	Estimated Total Eligible Customers	Number of Units/Participants/ Facilities	Participation Rate (C=B/A)
Efficient Product Rebates (Residential)	460,000	198,864 (U)	N/A*
Existing Residential ¹	415,000	12,000 (P)	2.89%
New Residential	4,000	1,625 (P)	40.63%
Energy Savings Actions	390,000	66,492 (P)	17.05%
Efficient Product Rebates (BNI)	40,000	210,491 (U)	N/A*
Custom Incentives	2,500	200 (F)	8.00%
Direct Installation	40,000	325 (F)	0.81%

* Not applicable: a customer may install multiple measures.

¹ Includes Existing Houses, Low Income, and Residential Direct Install.

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c) For the BNI programs, the following tables provide a further breakdown of estimated participation rates among the eligible NSPI customer rate classes for 2013-2015.²

2013	Efficient Products Rebates (BNI)	Custom Incentives	Direct Installation
	(U)	(F)	(F)
Residential/Charitable	21,021	2	75
Small General	20,940	1	78
General Demand	137,075	146	292
Large General	701	13	-
Small Industrial	11,984	1	41
Medium Industrial	2,099	16	-
Large Industrial	3,970	9	-
ELI 2P-RTP	-	-	-
Municipal	5,618	5	14
Unmetered	39,275	12	-
Bowater Mersey (AE only)	-	-	-
Gen. Repl. / Load Foll.	-	-	-
Wholesale Market Backup / Top-up	-	-	-
1P-RTP	-	-	-

2014	Efficient Products Rebates (BNI)	Custom Incentives	Direct Installation
	(U)	(F)	(F)
Residential/Charitable	19,395	2	56
Small General	19,320	1	59
General Demand	126,473	139	219
Large General	647	13	-
Small Industrial	11,057	1	30
Medium Industrial	1,937	15	-
Large Industrial	3,663	8	-
ELI 2P-RTP	-	-	-
Municipal	5,183	5	10
Unmetered	36,237	11	-
Bowater Mersey (AE only)	-	-	-
Gen. Repl. / Load Foll.	-	-	-
Wholesale Market Backup / Top-up	-	-	-
1P-RTP	-	-	-

² Estimates apply cost allocation forecasts to estimated participation rates for 2013-2015. This is a proxy based on available estimates: participation rates by customer rate class are not necessarily reflective of dollars spent by rate class.

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2015	Efficient Products Rebates (BNI)	Custom Incentives	Direct Installation
	(U)	(F)	(F)
Residential/Charitable	18,233	2	49
Small General	18,162	1	51
General Demand	118,892	143	190
Large General	608	13	-
Small Industrial	10,394	1	26
Medium Industrial	1,820	15	-
Large Industrial	3,443	9	-
ELI 2P-RTP	-	-	-
Municipal	4,873	5	9
Unmetered	34,066	12	-
Bowater Mersey (AE only)	-	-	-
Gen. Repl. / Load Foll.	-	-	-
Wholesale Market Backup / Top-up	-	-	-
1P-RTP	-	-	-

- 2 d) The following tables provide estimated customer participation rates for each of the
3 Residential and Business, Non profit and Institutional (BNI) programs, presented in terms
4 of the eligible customers; number of participants (P), units (U), facilities (F); and
5 participation rate for 2008-2009, 2010, 2011, and 2012(F).
6

	A	B	C
2008-2009	Estimated Total Eligible Customers	Number of Units/Participants/ Facilities	Participation Rate (C=B/A)
Efficient Products - Residential	440,000	93,324 (U)	N/A*
Existing Houses	330,000	520 (P)	0.2%
Low Income	55,000	521 (P)	0.9%
New Houses	3,000	77 (P)	2.6%
Efficient Products - Direct Install	40,000	4,523 (F)	11.3%
Prescriptive Rebates	40,000	1,400 (F)	N/A*
C&I Custom	2,500	49 (F)	2.0%
Small Business Direct Install	35,000	307 (F)	0.9%

*Not applicable: a customer may install multiple measures.

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	A	B	C
2010	Estimated Total Eligible Customers	Number of Units/Participants/ Facilities	Participation Rate (C=B/A)
Efficient Products - Residential	440,000	205,916 (U)	N/A*
Existing Houses	330,000	1,516 (P)	0.5%
Low Income	55,000	680 (P)	1.2%
New Houses	3,000	260 (P)	8.7%
Efficient Products - Direct Install	40,000	5,447(F)	13.6%
Prescriptive Rebates	40,000	494,636 (U)	N/A*
C&I Custom	2,500	102 (F)	1.9%
Small Business Direct Install	35,000	801 (F)	2.3%

*Not applicable: a customer may install multiple measures.

1

	A	B	C
2011	Estimated Total Eligible Customers	Number of Units/Participants/ Facilities	Participation Rate (C=B/A)
Efficient Products - Residential	440,000	341,237 (U)	N/A*
Existing Houses	330,000	1,540 (P)	0.5%
Low Income ¹	55,000	10,023 (P)	18.2%
New Houses	3,000	701 (P)	23.4%
Efficient Products - Direct Install	40,000	4,595 (F)	11.5%
Prescriptive Rebates	40,000	575,778 (U)	N/A*
C&I Custom	2,500	172 (F)	6.9%
Small Business Direct Install	35,000	1,468 (F)	8.1%

*Not applicable: a customer may install multiple measures.

2

	A	B	C
2012(F)	Estimated Total Eligible Customers	Number of Units/Participants/ Facilities	Participation Rate (C=B/A)
Efficient Products	440,000	300,000 (U)	N/A*
Existing Houses ¹	385,000	21,000 (P)	5.5%
New Houses	3,000	900 (P)	30%
Home Energy Report	385,000	60,000 (P)	15.6%
Prescriptive Rebates	40,000	550,000 (U)	N/A*
Custom	2,500	200 (F)	8.0%
Small Business Direct Install ²	35,000	5,144 (F)	14.7%

*Not applicable: a customer may install multiple measures.

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- e) For the BNI programs, the following tables provide a further breakdown of participation rates among the eligible NSPI customer rate classes for 2010-2012. Participation was not tracked by rate class from 2008-2009.

2010	Prescriptive (U)	Custom (F)	Small Business Energy Solutions (F)	Efficient Products - Direct Install (F)
Residential/Charitable	-	19	108	2,079
Small General	1	7	245	1,605
General Demand	153,382	49	420	1,427
Large General	148,584	3	-	49
Small Industrial	2	2	28	66
Medium Industrial	83,096	10	-	16
Large Industrial	68,455	10	-	3
ELI 2P-RTP	-	-	-	-
Municipal	11,834	2	-	202
Unmetered	29,331	-	-	-
Bowater Mersey (AE only)	-	-	-	-
Gen. Repl. / Load Foll.	-	-	-	-
Wholesale Market Backup / Top-up	-	-	-	-
1P-RTP	-	-	-	-

2011	Prescriptive (U)	Custom (F)	Small Business Energy Solutions (F)	Efficient Products - Direct Install (F)
Residential/Charitable	84,633	6	194	2,310
Small General	88,092	3	432	1,325
General Demand	343,700	121	749	758
Large General	2,243	11	1	25
Small Industrial	45,885	2	79	28
Medium Industrial	3,309	16	-	10
Large Industrial	118	6	-	1
ELI 2P-RTP	-	-	-	-
Municipal	7,596	5	14	102
Unmetered	200	2	-	-
Bowater Mersey (AE only)	-	-	-	-
Gen. Repl. / Load Foll.	-	-	-	-
Wholesale Market Backup / Top-up	-	-	-	-
1P-RTP	-	-	-	-

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2012(F)*	Prescriptive Rebates (U)	Custom (F)	Small Busines Direct Install¹ (F)
Residential/Charitable	41,874	8	719
Small General	31,959	4	605
General Demand	293,137	87	3,405
Large General	18,183	17	-
Small Industrial	25,877	12	269
Medium Industrial	96,194	42	-
Large Industrial	29,252	27	-
ELI 2P-RTP	-	-	-
Municipal	13,524	4	146
Unmetered	-	-	-
Bowater Mersey (AE only)	-	-	-
Gen. Repl. / Load Foll.	-	-	-
Wholesale Market Backup / Top-up	-	-	-
1P-RTP	-	-	-

*Applies 2012 cost allocation forecast to estimated participation rates for 2012. This is a proxy based on available estimates: participation rates by customer rate class are not necessarily reflective of dollars spent by rate class.

DSM Technical Tables

Residential

Program Results by Measure

	Table #	Page #
Efficient Products	1	2
Existing Homes Tables		
Including Low Income and MURB	2.1	3
Excluding Low Income, Including MURB	2.2	5
Including Low Income, Excluding MURB	2.3	6
Excluding Low Income and MURB	2.4	7
LI Only	2.5	8
MURB only	2.6	9
New Construction	3	10
Home Energy Report	4	11

Measure Characterizations

Efficient Products	5	12
Existing Houses	6	13
Low Income Households	7	14
MURB	8	15
New Construction	9	16
Home Energy Report	10	17

Commercial and Industrial

Program Results by Measure

Prescriptive	11	18
Custom	12	20
Small Business Direct Install	13	21

Measure Characterizations

Office

Prescriptive	14.1	22
Small Business	14.2	23
Custom	14.3	24

Retail

Prescriptive	15.1	25
Small Business	15.2	26
Custom	15.3	27

Education

Prescriptive	16.1	28
Custom	16.2	29

Other

Prescriptive	17.1	30
Small Business	17.2	31
Custom	17.3	32

Industrial

Prescriptive	18.1	33
Custom	18.2	34

Table 1: Residential--Efficient Products--Program Results by Measure

Measure Name --savings at generator --2013 \$	For Plan Year 2013						For Plan Year 2014						For Plan Year 2015					
	A	B	C	D	E = C - D	F = C / D	A	B	C	D	E = C - D	F = C / D	A	B	C	D	E = C - D	F = C / D
	Peak Demand Savings (kW)	First Year Energy Savings (MWh)	Total Avoided Cost Benefits (\$)	TRC Costs (\$)	Total Net Resource Benefits (\$)	TRC (Ratio)	Peak Demand Savings (kW)	First Year Energy Savings (MWh)	Total Avoided Cost Benefits (\$)	TRC Costs (\$)	Total Net Resource Benefits (\$)	TRC (Ratio)	Peak Demand Savings (kW)	First Year Energy Savings (MWh)	Total Avoided Cost Benefits (\$)	TRC Costs (\$)	Total Net Resource Benefits (\$)	TRC (Ratio)
Convection Oven	6.2	47.6	\$60,252	\$64,539	-\$4,287	0.9	6	49	\$65,640	\$66,780	-\$1,140	1.0	7	51	\$71,585	\$69,103	\$2,482	1.0
Power Bar With Timer	69.2	688.1	\$275,301	\$297,931	-\$22,630	0.9	68	677	\$301,351	\$293,225	\$8,126	1.0	67	666	\$324,749	\$288,263	\$36,486	1.1
SmartStrip (replaces conventional power bar - for TV and Computer peripherals ONLY)	71.6	1,014.0	\$405,713	\$328,138	\$77,574	1.2	73	1,030	\$458,282	\$333,221	\$125,062	1.4	74	1,048	\$510,971	\$338,802	\$172,170	1.5
High Efficiency Clothes Washer - Tier 3	11.1	109.9	\$89,068	\$158,946	-\$69,878	0.6	11	114	\$98,513	\$164,377	-\$65,864	0.6	12	117	\$108,826	\$169,850	-\$61,024	0.6
Low Flow Showerhead (base 2.0 GPM, efficient 1.25 GPM)	0.0	1,079.1	\$795,891	\$214,938	\$580,953	3.7	0	992	\$774,028	\$197,591	\$576,437	3.9	0	1,212	\$1,006,989	\$241,383	\$765,605	4.2
Faucet Aerator Base 2.2GPM, efficient 1.5 GPM (all faucet aerators in home replaced)	79.3	292.3	\$221,471	\$78,591	\$142,880	2.8	73	269	\$221,161	\$72,307	\$148,854	3.1	89	329	\$294,915	\$88,407	\$206,509	3.3
Programmable Thermostat	78.6	781.1	\$581,957	\$296,348	\$285,608	2.0	76	757	\$602,386	\$287,144	\$315,242	2.1	98	976	\$834,816	\$370,233	\$464,584	2.3
Solar Landscape Lights	0.0	6.5	\$1,430	\$4,554	-\$3,124	0.3	0	7	\$2,497	\$6,882	-\$4,385	0.4	0	7	\$3,055	\$6,910	-\$3,854	0.4
Energy Star Cable Boxes	0.0	0.0	\$0	\$0	\$0	0.0	0	0	\$0	\$0	\$0	0.0	15	139	\$81,040	\$535,410	-\$454,370	0.2
CEE Tier 4 Television (replacing Tier 2 or less efficient TV)	0.0	0.0	\$0	\$0	\$0	0.0	0	0	\$0	\$0	\$0	0.0	358	1,531	\$864,887	\$861,714	\$3,173	1.0
LED Holiday Lights (300 bulb string)	1.6	252.6	\$267,815	\$166,540	\$101,275	1.6	2	255	\$283,018	\$168,126	\$114,892	1.7	2	258	\$299,975	\$169,830	\$130,144	1.8
Tier 3 Dehumidifier	131.7	825.8	\$330,408	\$195,836	\$134,572	1.7	136	854	\$380,225	\$202,622	\$177,603	1.9	141	884	\$431,265	\$209,633	\$221,632	2.1
Refrigerator Recycling - removal of secondary refrigerator	1,276.9	8,006.0	\$3,203,214	\$2,055,256	\$1,147,959	1.6	1,321	8,280	\$3,684,571	\$2,125,689	\$1,558,882	1.7	1,365	8,559	\$4,174,254	\$2,197,038	\$1,977,216	1.9
Freezer Recycling - removal of secondary freezer	469.6	2,944.5	\$896,386	\$731,552	\$164,834	1.2	486	3,045	\$1,088,017	\$756,623	\$331,393	1.4	502	3,148	\$1,273,318	\$782,023	\$491,295	1.6
CFL: Screw-In (<=15W)	22.4	181.4	\$100,714	\$43,075	\$57,639	2.3	35	285	\$169,730	\$56,179	\$113,551	3.0	27	221	\$140,991	\$45,930	\$95,061	3.1
LED 6 W Screw-In (replacing 60 W Incandescent)	1.3	10.5	\$17,671	\$7,485	\$10,186	2.4	2	18	\$31,284	\$6,402	\$24,882	4.9	2	17	\$31,532	\$7,752	\$23,781	4.1
LED 6 W Screw-In (replacing 15 W CFL)	0.0	0.0	\$0	\$0	\$0	0.0	0	0	\$0	\$0	\$0	0.0	6	24	\$47,980	\$21,551	\$26,430	2.2
CFL: Screw-In (16-24W)	118.5	242.3	\$134,539	\$58,702	\$75,838	2.3	141	289	\$171,993	\$61,334	\$110,659	2.8	144	295	\$188,358	\$62,611	\$125,747	3.0
CFL: Screw-In (>=25W)	415.8	1,463.3	\$812,393	\$334,597	\$477,796	2.4	623	2,193	\$1,305,612	\$425,526	\$880,086	3.1	640	2,253	\$1,438,381	\$436,975	\$1,001,406	3.3
LED 15 W Screw-In (replacing 100 W Incandescent)	12.0	135.3	\$222,513	\$84,250	\$138,263	2.6	18	205	\$352,364	\$83,134	\$269,230	4.2	18	207	\$370,457	\$83,661	\$286,795	4.4
LED 15 W Screw-In (replacing 27 W CFL)	0.0	0.0	\$0	\$0	\$0	0.0	0	0	\$0	\$0	\$0	0.0	52	232	\$455,407	\$216,260	\$239,147	2.1
Program Total	2,766	18,080	\$8,416,735	\$5,121,278	\$3,295,458	1.6	3,072	19,321	\$9,990,672	\$5,307,163	\$4,683,509	1.9	3,620	22,172	\$12,953,752	\$7,203,338	\$5,750,414	1.8

Table 2.1: Residential--Existing Homes (Including Low Income & MURB)--Program Results by Measure

Measure Name	For Plan Year 2013						For Plan Year 2014						For Plan Year 2015					
	A	B	C	D	E = C - D	F = C / D	A	B	C	D	E = C - D	F = C / D	A	B	C	D	E = C - D	F = C / D
	Peak Demand Savings (kW)	First Year Energy Savings (MWh)	Total Avoided Cost Benefits (\$)	TRC Costs (\$)	Total Net Resource Benefits (\$)	TRC (Ratio)	Peak Demand Savings (kW)	First Year Energy Savings (MWh)	Total Avoided Cost Benefits (\$)	TRC Costs (\$)	Total Net Resource Benefits (\$)	TRC (Ratio)	Peak Demand Savings (kW)	First Year Energy Savings (MWh)	Total Avoided Cost Benefits (\$)	TRC Costs (\$)	Total Net Resource Benefits (\$)	TRC (Ratio)
--savings at generator																		
--2013 \$																		
Existing Homes																		
CFL - Dimmable - 19 W	0.8	6.8	\$2,701	\$3,849	-\$1,148	0.7	0.9	7.0	\$3,107	\$3,981	-\$874	0.8	0.9	7.2	\$3,520	\$4,114	-\$594	0.9
Energy Star Decorative CFL Lamps- Chandelier (5 W)	0.0	0.3	\$128	\$159	-\$31	0.8	0.0	0.3	\$147	\$164	-\$17	0.9	0.0	0.3	\$167	\$170	-\$3	1.0
Power Bar With Timer	17.3	77.3	\$30,934	\$33,476	-\$2,543	0.9	17.3	77.2	\$34,356	\$33,429	\$926	1.0	17.3	77.2	\$37,630	\$33,403	\$4,228	1.1
SmartStrip (replaces conventional power bar - for TV and Computer peripherals ONLY)	7.7	108.4	\$43,366	\$35,074	\$8,292	1.2	7.7	108.8	\$48,429	\$35,213	\$13,216	1.4	7.7	109.6	\$53,439	\$35,433	\$18,006	1.5
Low Flow Showerhead (base 2.0 GPM, efficient 1.25 GPM)	56.6	206.1	\$156,235	\$41,054	\$115,182	3.8	57.2	208.2	\$171,322	\$41,464	\$129,858	4.1	57.7	210.0	\$188,519	\$41,822	\$146,696	4.5
Faucet Aerator Base 2.2GPM, efficient 1.5 GPM (all faucet aerators in home replaced)	18.5	67.5	\$51,131	\$17,036	\$34,095	3.0	18.7	68.1	\$56,077	\$17,209	\$38,868	3.3	18.9	68.7	\$61,716	\$17,361	\$44,355	3.6
Programmable Thermostat	36.0	131.0	\$99,287	\$49,937	\$49,351	2.0	36.7	133.7	\$110,022	\$50,967	\$59,055	2.2	37.5	136.3	\$122,409	\$51,976	\$70,433	2.4
Clothes Dryer - Gas Fuel Switch	46.8	380.0	\$309,354	\$234,675	\$74,679	1.3	48.1	390.2	\$340,367	\$240,965	\$99,403	1.4	49.4	400.6	\$374,276	\$247,393	\$126,883	1.5
Gas Range (Fuel Switch)	21.7	175.3	\$212,767	\$237,696	-\$24,929	0.9	22.3	180.0	\$229,999	\$244,069	-\$14,070	0.9	22.9	184.8	\$249,118	\$250,586	-\$1,468	1.0
Premium Ductless Heat Pump from Baseboard	653.3	2,120.5	\$2,539,772	\$1,896,120	\$643,652	1.3	840.5	2,727.9	\$3,475,084	\$2,439,191	\$1,035,894	1.4	1,028.4	3,337.9	\$4,530,142	\$2,984,561	\$1,545,582	1.5
Premium Ductless Heat Pump from Standard DHP	45.6	117.3	\$144,751	\$47,143	\$97,608	3.1	84.0	216.2	\$284,898	\$86,919	\$197,979	3.3	138.2	355.5	\$500,730	\$142,894	\$357,835	3.5
Wood Stove supplement Electric Baseboard or Central	155.8	321.6	\$497,178	\$137,378	\$359,800	3.6	171.3	353.8	\$582,472	\$151,114	\$431,358	3.9	186.9	385.9	\$677,124	\$164,845	\$512,278	4.1
Pellet Stove supplement Electric Baseboard or Central	77.9	147.2	\$179,821	\$68,183	\$111,639	2.6	85.7	161.9	\$213,160	\$75,000	\$138,160	2.8	96.1	181.5	\$257,434	\$84,088	\$173,346	3.1
Solar Hot Water Heater, replacing electric water heater	2.4	523.7	\$740,234	\$1,632,823	-\$892,589	0.5	3.0	655.7	\$966,102	\$2,044,286	-\$1,078,184	0.5	3.7	819.1	\$1,259,334	\$2,553,696	-\$1,294,362	0.5
Drain Water Heat Recovery (42% efficient or higher)	0.8	168.9	\$208,028	\$127,967	\$80,061	1.6	0.8	174.3	\$224,391	\$131,991	\$92,401	1.7	0.8	180.0	\$242,604	\$136,304	\$106,301	1.8
Hot Water Heater Tank Wrap	13.7	50.0	\$27,735	\$19,126	\$8,609	1.5	14.0	50.9	\$30,301	\$19,489	\$10,812	1.6	14.2	51.8	\$33,094	\$19,840	\$13,253	1.7
Hot Water Heater Pipe Insulation	2.7	9.8	\$8,941	\$1,664	\$7,277	5.4	2.7	10.0	\$9,866	\$1,703	\$8,163	5.8	2.8	10.2	\$10,850	\$1,742	\$9,108	6.2
Replace Space- or Water Heating Equipment or Retrofits Envelope Measures - Level 1 (base measure: home less efficient than tier 4)	117.5	470.0	\$763,402	\$708,392	\$55,010	1.1	130.0	520.1	\$888,323	\$783,940	\$104,383	1.1	142.6	570.2	\$1,024,982	\$859,458	\$165,524	1.2
Replace Space- or Water Heating Equipment or Retrofits Envelope Measures - Level 2 (base measure: home less efficient than tier 4)	373.5	1,400.5	\$2,294,991	\$2,214,758	\$80,234	1.0	481.3	1,804.7	\$3,111,108	\$2,853,899	\$257,209	1.1	589.0	2,208.9	\$4,009,382	\$3,492,997	\$516,384	1.1
Replace Space- or Water Heating Equipment or Retrofits Envelope Measures - Level 3 (base measure: home less efficient than tier 4)	47.0	156.7	\$261,196	\$270,943	-\$9,747	1.0	280.6	935.4	\$1,642,223	\$1,617,694	\$24,529	1.0	286.9	956.3	\$1,769,587	\$1,653,945	\$115,642	1.1
Replace Space- or Water Heating Equipment or Retrofits Envelope Measures - Level 4 (base measure: home less efficient than tier 4)	169.1	634.2	\$1,039,232	\$1,044,613	-\$5,381	1.0	287.3	1,077.3	\$1,857,129	\$1,774,453	\$82,676	1.0	456.4	1,711.5	\$3,106,547	\$2,819,042	\$287,504	1.1
CFL: Screw-In (<=15W)	5.1	10.5	\$5,824	\$2,858	\$2,966	2.0	4.5	9.2	\$5,497	\$1,933	\$3,564	2.8	3.2	6.6	\$4,229	\$1,500	\$2,729	2.8
CFL: Screw-In (16-24W)	12.3	25.1	\$13,922	\$6,075	\$7,848	2.3	7.6	15.5	\$9,216	\$3,286	\$5,929	2.8	7.6	15.6	\$9,939	\$3,304	\$6,635	3.0
CFL: Screw-In (>=25W)	43.0	151.4	\$84,068	\$34,625	\$49,443	2.4	25.2	88.6	\$52,714	\$17,181	\$35,533	3.1	25.6	90.1	\$57,507	\$17,470	\$40,037	3.3
Low Income																		
CFL: Screw-In (<=15W)	30.1	125.5	\$69,689	\$45,379	\$24,310	1.5	30.3	126.2	\$75,135	\$40,607	\$34,529	1.9	20.3	84.6	\$54,043	\$28,143	\$25,899	1.9
CFL: Screw-In (16-24W)	43.5	181.4	\$100,693	\$62,111	\$38,582	1.6	26.9	112.0	\$66,661	\$36,233	\$30,428	1.8	27.0	112.6	\$71,921	\$36,440	\$35,481	2.0
CFL: Screw-In (>=25W)	303.6	1,068.5	\$593,200	\$377,886	\$215,314	1.6	194.3	683.8	\$406,994	\$218,122	\$188,872	1.9	195.4	687.7	\$439,108	\$219,368	\$219,740	2.0
CFL: Torchiere	17.0	70.7	\$48,607	\$89,238	-\$40,631	0.5	16.8	70.1	\$51,638	\$88,443	-\$36,806	0.6	16.8	70.0	\$56,157	\$88,308	-\$32,151	0.6
Refrigerator Recycling - removal of secondary refrigerator	328.9	1,539.3	\$615,867	\$616,357	-\$490	1.0	330.8	1,548.0	\$688,807	\$619,844	\$68,963	1.1	332.7	1,557.1	\$759,430	\$623,501	\$135,929	1.2
Freezer Recycling - removal of secondary freezer	84.8	396.7	\$120,780	\$170,122	-\$49,342	0.7	85.3	399.0	\$142,543	\$171,086	-\$28,543	0.8	85.8	401.4	\$162,350	\$172,099	-\$9,749	0.9
Hot Water Heater Tank Wrap	58.7	274.6	\$152,457	\$103,027	\$49,430	1.5	73.4	343.7	\$204,576	\$128,942	\$75,634	1.6	67.3	315.1	\$201,204	\$118,213	\$82,990	1.7
Hot Water Heater Pipe Insulation	55.2	258.2	\$232,824	\$78,524	\$154,299	3.0	70.5	330.1	\$319,441	\$100,370	\$219,071	3.2	66.6	311.6	\$322,834	\$94,747	\$228,087	3.4
Low Flow Showerhead (base 2.0 GPM, efficient 1.25 GPM)	68.4	320.1	\$241,178	\$103,768	\$137,410	2.3	82.1	384.1	\$312,454	\$124,517	\$187,937	2.5	71.0	332.2	\$293,308	\$107,691	\$185,616	2.7
Faucet Aerator Base 2.2GPM, efficient 1.5 GPM (all faucet aerators in home replaced)	22.4	105.0	\$79,079	\$34,200	\$44,879	2.3	26.9	126.0	\$102,527	\$41,069	\$61,458	2.5	23.3	109.1	\$96,347	\$35,558	\$60,790	2.7
Programmable Thermostat	39.2	183.3	\$138,145	\$92,819	\$45,326	1.5	49.4	231.2	\$188,098	\$117,058	\$71,040	1.6	45.8	214.2	\$189,161	\$108,458	\$80,702	1.7
Tier 3 Dehumidifier	110.8	518.5	\$568,287	\$293,374	\$274,912	1.9	143.6	672.1	\$781,896	\$380,286	\$401,611	2.1	138.3	647.1	\$799,239	\$366,120	\$433,119	2.2
Power Bar With Timer	26.1	122.1	\$48,869	\$68,154	-\$19,286	0.7	25.4	118.7	\$52,837	\$66,258	-\$13,421	0.8	33.0	154.3	\$75,252	\$86,096	-\$10,845	0.9
Electric kettle	3.5	16.3	\$14,723	\$9,456	\$5,267	1.6	3.3	15.3	\$14,804	\$8,858	\$5,946	1.7	4.1	19.1	\$19,814	\$11,074	\$8,740	1.8
Retrofit Envelope Measures, Level 1	88.2	330.7	\$464,013	\$540,078	-\$76,065	0.9	86.9	325.9	\$483,576	\$532,312	-\$48,736	0.9	86.2	323.1	\$507,310	\$527,707	-\$20,397	1.0
Retrofit Envelope Measures, Level 2	19.6	73.5	\$103,114	\$122,194	-\$19,080	0.8	19.3	72.4	\$107,461	\$120,473	-\$12,976	0.9	19.1	71.8	\$112,735	\$119,396	-\$6,660	0.9
Retrofit Envelope Measures, Level 3	43.1	161.7	\$226,851	\$276,012	-\$49,162	0.8	42.5	159.3	\$236,415	\$272,043	-\$35,629	0.9	42.1	158.0	\$248,018	\$269,690	-\$21,672	0.9
Retrofit Envelope Measures, Level 4	39.2	147.0	\$206,228	\$261,806	-\$55,578	0.8	38.6	144.9	\$214,922	\$258,041	-\$43,119	0.8	38.3	143.6	\$225,471	\$255,809	-\$30,338	0.9
Retrofit Envelope Measures, Level 5	74.5	279.2	\$391,833	\$538,797	-\$146,964	0.7	73.4	275.2	\$408,353	\$531,050	-\$122,697	0.8	72.8	272.8	\$428,395	\$526,456	-\$98,061	0.8
Retrofit Envelope Measures, Level 6	65.6	246.2	\$345,432	\$584,394	-\$238,962	0.6	64.7	242.6	\$359,995	\$575,991	-\$215,996	0.6	64.1	240.5	\$377,664	\$571,009	-\$193,345	0.7

Measure Name --savings at generator --2013 \$	For Plan Year 2013						For Plan Year 2014						For Plan Year 2015					
	A	B	C	D	E = C - D	F = C / D	A	B	C	D	E = C - D	F = C / D	A	B	C	D	E = C - D	F = C / D
	Peak Demand Savings (kW)	First Year Energy Savings (MWh)	Total Avoided Cost Benefits (\$)	TRC Costs (\$)	Total Net Resource Benefits (\$)	TRC (Ratio)	Peak Demand Savings (kW)	First Year Energy Savings (MWh)	Total Avoided Cost Benefits (\$)	TRC Costs (\$)	Total Net Resource Benefits (\$)	TRC (Ratio)	Peak Demand Savings (kW)	First Year Energy Savings (MWh)	Total Avoided Cost Benefits (\$)	TRC Costs (\$)	Total Net Resource Benefits (\$)	TRC (Ratio)
MURB																		
CFL: Screw-In (<=15W) (MURB)	0.9	4.7	\$2,624	\$672	\$1,952	3.9	1.9	9.8	\$5,858	\$971	\$4,887	6.0	1.1	5.8	\$3,731	\$646	\$3,085	5.8
LED 6 W Screw-In (replacing 60 W Incandescent) (MURB)	0.0	0.2	\$344	\$125	\$219	2.7	0.1	0.7	\$1,212	\$179	\$1,033	6.8	0.0	0.3	\$613	\$117	\$495	5.2
LED 6 W Screw-In (replacing 15 W CFL) (MURB)	0.0	0.0	\$0	\$0	\$0	0.0	0.0	0.0	\$0	\$0	\$0	0.0	0.4	4.1	\$7,377	\$3,219	\$4,158	2.3
CFL: Screw-In (16-24W) (MURB)	2.3	11.6	\$6,457	\$1,411	\$5,045	4.6	2.7	13.9	\$8,295	\$1,403	\$6,892	5.9	2.8	14.3	\$9,130	\$1,440	\$7,690	6.3
CFL: Screw-In (>=25W) (MURB)	3.4	17.5	\$9,692	\$2,532	\$7,160	3.8	5.3	26.9	\$16,021	\$2,686	\$13,335	6.0	5.4	27.8	\$17,733	\$2,771	\$14,962	6.4
LED 15 W Screw-In (replacing 100 W Incandescent) (MURB)	0.1	0.9	\$1,534	\$625	\$908	2.5	0.1	1.4	\$2,320	\$515	\$1,805	4.5	0.1	1.4	\$2,456	\$522	\$1,934	4.7
LED 15 W Screw-In (replacing 27 W CFL) (MURB)	0.0	0.0	\$0	\$0	\$0	0.0	0.0	0.0	\$0	\$0	\$0	0.0	2.0	19.3	\$35,007	\$16,262	\$18,746	2.2
CFL - Dimmable - 19 W (MURB)	0.1	1.0	\$384	\$452	-\$67	0.9	0.1	1.0	\$432	\$456	-\$24	0.9	0.1	1.0	\$478	\$461	\$17	1.0
LED Exit Sign (MURB)	1.8	16.3	\$18,061	\$6,630	\$11,431	2.7	1.8	17.0	\$19,766	\$6,891	\$12,876	2.9	1.9	17.6	\$21,668	\$7,159	\$14,509	3.0
Energy Star Decorative CFL Lamps- Chandelier (5 W) (MURB)	0.0	0.1	\$45	\$45	\$0	1.0	0.0	0.1	\$51	\$46	\$5	1.1	0.0	0.1	\$57	\$46	\$11	1.2
Hot Water Heater Tank Wrap (MURB)	3.0	18.9	\$10,508	\$6,773	\$3,735	1.6	3.1	19.4	\$11,566	\$6,953	\$4,613	1.7	3.2	19.9	\$12,729	\$7,133	\$5,596	1.8
Low Flow Showerhead (base 2.0 GPM, efficient 1.25 GPM) (MURB)	8.8	55.1	\$41,325	\$5,469	\$35,856	7.6	9.0	56.2	\$45,240	\$5,573	\$39,667	8.1	9.1	57.2	\$49,758	\$5,674	\$44,084	8.8
Faucet Aerator Base 2.2GPM, efficient 1.5 GPM (all faucet aerators in home replaced) (MURB)	3.9	24.2	\$18,128	\$3,690	\$14,437	4.9	3.8	24.0	\$19,316	\$3,660	\$15,656	5.3	3.8	23.8	\$20,702	\$3,631	\$17,071	5.7
Indoor Lighting Sensors (MURB)	1.8	18.4	\$13,691	\$26,169	-\$12,479	0.5	2.1	20.6	\$16,391	\$29,328	-\$12,937	0.6	2.4	24.2	\$20,743	\$34,534	-\$13,791	0.6
Indoor Common Area Lighting Timers (competes w/ sensor) (MURB)	56.0	200.2	\$151,831	\$71,704	\$80,126	2.1	64.5	230.6	\$189,988	\$82,606	\$107,382	2.3	76.4	273.2	\$245,596	\$97,844	\$147,752	2.5
Outdoor Lighting Sensor (MURB)	2.7	26.9	\$20,067	\$37,318	-\$17,252	0.5	2.8	27.4	\$21,810	\$37,968	-\$16,158	0.6	2.8	27.7	\$23,684	\$38,362	-\$14,678	0.6
Outdoor Lighting Timer (competes w/ sensor) (MURB)	8.8	35.9	\$27,121	\$32,128	-\$5,007	0.8	9.1	36.8	\$30,122	\$32,951	-\$2,829	0.9	9.3	37.8	\$33,720	\$33,892	-\$172	1.0
Programmable Thermostats (MURB)	3.2	20.1	\$15,046	\$3,968	\$11,078	3.8	3.3	20.5	\$16,525	\$4,057	\$12,468	4.1	3.3	21.0	\$18,238	\$4,144	\$14,093	4.4
Existing Homes (Including LI and MURB) Program Total	3,544	14,331	\$14,813,724	\$13,533,033	\$1,280,691	1.1	4,221	16,862	\$19,970,357	\$17,317,351	\$2,653,005	1.2	4,769.1	18,878.5	\$24,547,456	\$20,241,686	\$4,305,770	1.2

Table 2.2: Residential--Existing Homes (Excluding Low Income, Including MURB)--Program Results by Measure

Measure Name --savings at generator --2013 \$	For Plan Year 2013						For Plan Year 2014						For Plan Year 2015					
	A	B	C	D	E = C - D	F = C / D	A	B	C	D	E = C - D	F = C / D	A	B	C	D	E = C - D	F = C / D
	Peak Demand Savings (kW)	First Year Energy Savings (MWh)	Total Avoided Cost Benefits (\$)	TRC Costs (\$)	Total Net Resource Benefits (\$)	TRC (Ratio)	Peak Demand Savings (kW)	First Year Energy Savings (MWh)	Total Avoided Cost Benefits (\$)	TRC Costs (\$)	Total Net Resource Benefits (\$)	TRC (Ratio)	Peak Demand Savings (kW)	First Year Energy Savings (MWh)	Total Avoided Cost Benefits (\$)	TRC Costs (\$)	Total Net Resource Benefits (\$)	TRC (Ratio)
Existing Homes	0.0	0	0	0	0	-	0.0	0	0	0	0	-	0.0	0	0	0	0	-
CFL - Dimmable - 19 W	0.8	6.8	\$2,701	\$3,849	-\$1,148	0.7	0.9	7.0	\$3,107	\$3,981	-\$874	0.8	0.9	7.2	\$3,520	\$4,114	-\$594	0.9
Energy Star Decorative CFL Lamps- Chandelier (5 W)	0.0	0.3	\$128	\$159	-\$31	0.8	0.0	0.3	\$147	\$164	-\$17	0.9	0.0	0.3	\$167	\$170	-\$3	1.0
Power Bar With Timer	17.3	77.3	\$30,934	\$33,476	-\$2,543	0.9	17.3	77.2	\$34,356	\$33,429	\$926	1.0	17.3	77.2	\$37,630	\$33,403	\$4,228	1.1
SmartStrip (replaces conventional power bar - for TV and Computer peripherals ONLY)	7.7	108.4	\$43,366	\$35,074	\$8,292	1.2	7.7	108.8	\$48,429	\$35,213	\$13,216	1.4	7.7	109.6	\$53,439	\$35,433	\$18,006	1.5
Low Flow Showerhead (base 2.0 GPM, efficient 1.25 GPM)	56.6	206.1	\$156,235	\$41,054	\$115,182	3.8	57.2	208.2	\$171,322	\$41,464	\$129,858	4.1	57.7	210.0	\$188,519	\$41,822	\$146,696	4.5
Faucet Aerator Base 2.2GPM, efficient 1.5 GPM (all faucet aerators in home replaced)	18.5	67.5	\$51,131	\$17,036	\$34,095	3.0	18.7	68.1	\$56,077	\$17,209	\$38,868	3.3	18.9	68.7	\$61,716	\$17,361	\$44,355	3.6
Programmable Thermostat	36.0	131.0	\$99,287	\$49,937	\$49,351	2.0	36.7	133.7	\$110,022	\$50,967	\$59,055	2.2	37.5	136.3	\$122,409	\$51,976	\$70,433	2.4
Clothes Dryer - Gas Fuel Switch	46.8	380.0	\$309,354	\$234,675	\$74,679	1.3	48.1	390.2	\$340,367	\$240,965	\$99,403	1.4	49.4	400.6	\$374,276	\$247,393	\$126,883	1.5
Gas Range (Fuel Switch)	21.7	175.3	\$212,767	\$237,696	-\$24,929	0.9	22.3	180.0	\$229,999	\$244,069	-\$14,070	0.9	22.9	184.8	\$249,118	\$250,586	-\$1,468	1.0
Premium Ductless Heat Pump from Baseboard	653.3	2,120.5	\$2,539,772	\$1,896,120	\$643,652	1.3	840.5	2,727.9	\$3,475,084	\$2,439,191	\$1,035,894	1.4	1,028.4	3,337.9	\$4,530,142	\$2,984,561	\$1,545,582	1.5
Premium Ductless Heat Pump from Standard DHP	45.6	117.3	\$144,751	\$47,143	\$97,608	3.1	84.0	216.2	\$284,898	\$86,919	\$197,979	3.3	138.2	355.5	\$500,730	\$142,894	\$357,835	3.5
Wood Stove supplement Electric Baseboard or Central	155.8	321.6	\$497,178	\$137,378	\$359,800	3.6	171.3	353.8	\$582,472	\$151,114	\$431,358	3.9	186.9	385.9	\$677,124	\$164,845	\$512,278	4.1
Pellet Stove supplement Electric Baseboard or Central	77.9	147.2	\$179,821	\$68,183	\$111,639	2.6	85.7	161.9	\$213,160	\$75,000	\$138,160	2.8	96.1	181.5	\$257,434	\$84,088	\$173,346	3.1
Solar Hot Water Heater, replacing electric water heater	2.4	523.7	\$740,234	\$1,632,823	-\$892,589	0.5	3.0	655.7	\$966,102	\$2,044,286	-\$1,078,184	0.5	3.7	819.1	\$1,259,334	\$2,553,696	-\$1,294,362	0.5
Drain Water Heat Recovery (42% efficient or higher)	0.8	168.9	\$208,028	\$127,967	\$80,061	1.6	0.8	174.3	\$224,391	\$131,991	\$92,401	1.7	0.8	180.0	\$242,604	\$136,304	\$106,301	1.8
Hot Water Heater Tank Wrap	13.7	50.0	\$27,735	\$19,126	\$8,609	1.5	14.0	50.9	\$30,301	\$19,489	\$10,812	1.6	14.2	51.8	\$33,094	\$19,840	\$13,253	1.7
Hot Water Heater Pipe Insulation	2.7	9.8	\$8,941	\$1,664	\$7,277	5.4	2.7	10.0	\$9,866	\$1,703	\$8,163	5.8	2.8	10.2	\$10,850	\$1,742	\$9,108	6.2
Replace Space- or Water Heating Equipment or Retrofits Envelope Measures - Level 1 (base measure: home less efficient than tier 4)	117.5	470.0	\$763,402	\$708,392	\$55,010	1.1	130.0	520.1	\$888,323	\$783,940	\$104,383	1.1	142.6	570.2	\$1,024,982	\$859,458	\$165,524	1.2
Replace Space- or Water Heating Equipment or Retrofits Envelope Measures - Level 2 (base measure: home less efficient than tier 4)	373.5	1,400.5	\$2,294,991	\$2,214,758	\$80,234	1.0	481.3	1,804.7	\$3,111,108	\$2,853,899	\$257,209	1.1	589.0	2,208.9	\$4,009,382	\$3,492,997	\$516,384	1.1
Replace Space- or Water Heating Equipment or Retrofits Envelope Measures - Level 3 (base measure: home less efficient than tier 4)	47.0	156.7	\$261,196	\$270,943	-\$9,747	1.0	280.6	935.4	\$1,642,223	\$1,617,694	\$24,529	1.0	286.9	956.3	\$1,769,587	\$1,653,945	\$115,642	1.1
Replace Space- or Water Heating Equipment or Retrofits Envelope Measures - Level 4 (base measure: home less efficient than tier 4)	169.1	634.2	\$1,039,232	\$1,044,613	-\$5,381	1.0	287.3	1,077.3	\$1,857,129	\$1,774,453	\$82,676	1.0	456.4	1,711.5	\$3,106,547	\$2,819,042	\$287,504	1.1
CFL: Screw-In (<=15W)	5.1	10.5	\$5,824	\$2,858	\$2,966	2.0	4.5	9.2	\$5,497	\$1,933	\$3,564	2.8	3.2	6.6	\$4,229	\$1,500	\$2,729	2.8
CFL: Screw-In (16-24W)	12.3	25.1	\$13,922	\$6,075	\$7,848	2.3	7.6	15.5	\$9,216	\$3,286	\$5,929	2.8	7.6	15.6	\$9,939	\$3,304	\$6,635	3.0
CFL: Screw-In (>=25W)	43.0	151.4	\$84,068	\$34,625	\$49,443	2.4	25.2	88.6	\$52,714	\$17,181	\$35,533	3.1	25.6	90.1	\$57,507	\$17,470	\$40,037	3.3
MURB																		
CFL: Screw-In (<=15W) (MURB)	0.9	4.7	\$2,624	\$672	\$1,952	3.9	1.9	9.8	\$5,858	\$971	\$4,887	6.0	1.1	5.8	\$3,731	\$646	\$3,085	5.8
LED 6 W Screw-In (replacing 60 W Incandescent) (MURB)	0.0	0.2	\$344	\$125	\$219	2.7	0.1	0.7	\$1,212	\$179	\$1,033	6.8	0.0	0.3	\$613	\$117	\$495	5.2
LED 6 W Screw-In (replacing 15 W CFL) (MURB)	0.0	0.0	\$0	\$0	\$0	0.0	0.0	0.0	\$0	\$0	\$0	0.0	0.4	4.1	\$7,377	\$3,219	\$4,158	2.3
CFL: Screw-In (16-24W) (MURB)	2.3	11.6	\$6,457	\$1,411	\$5,045	4.6	2.7	13.9	\$8,295	\$1,403	\$6,892	5.9	2.8	14.3	\$9,130	\$1,440	\$7,690	6.3
CFL: Screw-In (>=25W) (MURB)	3.4	17.5	\$9,692	\$2,532	\$7,160	3.8	5.3	26.9	\$16,021	\$2,686	\$13,335	6.0	5.4	27.8	\$17,733	\$2,771	\$14,962	6.4
LED 15 W Screw-In (replacing 100 W Incandescent) (MURB)	0.1	0.9	\$1,534	\$625	\$908	2.5	0.1	1.4	\$2,320	\$515	\$1,805	4.5	0.1	1.4	\$2,456	\$522	\$1,934	4.7
LED 15 W Screw-In (replacing 27 W CFL) (MURB)	0.0	0.0	\$0	\$0	\$0	0.0	0.0	0.0	\$0	\$0	\$0	0.0	2.0	19.3	\$35,007	\$16,262	\$18,746	2.2
CFL - Dimmable - 19 W (MURB)	0.1	1.0	\$384	\$452	-\$67	0.9	0.1	1.0	\$432	\$456	-\$24	0.9	0.1	1.0	\$478	\$461	\$17	1.0
LED Exit Sign (MURB)	1.8	16.3	\$18,061	\$6,630	\$11,431	2.7	1.8	17.0	\$19,766	\$6,891	\$12,876	2.9	1.9	17.6	\$21,668	\$7,159	\$14,509	3.0
Energy Star Decorative CFL Lamps- Chandelier (5 W) (MURB)	0.0	0.1	\$45	\$45	\$0	1.0	0.0	0.1	\$51	\$46	\$5	1.1	0.0	0.1	\$57	\$46	\$11	1.2
Hot Water Heater Tank Wrap (MURB)	3.0	18.9	\$10,508	\$6,773	\$3,735	1.6	3.1	19.4	\$11,566	\$6,953	\$4,613	1.7	3.2	19.9	\$12,729	\$7,133	\$5,596	1.8
Low Flow Showerhead (base 2.0 GPM, efficient 1.25 GPM) (MURB)	8.8	55.1	\$41,325	\$5,469	\$35,856	7.6	9.0	56.2	\$45,240	\$5,573	\$39,667	8.1	9.1	57.2	\$49,758	\$5,674	\$44,084	8.8
Faucet Aerator Base 2.2GPM, efficient 1.5 GPM (all faucet aerators in home replaced) (MURB)	3.9	24.2	\$18,128	\$3,690	\$14,437	4.9	3.8	24.0	\$19,316	\$3,660	\$15,656	5.3	3.8	23.8	\$20,702	\$3,631	\$17,071	5.7
Indoor Lighting Sensors (MURB)	1.8	18.4	\$13,691	\$26,169	-\$12,479	0.5	2.1	20.6	\$16,391	\$29,328	-\$12,937	0.6	2.4	24.2	\$20,743	\$34,534	-\$13,791	0.6
Indoor Common Area Lighting Timers (competes w/ sensor) (MURB)	56.0	200.2	\$151,831	\$71,704	\$80,126	2.1	64.5	230.6	\$189,988	\$82,606	\$107,382	2.3	76.4	273.2	\$245,596	\$97,844	\$147,752	2.5
Outdoor Lighting Sensor (MURB)	2.7	26.9	\$20,067	\$37,318	-\$17,252	0.5	2.8	27.4	\$21,810	\$37,968	-\$16,158	0.6	2.8	27.7	\$23,684	\$38,362	-\$14,678	0.6
Outdoor Lighting Timer (competes w/ sensor) (MURB)	8.8	35.9	\$27,121	\$32,128	-\$5,007	0.8	9.1	36.8	\$30,122	\$32,951	-\$2,829	0.9	9.3	37.8	\$33,720	\$33,892	-\$172	1.0
Programmable Thermostats (MURB)	3.2	20.1	\$15,046	\$3,968	\$11,078	3.8	3.3	20.5	\$16,525	\$4,057	\$12,468	4.1	3.3	21.0	\$18,238	\$4,144	\$14,093	4.4
Program Total	2,022	7,912	\$10,051,857	\$9,065,336	\$986,522	1.1	2,737	10,481	\$14,751,223	\$12,885,783	\$1,865,440	1.1	3,319	12,652	\$19,107,696	\$15,875,802	\$3,231,894	1.2

Table 2.3: Residential--Existing Homes (Including Low Income, Excluding MURB)--Program Results by Measure

Measure Name	For Plan Year 2013						For Plan Year 2014						For Plan Year 2015					
	A	B	C	D	E = C - D	F = C / D	A	B	C	D	E = C - D	F = C / D	A	B	C	D	E = C - D	F = C / D
	Peak Demand Savings (kW)	First Year Energy Savings (MWh)	Total Avoided Cost Benefits (\$)	TRC Costs (\$)	Total Net Resource Benefits (\$)	TRC (Ratio)	Peak Demand Savings (kW)	First Year Energy Savings (MWh)	Total Avoided Cost Benefits (\$)	TRC Costs (\$)	Total Net Resource Benefits (\$)	TRC (Ratio)	Peak Demand Savings (kW)	First Year Energy Savings (MWh)	Total Avoided Cost Benefits (\$)	TRC Costs (\$)	Total Net Resource Benefits (\$)	TRC (Ratio)
--savings at generator																		
--2013 \$																		
Existing Homes																		
CFL - Dimmable - 19 W	0.8	6.8	\$2,701	\$3,849	-\$1,148	0.7	0.9	7.0	\$3,107	\$3,981	-\$874	0.8	0.9	7.2	\$3,520	\$4,114	-\$594	0.9
Energy Star Decorative CFL Lamps- Chandelier (5 W)	0.0	0.3	\$128	\$159	-\$31	0.8	0.0	0.3	\$147	\$164	-\$17	0.9	0.0	0.3	\$167	\$170	-\$3	1.0
Power Bar With Timer	17.3	77.3	\$30,934	\$33,476	-\$2,543	0.9	17.3	77.2	\$34,356	\$33,429	\$926	1.0	17.3	77.2	\$37,630	\$33,403	\$4,228	1.1
SmartStrip (replaces conventional power bar - for TV and Computer peripherals ONLY)	7.7	108.4	\$43,366	\$35,074	\$8,292	1.2	7.7	108.8	\$48,429	\$35,213	\$13,216	1.4	7.7	109.6	\$53,439	\$35,433	\$18,006	1.5
Low Flow Showerhead (base 2.0 GPM, efficient 1.25 GPM)	56.6	206.1	\$156,235	\$41,054	\$115,182	3.8	57.2	208.2	\$171,322	\$41,464	\$129,858	4.1	57.7	210.0	\$188,519	\$41,822	\$146,696	4.5
Faucet Aerator Base 2.2GPM, efficient 1.5 GPM (all faucet aerators in home replaced)	18.5	67.5	\$51,131	\$17,036	\$34,095	3.0	18.7	68.1	\$56,077	\$17,209	\$38,868	3.3	18.9	68.7	\$61,716	\$17,361	\$44,355	3.6
Programmable Thermostat	36.0	131.0	\$99,287	\$49,937	\$49,351	2.0	36.7	133.7	\$110,022	\$50,967	\$59,055	2.2	37.5	136.3	\$122,409	\$51,976	\$70,433	2.4
Clothes Dryer - Gas Fuel Switch	46.8	380.0	\$309,354	\$234,675	\$74,679	1.3	48.1	390.2	\$340,367	\$240,965	\$99,403	1.4	49.4	400.6	\$374,276	\$247,393	\$126,883	1.5
Gas Range (Fuel Switch)	21.7	175.3	\$212,767	\$237,696	-\$24,929	0.9	22.3	180.0	\$229,999	\$244,069	-\$14,070	0.9	22.9	184.8	\$249,118	\$250,586	-\$1,468	1.0
Premium Ductless Heat Pump from Baseboard	653.3	2,120.5	\$2,539,772	\$1,896,120	\$643,652	1.3	840.5	2,727.9	\$3,475,084	\$2,439,191	\$1,035,894	1.4	1,028.4	3,337.9	\$4,530,142	\$2,984,561	\$1,545,582	1.5
Premium Ductless Heat Pump from Standard DHP	45.6	117.3	\$144,751	\$47,143	\$97,608	3.1	84.0	216.2	\$284,898	\$86,919	\$197,979	3.3	138.2	355.5	\$500,730	\$142,894	\$357,835	3.5
Wood Stove supplement Electric Baseboard or Central	155.8	321.6	\$497,178	\$137,378	\$359,800	3.6	171.3	353.8	\$582,472	\$151,114	\$431,358	3.9	186.9	385.9	\$677,124	\$164,845	\$512,278	4.1
Pellet Stove supplement Electric Baseboard or Central	77.9	147.2	\$179,821	\$68,183	\$111,639	2.6	85.7	161.9	\$213,160	\$75,000	\$138,160	2.8	96.1	181.5	\$257,434	\$84,088	\$173,346	3.1
Solar Hot Water Heater, replacing electric water heater	2.4	523.7	\$740,234	\$1,632,823	-\$892,589	0.5	3.0	655.7	\$966,102	\$2,044,286	-\$1,078,184	0.5	3.7	819.1	\$1,259,334	\$2,553,696	-\$1,294,362	0.5
Drain Water Heat Recovery (42% efficient or higher)	0.8	168.9	\$208,028	\$127,967	\$80,061	1.6	0.8	174.3	\$224,391	\$131,991	\$92,401	1.7	0.8	180.0	\$242,604	\$136,304	\$106,301	1.8
Hot Water Heater Tank Wrap	13.7	50.0	\$27,735	\$19,126	\$8,609	1.5	14.0	50.9	\$30,301	\$19,489	\$10,812	1.6	14.2	51.8	\$33,094	\$19,840	\$13,253	1.7
Hot Water Heater Pipe Insulation	2.7	9.8	\$8,941	\$1,664	\$7,277	5.4	2.7	10.0	\$9,866	\$1,703	\$8,163	5.8	2.8	10.2	\$10,850	\$1,742	\$9,108	6.2
Replace Space- or Water Heating Equipment or Retrofits Envelope Measures - Level 1 (base measure: home less efficient than tier 4)	117.5	470.0	\$763,402	\$708,392	\$55,010	1.1	130.0	520.1	\$888,323	\$783,940	\$104,383	1.1	142.6	570.2	\$1,024,982	\$859,458	\$165,524	1.2
Replace Space- or Water Heating Equipment or Retrofits Envelope Measures - Level 2 (base measure: home less efficient than tier 4)	373.5	1,400.5	\$2,294,991	\$2,214,758	\$80,234	1.0	481.3	1,804.7	\$3,111,108	\$2,853,899	\$257,209	1.1	589.0	2,208.9	\$4,009,382	\$3,492,997	\$516,384	1.1
Replace Space- or Water Heating Equipment or Retrofits Envelope Measures - Level 3 (base measure: home less efficient than tier 4)	47.0	156.7	\$261,196	\$270,943	-\$9,747	1.0	280.6	935.4	\$1,642,223	\$1,617,694	\$24,529	1.0	286.9	956.3	\$1,769,587	\$1,653,945	\$115,642	1.1
Replace Space- or Water Heating Equipment or Retrofits Envelope Measures - Level 4 (base measure: home less efficient than tier 4)	169.1	634.2	\$1,039,232	\$1,044,613	-\$5,381	1.0	287.3	1,077.3	\$1,857,129	\$1,774,453	\$82,676	1.0	456.4	1,711.5	\$3,106,547	\$2,819,042	\$287,504	1.1
CFL: Screw-In (<=15W)	5.1	10.5	\$5,824	\$2,858	\$2,966	2.0	4.5	9.2	\$5,497	\$1,933	\$3,564	2.8	3.2	6.6	\$4,229	\$1,500	\$2,729	2.8
CFL: Screw-In (16-24W)	12.3	25.1	\$13,922	\$6,075	\$7,848	2.3	7.6	15.5	\$9,216	\$3,286	\$5,929	2.8	7.6	15.6	\$9,939	\$3,304	\$6,635	3.0
CFL: Screw-In (>=25W)	43.0	151.4	\$84,068	\$34,625	\$49,443	2.4	25.2	88.6	\$52,714	\$17,181	\$35,533	3.1	25.6	90.1	\$57,507	\$17,470	\$40,037	3.3
Low Income																		
CFL: Screw-In (<=15W)	30.1	125.5	\$69,689	\$45,379	\$24,310	1.5	30.3	126.2	\$75,135	\$40,607	\$34,529	1.9	20.3	84.6	\$54,043	\$28,143	\$25,899	1.9
CFL: Screw-In (16-24W)	43.5	181.4	\$100,693	\$62,111	\$38,582	1.6	26.9	112.0	\$66,661	\$36,233	\$30,428	1.8	27.0	112.6	\$71,921	\$36,440	\$35,481	2.0
CFL: Screw-In (>=25W)	303.6	1,068.5	\$593,200	\$377,886	\$215,314	1.6	194.3	683.8	\$406,994	\$218,122	\$188,872	1.9	195.4	687.7	\$439,108	\$219,368	\$219,740	2.0
CFL: Torchiere	17.0	70.7	\$48,607	\$89,238	-\$40,631	0.5	16.8	70.1	\$51,638	\$88,443	-\$36,806	0.6	16.8	70.0	\$56,157	\$88,308	-\$32,151	0.6
Refrigerator Recycling - removal of secondary refrigerator	328.9	1,539.3	\$615,867	\$616,357	-\$490	1.0	330.8	1,548.0	\$688,807	\$619,844	\$68,963	1.1	332.7	1,557.1	\$759,430	\$623,501	\$135,929	1.2
Freezer Recycling - removal of secondary freezer	84.8	396.7	\$120,780	\$170,122	-\$49,342	0.7	85.3	399.0	\$142,543	\$171,086	-\$28,543	0.8	85.8	401.4	\$162,350	\$172,099	-\$9,749	0.9
Hot Water Heater Tank Wrap	58.7	274.6	\$152,457	\$103,027	\$49,430	1.5	73.4	343.7	\$204,576	\$128,942	\$75,634	1.6	67.3	315.1	\$201,204	\$118,213	\$82,990	1.7
Hot Water Heater Pipe Insulation	55.2	258.2	\$232,824	\$78,524	\$154,299	3.0	70.5	330.1	\$319,441	\$100,370	\$219,071	3.2	66.6	311.6	\$322,834	\$94,747	\$228,087	3.4
Low Flow Showerhead (base 2.0 GPM, efficient 1.25 GPM)	68.4	320.1	\$241,178	\$103,768	\$137,410	2.3	82.1	384.1	\$312,454	\$124,517	\$187,937	2.5	71.0	332.2	\$293,308	\$107,691	\$185,616	2.7
Faucet Aerator Base 2.2GPM, efficient 1.5 GPM (all faucet aerators in home replaced)	22.4	105.0	\$79,079	\$34,200	\$44,879	2.3	26.9	126.0	\$102,527	\$41,069	\$61,458	2.5	23.3	109.1	\$96,347	\$35,558	\$60,790	2.7
Programmable Thermostat	39.2	183.3	\$138,145	\$92,819	\$45,326	1.5	49.4	231.2	\$188,098	\$117,058	\$71,040	1.6	45.8	214.2	\$189,161	\$108,458	\$80,702	1.7
Tier 3 Dehumidifier	110.8	518.5	\$568,287	\$293,374	\$274,912	1.9	143.6	672.1	\$781,896	\$380,286	\$401,611	2.1	138.3	647.1	\$799,239	\$366,120	\$433,119	2.2
Power Bar With Timer	26.1	122.1	\$48,869	\$68,154	-\$19,286	0.7	25.4	118.7	\$52,837	\$66,258	-\$13,421	0.8	33.0	154.3	\$75,252	\$86,096	-\$10,845	0.9
Electric kettle	3.5	16.3	\$14,723	\$9,456	\$5,267	1.6	3.3	15.3	\$14,804	\$8,858	\$5,946	1.7	4.1	19.1	\$19,814	\$11,074	\$8,740	1.8
Retrofit Envelope Measures, Level 1	88.2	330.7	\$464,013	\$540,078	-\$76,065	0.9	86.9	325.9	\$483,576	\$532,312	-\$48,736	0.9	86.2	323.1	\$507,310	\$527,707	-\$20,397	1.0
Retrofit Envelope Measures, Level 2	19.6	73.5	\$103,114	\$122,194	-\$19,080	0.8	19.3	72.4	\$107,461	\$120,437	-\$12,976	0.9	19.1	71.8	\$112,735	\$119,396	-\$6,660	0.9
Retrofit Envelope Measures, Level 3	43.1	161.7	\$226,851	\$276,012	-\$49,162	0.8	42.5	159.3	\$236,415	\$272,043	-\$35,629	0.9	42.1	158.0	\$248,018	\$269,690	-\$21,672	0.9
Retrofit Envelope Measures, Level 4	39.2	147.0	\$206,228	\$261,806	-\$55,578	0.8	38.6	144.9	\$214,922	\$258,041	-\$43,119	0.8	38.3	143.6	\$225,471	\$255,809	-\$30,338	0.9
Retrofit Envelope Measures, Level 5	74.5	279.2	\$391,833	\$538,797	-\$146,964	0.7	73.4	275.2	\$408,353	\$531,050	-\$122,697	0.8	72.8	272.8	\$428,395	\$526,456	-\$98,061	0.8
Retrofit Envelope Measures, Level 6	65.6	246.2	\$345,432	\$584,394	-\$238,962	0.6	64.7	242.6	\$359,995	\$575,991	-\$215,996	0.6	64.1	240.5	\$377,664	\$571,009	-\$193,345	0.7
Program Total	3,448	13,879	\$14,476,869	\$13,333,322	\$1,143,547	1.1	4,112	16,356	\$19,565,444	\$17,101,107	\$2,464,337	1.1	4,645	18,302	\$24,024,038	\$19,983,830	\$4,040,208	1.2

Table 2.4: Residential--Existing Homes ONLY (Excluding Low Income and MURB)--Program Results by Measure

Measure Name	For Plan Year 2013						For Plan Year 2014						For Plan Year 2015					
	A	B	C	D	E = C - D	F = C / D	A	B	C	D	E = C - D	F = C / D	A	B	C	D	E = C - D	F = C / D
	Peak Demand Savings (kW)	First Year Energy Savings (MWh)	Total Avoided Cost Benefits (\$)	TRC Costs (\$)	Total Net Resource Benefits (\$)	TRC (Ratio)	Peak Demand Savings (kW)	First Year Energy Savings (MWh)	Total Avoided Cost Benefits (\$)	TRC Costs (\$)	Total Net Resource Benefits (\$)	TRC (Ratio)	Peak Demand Savings (kW)	First Year Energy Savings (MWh)	Total Avoided Cost Benefits (\$)	TRC Costs (\$)	Total Net Resource Benefits (\$)	TRC (Ratio)
--savings at generator																		
--2013 \$																		
Existing Homes																		
CFL - Dimmable - 19 W	0.8	6.8	\$2,701	\$3,849	-\$1,148	0.7	0.9	7.0	\$3,107	\$3,981	-\$874	0.8	0.9	7.2	\$3,520	\$4,114	-\$594	0.9
Energy Star Decorative CFL Lamps- Chandelier (5 W)	0.0	0.3	\$128	\$159	-\$31	0.8	0.0	0.3	\$147	\$164	-\$17	0.9	0.0	0.3	\$167	\$170	-\$3	1.0
Power Bar With Timer	17.3	77.3	\$30,934	\$33,476	-\$2,543	0.9	17.3	77.2	\$34,356	\$33,429	\$926	1.0	17.3	77.2	\$37,630	\$33,403	\$4,228	1.1
SmartStrip (replaces conventional power bar - for TV and Computer peripherals ONLY)	7.7	108.4	\$43,366	\$35,074	\$8,292	1.2	7.7	108.8	\$48,429	\$35,213	\$13,216	1.4	7.7	109.6	\$53,439	\$35,433	\$18,006	1.5
Low Flow Showerhead (base 2.0 GPM, efficient 1.25 GPM)	56.6	206.1	\$156,235	\$41,054	\$115,182	3.8	57.2	208.2	\$171,322	\$41,464	\$129,858	4.1	57.7	210.0	\$188,519	\$41,822	\$146,696	4.5
Faucet Aerator Base 2.2GPM, efficient 1.5 GPM (all faucet aerators in home replaced)	18.5	67.5	\$51,131	\$17,036	\$34,095	3.0	18.7	68.1	\$56,077	\$17,209	\$38,868	3.3	18.9	68.7	\$61,716	\$17,361	\$44,355	3.6
Programmable Thermostat	36.0	131.0	\$99,287	\$49,937	\$49,351	2.0	36.7	133.7	\$110,022	\$50,967	\$59,055	2.2	37.5	136.3	\$122,409	\$51,976	\$70,433	2.4
Clothes Dryer - Gas Fuel Switch	46.8	380.0	\$309,354	\$234,675	\$74,679	1.3	48.1	390.2	\$340,367	\$240,965	\$99,403	1.4	49.4	400.6	\$374,276	\$247,393	\$126,883	1.5
Gas Range (Fuel Switch)	21.7	175.3	\$212,767	\$237,696	-\$24,929	0.9	22.3	180.0	\$229,999	\$244,069	-\$14,070	0.9	22.9	184.8	\$249,118	\$250,586	-\$1,468	1.0
Premium Ductless Heat Pump from Baseboard	653.3	2,120.5	\$2,539,772	\$1,896,120	\$643,652	1.3	840.5	2,727.9	\$3,475,084	\$2,439,191	\$1,035,894	1.4	1,028.4	3,337.9	\$4,530,142	\$2,984,561	\$1,545,582	1.5
Premium Ductless Heat Pump from Standard DHP	45.6	117.3	\$144,751	\$47,143	\$97,608	3.1	84.0	216.2	\$284,898	\$86,919	\$197,979	3.3	138.2	355.5	\$500,730	\$142,894	\$357,835	3.5
Wood Stove supplement Electric Baseboard or Central	155.8	321.6	\$497,178	\$137,378	\$359,800	3.6	171.3	353.8	\$582,472	\$151,114	\$431,358	3.9	186.9	385.9	\$677,124	\$164,845	\$512,278	4.1
Pellet Stove supplement Electric Baseboard or Central	77.9	147.2	\$179,821	\$68,183	\$111,639	2.6	85.7	161.9	\$213,160	\$75,000	\$138,160	2.8	96.1	181.5	\$257,434	\$84,088	\$173,346	3.1
Solar Hot Water Heater, replacing electric water heater	2.4	523.7	\$740,234	\$1,632,823	-\$892,589	0.5	3.0	655.7	\$966,102	\$2,044,286	-\$1,078,184	0.5	3.7	819.1	\$1,259,334	\$2,553,696	-\$1,294,362	0.5
Drain Water Heat Recovery (42% efficient or higher)	0.8	168.9	\$208,028	\$127,967	\$80,061	1.6	0.8	174.3	\$224,391	\$131,991	\$92,401	1.7	0.8	180.0	\$242,604	\$136,304	\$106,301	1.8
Hot Water Heater Tank Wrap	13.7	50.0	\$27,735	\$19,126	\$8,609	1.5	14.0	50.9	\$30,301	\$19,489	\$10,812	1.6	14.2	51.8	\$33,094	\$19,840	\$13,253	1.7
Hot Water Heater Pipe Insulation	2.7	9.8	\$8,941	\$1,664	\$7,277	5.4	2.7	10.0	\$9,866	\$1,703	\$8,163	5.8	2.8	10.2	\$10,850	\$1,742	\$9,108	6.2
Replace Space- or Water Heating Equipment or Retrofits Envelope Measures - Level 1 (base measure: home less efficient than tier 4)	117.5	470.0	\$763,402	\$708,392	\$55,010	1.1	130.0	520.1	\$888,323	\$783,940	\$104,383	1.1	142.6	570.2	\$1,024,982	\$859,458	\$165,524	1.2
Replace Space- or Water Heating Equipment or Retrofits Envelope Measures - Level 2 (base measure: home less efficient than tier 4)	373.5	1,400.5	\$2,294,991	\$2,214,758	\$80,234	1.0	481.3	1,804.7	\$3,111,108	\$2,853,899	\$257,209	1.1	589.0	2,208.9	\$4,009,382	\$3,492,997	\$516,384	1.1
Replace Space- or Water Heating Equipment or Retrofits Envelope Measures - Level 3 (base measure: home less efficient than tier 4)	47.0	156.7	\$261,196	\$270,943	-\$9,747	1.0	280.6	935.4	\$1,642,223	\$1,617,694	\$24,529	1.0	286.9	956.3	\$1,769,587	\$1,653,945	\$115,642	1.1
Replace Space- or Water Heating Equipment or Retrofits Envelope Measures - Level 4 (base measure: home less efficient than tier 4)	169.1	634.2	\$1,039,232	\$1,044,613	-\$5,381	1.0	287.3	1,077.3	\$1,857,129	\$1,774,453	\$82,676	1.0	456.4	1,711.5	\$3,106,547	\$2,819,042	\$287,504	1.1
CFL: Screw-In (<=15W)	5.1	10.5	\$5,824	\$2,858	\$2,966	2.0	4.5	9.2	\$5,497	\$1,933	\$3,564	2.8	3.2	6.6	\$4,229	\$1,500	\$2,729	2.8
CFL: Screw-In (16-24W)	12.3	25.1	\$13,922	\$6,075	\$7,848	2.3	7.6	15.5	\$9,216	\$3,286	\$5,929	2.8	7.6	15.6	\$9,939	\$3,304	\$6,635	3.0
CFL: Screw-In (>=25W)	43.0	151.4	\$84,068	\$34,625	\$49,443	2.4	25.2	88.6	\$52,714	\$17,181	\$35,533	3.1	25.6	90.1	\$57,507	\$17,470	\$40,037	3.3
Program Total	1,925	7,460	\$9,715,002	\$8,865,624	\$849,378	1.1	2,627	9,975	\$14,346,310	\$12,669,539	\$1,676,772	1.1	3,195	12,076	\$18,584,278	\$15,617,945	\$2,966,333	1.2

Table 2.5: Residential--Low Income Only--Program Results by Measure

Measure Name --savings at generator --2013 \$	For Plan Year 2013						For Plan Year 2014						For Plan Year 2015					
	A	B	C	D	E = C - D	F = C / D	A	B	C	D	E = C - D	F = C / D	A	B	C	D	E = C - D	F = C / D
	Peak Demand Savings (kW)	First Year Energy Savings (MWh)	Total Avoided Cost Benefits (\$)	TRC Costs (\$)	Total Net Resource Benefits (\$)	TRC (Ratio)	Peak Demand Savings (kW)	First Year Energy Savings (MWh)	Total Avoided Cost Benefits (\$)	TRC Costs (\$)	Total Net Resource Benefits (\$)	TRC (Ratio)	Peak Demand Savings (kW)	First Year Energy Savings (MWh)	Total Avoided Cost Benefits (\$)	TRC Costs (\$)	Total Net Resource Benefits (\$)	TRC (Ratio)
Low Income																		
CFL: Screw-In (<=15W)	30.1	125.5	\$69,689	\$45,379	\$24,310	1.5	30.3	126.2	\$75,135	\$40,607	\$34,529	1.9	20.3	84.6	\$54,043	\$28,143	\$25,899	1.9
CFL: Screw-In (16-24W)	43.5	181.4	\$100,693	\$62,111	\$38,582	1.6	26.9	112.0	\$66,661	\$36,233	\$30,428	1.8	27.0	112.6	\$71,921	\$36,440	\$35,481	2.0
CFL: Screw-In (>=25W)	303.6	1,068.5	\$593,200	\$377,886	\$215,314	1.6	194.3	683.8	\$406,994	\$218,122	\$188,872	1.9	195.4	687.7	\$439,108	\$219,368	\$219,740	2.0
CFL: Torchiere	17.0	70.7	\$48,607	\$89,238	-\$40,631	0.5	16.8	70.1	\$51,638	\$88,443	-\$36,806	0.6	16.8	70.0	\$56,157	\$88,308	-\$32,151	0.6
Refrigerator Recycling - removal of secondary refrigerator	328.9	1,539.3	\$615,867	\$616,357	-\$490	1.0	330.8	1,548.0	\$688,807	\$619,844	\$68,963	1.1	332.7	1,557.1	\$759,430	\$623,501	\$135,929	1.2
Freezer Recycling - removal of secondary freezer	84.8	396.7	\$120,780	\$170,122	-\$49,342	0.7	85.3	399.0	\$142,543	\$171,086	-\$28,543	0.8	85.8	401.4	\$162,350	\$172,099	-\$9,749	0.9
Hot Water Heater Tank Wrap	58.7	274.6	\$152,457	\$103,027	\$49,430	1.5	73.4	343.7	\$204,576	\$128,942	\$75,634	1.6	67.3	315.1	\$201,204	\$118,213	\$82,990	1.7
Hot Water Heater Pipe Insulation	55.2	258.2	\$232,824	\$78,524	\$154,299	3.0	70.5	330.1	\$319,441	\$100,370	\$219,071	3.2	66.6	311.6	\$322,834	\$94,747	\$228,087	3.4
Low Flow Showerhead (base 2.0 GPM, efficient 1.25 GPM)	68.4	320.1	\$241,178	\$103,768	\$137,410	2.3	82.1	384.1	\$312,454	\$124,517	\$187,937	2.5	71.0	332.2	\$293,308	\$107,691	\$185,616	2.7
Faucet Aerator Base 2.2GPM, efficient 1.5 GPM (all faucet aerators in home replaced)	22.4	105.0	\$79,079	\$34,200	\$44,879	2.3	26.9	126.0	\$102,527	\$41,069	\$61,458	2.5	23.3	109.1	\$96,347	\$35,558	\$60,790	2.7
Programmable Thermostat	39.2	183.3	\$138,145	\$92,819	\$45,326	1.5	49.4	231.2	\$188,098	\$117,058	\$71,040	1.6	45.8	214.2	\$189,161	\$108,458	\$80,702	1.7
Tier 3 Dehumidifier	110.8	518.5	\$568,287	\$293,374	\$274,912	1.9	143.6	672.1	\$781,896	\$380,286	\$401,611	2.1	138.3	647.1	\$799,239	\$366,120	\$433,119	2.2
Power Bar With Timer	26.1	122.1	\$48,869	\$68,154	-\$19,286	0.7	25.4	118.7	\$52,837	\$66,258	-\$13,421	0.8	33.0	154.3	\$75,252	\$86,096	-\$10,845	0.9
Electric kettle	3.5	16.3	\$14,723	\$9,456	\$5,267	1.6	3.3	15.3	\$14,804	\$8,858	\$5,946	1.7	4.1	19.1	\$19,814	\$11,074	\$8,740	1.8
Retrofit Envelope Measures, Level 1	88.2	330.7	\$464,013	\$540,078	-\$76,065	0.9	86.9	325.9	\$483,576	\$532,312	-\$48,736	0.9	86.2	323.1	\$507,310	\$527,707	-\$20,397	1.0
Retrofit Envelope Measures, Level 2	19.6	73.5	\$103,114	\$122,194	-\$19,080	0.8	19.3	72.4	\$107,461	\$120,437	-\$12,976	0.9	19.1	71.8	\$112,735	\$119,396	-\$6,660	0.9
Retrofit Envelope Measures, Level 3	43.1	161.7	\$226,851	\$276,012	-\$49,162	0.8	42.5	159.3	\$236,415	\$272,043	-\$35,629	0.9	42.1	158.0	\$248,018	\$269,690	-\$21,672	0.9
Retrofit Envelope Measures, Level 4	39.2	147.0	\$206,228	\$261,806	-\$55,578	0.8	38.6	144.9	\$214,922	\$258,041	-\$43,119	0.8	38.3	143.6	\$225,471	\$255,809	-\$30,338	0.9
Retrofit Envelope Measures, Level 5	74.5	279.2	\$391,833	\$538,797	-\$146,964	0.7	73.4	275.2	\$408,353	\$531,050	-\$122,697	0.8	72.8	272.8	\$428,395	\$526,456	-\$98,061	0.8
Retrofit Envelope Measures, Level 6	65.6	246.2	\$345,432	\$584,394	-\$238,962	0.6	64.7	242.6	\$359,995	\$575,991	-\$215,996	0.6	64.1	240.5	\$377,664	\$571,009	-\$193,345	0.7
Program Total	1,522	6,419	\$4,761,867	\$4,467,698	\$294,169	1.1	1,484	6,381	\$5,219,134	\$4,431,569	\$787,566	1.2	1,450	6,226	\$5,439,760	\$4,365,884	\$1,073,876	1.2

Table 2.6: Residential--MURB Only--Program Results by Measure

Measure Name --savings at generator --2013 \$	For Plan Year 2013						For Plan Year 2014						For Plan Year 2015					
	A	B	C	D	E = C - D	F = C / D	A	B	C	D	E = C - D	F = C / D	A	B	C	D	E = C - D	F = C / D
	Peak Demand Savings (kW)	First Year Energy Savings (MWh)	Total Avoided Cost Benefits (\$)	TRC Costs (\$)	Total Net Resource Benefits (\$)	TRC (Ratio)	Peak Demand Savings (kW)	First Year Energy Savings (MWh)	Total Avoided Cost Benefits (\$)	TRC Costs (\$)	Total Net Resource Benefits (\$)	TRC (Ratio)	Peak Demand Savings (kW)	First Year Energy Savings (MWh)	Total Avoided Cost Benefits (\$)	TRC Costs (\$)	Total Net Resource Benefits (\$)	TRC (Ratio)
MURB																		
CFL: Screw-In (<=15W) (MURB)	0.92	4.73	\$2,624	\$672	\$1,952	3.9	1.9	9.8	\$5,858	\$971	\$4,887	6.0	1.1	5.8	\$3,731	\$646	\$3,085	5.8
LED 6 W Screw-In (replacing 60 W Incandescent) (MURB)	0.03	0.20	\$344	\$125	\$219	2.7	0.1	0.7	\$1,212	\$179	\$1,033	6.8	0.0	0.3	\$613	\$117	\$495	5.2
LED 6 W Screw-In (replacing 15 W CFL) (MURB)	0.00	0.00	\$0	\$0	\$0	0.0	0.0	0.0	\$0	\$0	\$0	0.0	0.4	4.1	\$7,377	\$3,219	\$4,158	2.3
CFL: Screw-In (16-24W) (MURB)	2.28	11.63	\$6,457	\$1,411	\$5,045	4.6	2.7	13.9	\$8,295	\$1,403	\$6,892	5.9	2.8	14.3	\$9,130	\$1,440	\$7,690	6.3
CFL: Screw-In (>=25W) (MURB)	3.42	17.46	\$9,692	\$2,532	\$7,160	3.8	5.3	26.9	\$16,021	\$2,686	\$13,335	6.0	5.4	27.8	\$17,733	\$2,771	\$14,962	6.4
LED 15 W Screw-In (replacing 100 W Incandescent) (MURB)	0.08	0.93	\$1,534	\$625	\$908	2.5	0.1	1.4	\$2,320	\$515	\$1,805	4.5	0.1	1.4	\$2,456	\$522	\$1,934	4.7
LED 15 W Screw-In (replacing 27 W CFL) (MURB)	0.00	0.00	\$0	\$0	\$0	0.0	0.0	0.0	\$0	\$0	\$0	0.0	2.0	19.3	\$35,007	\$16,262	\$18,746	2.2
CFL - Dimmable - 19 W (MURB)	0.12	0.96	\$384	\$452	-\$67	0.9	0.1	1.0	\$432	\$456	-\$24	0.9	0.1	1.0	\$478	\$461	\$17	1.0
LED Exit Sign (MURB)	1.78	16.31	\$18,061	\$6,630	\$11,431	2.7	1.8	17.0	\$19,766	\$6,891	\$12,876	2.9	1.9	17.6	\$21,668	\$7,159	\$14,509	3.0
Energy Star Decorative CFL Lamps- Chandelier (5 W) (MURB)	0.01	0.11	\$45	\$45	\$0	1.0	0.0	0.1	\$51	\$46	\$5	1.1	0.0	0.1	\$57	\$46	\$11	1.2
Hot Water Heater Tank Wrap (MURB)	3.02	18.93	\$10,508	\$6,773	\$3,735	1.6	3.1	19.4	\$11,566	\$6,953	\$4,613	1.7	3.2	19.9	\$12,729	\$7,133	\$5,596	1.8
Low Flow Showerhead (base 2.0 GPM, efficient 1.25 GPM) (MURB)	8.79	55.14	\$41,325	\$5,469	\$35,856	7.6	9.0	56.2	\$45,240	\$5,573	\$39,667	8.1	9.1	57.2	\$49,758	\$5,674	\$44,084	8.8
Faucet Aerator Base 2.2GPM, efficient 1.5 GPM (all faucet aerators in home replaced) (MURB)	3.9	24.2	\$18,128	\$3,690	\$14,437	4.9	3.8	24.0	\$19,316	\$3,660	\$15,656	5.3	3.8	23.8	\$20,702	\$3,631	\$17,071	5.7
Indoor Lighting Sensors (MURB)	1.85	18.38	\$13,691	\$26,169	-\$12,479	0.5	2.1	20.6	\$16,391	\$29,328	-\$12,937	0.6	2.4	24.2	\$20,743	\$34,534	-\$13,791	0.6
Indoor Common Area Lighting Timers (competes w/ sensor) (MURB)	55.97	200.21	\$151,831	\$71,704	\$80,126	2.1	64.5	230.6	\$189,988	\$82,606	\$107,382	2.3	76.4	273.2	\$245,596	\$97,844	\$147,752	2.5
Outdoor Lighting Sensor (MURB)	2.71	26.93	\$20,067	\$37,318	-\$17,252	0.5	2.8	27.4	\$21,810	\$37,968	-\$16,158	0.6	2.8	27.7	\$23,684	\$38,362	-\$14,678	0.6
Outdoor Lighting Timer (competes w/ sensor) (MURB)	8.84	35.88	\$27,121	\$32,128	-\$5,007	0.8	9.1	36.8	\$30,122	\$32,951	-\$2,829	0.9	9.3	37.8	\$33,720	\$33,892	-\$172	1.0
Programmable Thermostats (MURB)	3.20	20.08	\$15,046	\$3,968	\$11,078	3.8	3.3	20.5	\$16,525	\$4,057	\$12,468	4.1	3.3	21.0	\$18,238	\$4,144	\$14,093	4.4
Program Total	97	452	\$336,855	\$199,711	\$137,144	1.7	110	506	\$404,912	\$216,244	\$188,668	1.9	124	577	\$523,418	\$257,856	\$265,562	2.0

Table 3: Residential--New Construction--Program Results by Measure

Measure Name	For Plan Year 2013						For Plan Year 2014						For Plan Year 2015					
	A	B	C	D	E = C - D	F = C / D	A	B	C	D	E = C - D	F = C / D	A	B	C	D	E = C - D	F = C / D
	Peak Demand Savings (kW)	First Year Energy Savings (MWh)	Total Avoided Cost Benefits (\$)	TRC Costs (\$)	Total Net Resource Benefits (\$)	TRC (Ratio)	Peak Demand Savings (kW)	First Year Energy Savings (MWh)	Total Avoided Cost Benefits (\$)	TRC Costs (\$)	Total Net Resource Benefits (\$)	TRC (Ratio)	Peak Demand Savings (kW)	First Year Energy Savings (MWh)	Total Avoided Cost Benefits (\$)	TRC Costs (\$)	Total Net Resource Benefits (\$)	TRC (Ratio)
--savings at generator																		
--2013 \$																		
0 - 10,000 kWh (0-36 GJ)	316.9	1,505.5	\$2,394,364	\$1,959,405	\$434,959	1.2	400	1,901	\$3,175,563	\$2,474,503	\$701,060	1.3	498	2,367	\$4,155,410	\$3,080,495	\$1,074,916	1.3
10,001 - 20,000 kWh (36.1 - 72 GJ)	228.7	1,143.6	\$1,808,492	\$1,474,707	\$333,785	1.2	261	1,307	\$2,169,843	\$1,685,378	\$484,466	1.3	327	1,634	\$2,850,062	\$2,106,716	\$743,346	1.4
20,001 - 30,000 kWh (72.1 - 108 GJ)	148.0	801.8	\$1,257,286	\$1,019,819	\$237,467	1.2	163	881	\$1,450,333	\$1,121,125	\$329,209	1.3	176	956	\$1,651,716	\$1,215,674	\$436,042	1.4
30,001 + kWh (108.0 + GJ)	56.2	351.3	\$543,396	\$436,935	\$106,460	1.2	75	470	\$761,838	\$584,273	\$177,565	1.3	95	592	\$1,008,062	\$736,690	\$271,371	1.4
Hot Water Heater Pipe Insulation	0.2	0.5	\$442	\$119	\$323	3.7	0	0	\$497	\$123	\$374	4.0	0	1	\$558	\$128	\$431	4.4
Solar Hot Water Heater, replacing electric water heater	43.3	163.4	\$182,385	\$667,158	-\$484,773	0.3	54	204	\$242,649	\$833,943	-\$591,294	0.3	68	255	\$322,364	\$1,040,746	-\$718,382	0.3
Drain Water Heat Recovery (42% efficient or higher)	7.7	29.1	\$40,869	\$28,465	\$12,403	1.4	8	30	\$44,742	\$29,473	\$15,269	1.5	8	31	\$49,198	\$30,625	\$18,573	1.6
Low Flow Showerhead (base 2.0 GPM, efficient 1.25 GPM)	8.1	43.6	\$32,741	\$7,590	\$25,151	4.3	8	45	\$36,490	\$7,855	\$28,635	4.6	9	47	\$41,006	\$8,152	\$32,854	5.0
Faucet Aerator Base 2.2GPM, efficient 1.5 GPM (all faucet aerators in home replaced)	2.7	14.3	\$10,713	\$3,244	\$7,469	3.3	3	15	\$11,942	\$3,358	\$8,584	3.6	3	15	\$13,422	\$3,485	\$9,937	3.9
Programmable Thermostat	2.5	9.4	\$7,147	\$3,362	\$3,785	2.1	3	10	\$8,024	\$3,480	\$4,545	2.3	3	10	\$9,080	\$3,612	\$5,468	2.5
Premium Ductless Heat Pump from Baseboard	282.1	857.0	\$1,034,645	\$831,293	\$203,353	1.2	321	976	\$1,253,932	\$946,293	\$307,639	1.3	359	1,091	\$1,495,001	\$1,058,008	\$436,993	1.4
Premium Ductless Heat Pump from Standard DHP	9.0	21.6	\$26,871	\$9,348	\$17,522	2.9	12	30	\$39,954	\$13,006	\$26,948	3.1	15	37	\$52,113	\$15,851	\$36,261	3.3
Premium ASHP	188.0	425.5	\$505,044	\$94,109	\$410,935	5.4	236	535	\$681,575	\$118,309	\$563,267	5.8	294	665	\$908,831	\$146,989	\$761,842	6.2
Pellet Stove	202.2	386.7	\$471,516	\$160,812	\$310,703	2.9	205	392	\$515,240	\$163,110	\$352,130	3.2	214	409	\$578,288	\$170,001	\$408,287	3.4
Program Total	1,496	5,753	\$8,315,910	\$6,696,366	\$1,619,543	1.2	1,751	6,797	\$10,392,623	\$7,984,228	\$2,408,395	1.3	2,068	8,108	\$13,135,108	\$9,617,170	\$3,517,939	1.4

Table 4: Residential--Home Energy Report--Program Results by Measure

Measure Name	For Plan Year 2013						For Plan Year 2014						For Plan Year 2015					
	A	B	C	D	E = C - D	F = C / D	A	B	C	D	E = C - D	F = C / D	A	B	C	D	E = C - D	F = C / D
	Peak Demand	First Year Energy Savings	Total Avoided Cost	TRC	Total Net Resource Benefits		Peak Demand	First Year Energy Savings	Total Avoided Cost	TRC	Total Net Resource Benefits		Peak Demand	First Year Energy Savings	Total Avoided Cost	TRC	Total Net Resource Benefits	
	--savings at generator	--2013 \$	Benefits	Costs	Benefits	TRC	Savings (kW)	(MWh)	Benefits (\$)	Costs (\$)	Benefits (\$)	TRC (Ratio)	Savings (kW)	(MWh)	Benefits (\$)	Costs (\$)	Benefits (\$)	TRC (Ratio)
Home Energy Report	3,497	15,000	\$984,318	\$1,017,420	-\$33,102	1.0	3,497	15,000	\$993,823	\$1,017,420	-\$23,598	1.0	3,497	15,000	\$1,593,532	\$1,017,420	\$576,111	1.6
Program Total	3,497	15,000	\$984,318	\$1,017,420	-\$33,102	1.0	3,497	15,000	\$993,823	\$1,017,420	-\$23,598	1.0	3,497	15,000	\$1,593,532	\$1,017,420	\$576,111	1.6

Table 5: Residential--Efficient Products--Measure Characterizations First Year 2013

Measure Name --savings at generator --2013 \$	Measure Life (Years)	Peak Demand Savings per Unit (Watts)	Annual Energy Savings per Unit (kWh)	One-Time Incremental Measure Cost (\$)	Present Value of Avoided Cost Benefits (\$)	Program Admin. Cost (\$)	Total Resource Benefit- Cost (Ratio)	Program \$/first year annual kWh Savings
Convection Oven	19	11	86	\$102.0	\$100.1	\$15.4	0.94	\$0.65
Power Bar With Timer	5	6	59	\$15.3	\$19.5	\$10.6	0.93	\$0.26
SmartStrip (replaces conventional power bar - for TV and Computer peripherals ONLY)	5	15	206	\$30.6	\$67.8	\$36.8	1.24	\$0.23
High Efficiency Clothes Washer - Tier 3	11	53	525	\$667.5	\$387.4	\$93.7	0.57	\$0.37
Low Flow Showerhead (base 2.0 GPM, efficient 1.25 GPM)	10	0	422	\$10.2	\$287.6	\$75.3	3.71	\$0.19
Faucet Aerator Base 2.2GPM, efficient 1.5 GPM (all faucet aerators in home replaced)	10	44	163	\$15.3	\$111.1	\$29.1	2.82	\$0.22
Programmable Thermostat	10	25	250	\$51.0	\$170.1	\$44.5	1.97	\$0.22
Solar Landscape Lights	3	0	5	\$2.8	\$1.0	\$1.0	0.32	\$1.32
Energy Star Cable Boxes	4	9	82	\$204.0	\$20.2	\$14.6	0.12	\$0.25
CEE Tier 4 Television (replacing Tier 2 or less efficient TV)	6	25	105	\$40.8	\$42.3	\$18.8	0.86	\$0.32
LED Holiday Lights (300 bulb string)	16	0	32	\$15.3	\$31.0	\$5.6	1.61	\$0.37
Tier 3 Dehumidifier	5	157	985	\$61.2	\$324.1	\$175.8	1.69	\$0.20
Refrigerator Recycling - removal of secondary refrigerator	5	179	1123	\$91.8	\$369.8	\$200.6	1.56	\$0.21
Freezer Recycling - removal of secondary freezer	4	199	1250	\$91.8	\$309.4	\$223.1	1.23	\$0.21
CFL: Screw-In (<=15W)	7	6	45	\$2.8	\$22.1	\$8.1	2.34	\$0.20
LED 6 W Screw-In (replacing 60 W Incandescent)	30	5	38	\$20.4	\$59.1	\$6.8	2.37	\$0.31
LED 6 W Screw-In (replacing 15 W CFL)	30	2	10	\$20.4	\$16.3	\$1.8	0.00	\$0.69
CFL: Screw-In (16-24W)	7	21	44	\$2.9	\$21.3	\$7.8	2.30	\$0.21
CFL: Screw-In (>=25W)	7	23	83	\$4.4	\$40.2	\$14.8	2.43	\$0.20
LED 15 W Screw-In (replacing 100 W Incandescent)	30	9	103	\$45.9	\$156.4	\$18.3	2.65	\$0.28
LED 15 W Screw-In (replacing 27 W CFL)	30	4	20	\$45.9	\$32.6	\$3.5	0.00	\$0.69

Table 6: Residential--Existing Homes--Measure Characterizations - First Year 2013

Measure Name --savings at generator --2013 \$	Measure Life (Years)	Peak Demand Savings per Unit (Watts)	Annual Energy Savings per Unit (kWh)	One-Time Incremental Measure Cost (\$)	Present Value of Avoided Cost Benefits (\$)	Program Admin. Cost (\$)	Total Resource Benefit- Cost (Ratio)	Program \$/first year annual kWh Savings
CFL - Dimmable - 19 W	5	5	41	\$16.3	\$13.6	\$7.4	0.7	\$0.38
Energy Star Decorative CFL Lamps- Chandelier (5 W)	5	3	25	\$8.2	\$8.3	\$4.5	0.8	\$0.34
Power Bar With Timer	5	13	59	\$15.3	\$19.5	\$10.6	0.9	\$0.44
SmartStrip (replaces conventional power bar - for TV and Computer peripherals ONLY)	5	15	206	\$30.6	\$67.8	\$36.8	1.2	\$0.33
Low Flow Showerhead (base 2.0 GPM, efficient 1.25 GPM)	10	116	422	\$10.2	\$287.6	\$75.3	3.8	\$0.19
Faucet Aerator Base 2.2GPM, efficient 1.5 GPM (all faucet aerators in home replaced)	10	54	197	\$15.3	\$134.5	\$35.2	3.0	\$0.21
Programmable Thermostat	10	68	247	\$51.0	\$168.6	\$44.1	2.0	\$0.21
Clothes Dryer - Gas Fuel Switch	11	85	688	\$355.9	\$507.6	\$70.1	1.3	\$0.31
Gas Range (Fuel Switch)	18	80	650	\$816.1	\$722.3	\$66.3	0.9	\$0.60
Premium Ductless Heat Pump from Baseboard	16	2372	7700	\$6,630.6	\$8,252.1	\$392.7	1.3	\$0.18
Premium Ductless Heat Pump from Standard DHP	16	828	2131	\$765.1	\$2,334.5	\$108.7	3.1	\$0.29
Wood Stove supplement Electric Baseboard or Central	20	4476	9242	\$3,485.6	\$12,724.2	\$471.4	3.6	\$0.15
Pellet Stove supplement Electric Baseboard or Central	15	4476	8459	\$3,495.6	\$9,002.3	\$431.4	2.6	\$0.16
Solar Hot Water Heater, replacing electric water heater	25	11	2328	\$7,140.6	\$3,061.0	\$118.7	0.5	\$0.71
Drain Water Heat Recovery (42% efficient or higher)	20	5	1148	\$754.9	\$1,310.3	\$117.1	1.6	\$0.46
Hot Water Heater Tank Wrap	7	83	302	\$85.5	\$146.9	\$30.8	1.5	\$0.26
Hot Water Heater Pipe Insulation	12	23	83	\$5.8	\$66.3	\$8.4	5.4	\$0.14
Replace Space- or Water Heating Equipment or Retrofits Envelope Measures - Level 1 (base measure: home less efficient than tier 4)	25	2238	8952	\$12,598.1	\$13,281.5	\$913.2	1.1	\$0.59
Replace Space- or Water Heating Equipment or Retrofits Envelope Measures - Level 2 (base measure: home less efficient than tier 4)	25	1790	6714	\$9,945.9	\$10,038.0	\$684.9	1.0	\$0.59
Replace Space- or Water Heating Equipment or Retrofits Envelope Measures - Level 3 (base measure: home less efficient than tier 4)	25	1343	4476	\$7,293.6	\$6,794.4	\$456.6	1.0	\$0.59
Replace Space- or Water Heating Equipment or Retrofits Envelope Measures - Level 4 (base measure: home less efficient than tier 4)	25	800	3000	\$4,641.4	\$4,485.2	\$306.0	1.0	\$0.47
CFL: Screw-In (<=15W)	7	14	29	\$2.8	\$14.2	\$5.2	2.0	\$0.28
CFL: Screw-In (16-24W)	7	21	44	\$2.9	\$21.3	\$7.8	2.3	\$0.25
CFL: Screw-In (>=25W)	7	23	83	\$4.4	\$40.2	\$14.8	2.4	\$0.23

Table 7: Residential--Low Income--Measure Characterizations - First Year 2013

Measure Name --savings at generator --2013 \$	Measure Life (Years)	Peak Demand Savings per Unit (Watts)	Annual Energy Savings per Unit (kWh)	One-Time Incremental Measure Cost (\$)	Present Value of Avoided Cost Benefits (\$)	Program Admin. Cost (\$)	Total Resource Benefit- Cost (Ratio)	Program \$/first year annual kWh Savings
CFL: Screw-In (<=15W)	7	11.1	46.1	\$2.8	\$22.4	\$14.1	1.5	\$0.37
CFL: Screw-In (16-24W)	7	16.6	69.2	\$2.9	\$33.7	\$21.2	1.6	\$0.35
CFL: Screw-In (>=25W)	7	23.5	82.7	\$4.4	\$40.2	\$25.3	1.6	\$0.36
CFL: Torchiere	9	16.6	69.2	\$66.6	\$43.1	\$21.2	0.6	\$1.27
Refrigerator Recycling - removal of secondary refrigerator	5	195.3	914.2	\$91.8	\$300.9	\$279.8	1.0	\$0.41
Freezer Recycling - removal of secondary freezer	4	152.3	712.8	\$91.8	\$176.4	\$218.1	0.7	\$0.43
Hot Water Heater Tank Wrap	7	242.9	1136.9	\$85.5	\$552.9	\$347.9	1.5	\$0.38
Hot Water Heater Pipe Insulation	12	304.6	1425.6	\$5.8	\$1,134.9	\$436.3	3.0	\$0.31
Low Flow Showerhead (base 2.0 GPM, efficient 1.25 GPM)	10	90.1	421.9	\$10.2	\$287.6	\$129.1	2.3	\$0.33
Faucet Aerator Base 2.2GPM, efficient 1.5 GPM (all faucet aerators in home replaced)	10	42.2	197.3	\$5.1	\$134.5	\$60.4	2.3	\$0.33
Programmable Thermostat	10	52.8	247.3	\$51.0	\$168.6	\$75.7	1.5	\$0.51
Tier 3 Dehumidifier	15	164.0	767.6	\$204.0	\$757.9	\$234.9	1.9	\$0.57
Power Bar With Timer	5	12.7	59.3	\$15.3	\$19.5	\$18.1	0.7	\$0.56
Electric kettle	12	11.7	54.8	\$15.3	\$43.6	\$16.8	1.6	\$0.59
Retrofit Envelope Measures, Level 1	20	3580.8	13428.0	\$17,902.6	\$17,053.2	\$4,109.3	0.9	\$1.64
Retrofit Envelope Measures, Level 2	20	2984.0	11190.0	\$15,250.3	\$14,211.0	\$3,424.4	0.9	\$1.67
Retrofit Envelope Measures, Level 3	20	2387.2	8952.0	\$12,598.1	\$11,368.8	\$2,739.6	0.8	\$1.71
Retrofit Envelope Measures, Level 4	20	1790.4	6714.0	\$9,945.9	\$8,526.6	\$2,054.7	0.8	\$1.79
Retrofit Envelope Measures, Level 5	20	1193.6	4476.0	\$7,293.6	\$5,684.4	\$1,369.8	0.7	\$1.94
Retrofit Envelope Measures, Level 6	20	596.8	2238.0	\$4,641.4	\$2,842.2	\$684.9	0.6	\$2.38

Table 8: Residential--MURB--Measure Characterizations - First Year 2013

Measure Name --savings at generator --2013 \$	Measure Life (Years)	Peak Demand Savings per Unit (Watts)	Annual Energy Savings per Unit (kWh)	One-Time Incremental Measure Cost (\$)	Present Value of Avoided Cost Benefits (\$)	Program Admin. Cost (\$)	Total Resource Benefit- Cost (Ratio)	Program \$/first year annual kWh Savings
CFL: Screw-In (<=15W) (MURB)	7	8.3	42.2	\$2.8	\$20.5	\$3.2	3.9	\$0.10
LED 6 W Screw-In (replacing 60 W Incandescent) (MURB)	30	4.7	38.0	\$20.4	\$59.1	\$2.9	2.8	\$0.34
LED 6 W Screw-In (replacing 15 W CFL) (MURB)	30	1.0	9.8	\$20.4	\$15.1	\$0.7	0.0	\$1.12
CFL: Screw-In (16-24W) (MURB)	7	12.4	63.4	\$2.9	\$30.8	\$4.8	4.6	\$0.09
CFL: Screw-In (>=25W) (MURB)	7	12.4	63.4	\$4.4	\$30.8	\$4.8	3.8	\$0.11
LED 15 W Screw-In (replacing 100 W Incandescent) (MURB)	30	6.7	77.2	\$45.9	\$117.6	\$5.9	2.5	\$0.21
LED 15 W Screw-In (replacing 27 W CFL) (MURB)	30	2.0	19.6	\$45.9	\$30.1	\$1.5	0.0	\$0.60
CFL - Dimmable - 19 W (MURB)	5	5.1	41.3	\$16.3	\$13.6	\$3.2	0.9	\$0.57
LED Exit Sign (MURB)	16	35.9	329.4	\$109.1	\$333.5	\$25.2	2.7	\$0.20
Energy Star Decorative CFL Lamps- Chandelier (5 W) (MURB)	5	2.6	25.3	\$8.2	\$8.3	\$1.9	1.0	\$0.48
Hot Water Heater Tank Wrap (MURB)	7	48.2	302.1	\$85.5	\$146.9	\$23.1	1.6	\$0.25
Low Flow Showerhead (base 2.0 GPM, efficient 1.25 GPM) (MURB)	10	67.3	421.9	\$10.2	\$287.6	\$32.3	7.6	\$0.09
Faucet Aerator Base 2.2GPM, efficient 1.5 GPM (all faucet aerators in home replaced) (MURB)	10	31.5	197.3	\$15.3	\$134.5	\$15.1	4.9	\$0.18
Indoor Lighting Sensors (MURB)	10	2.7	26.5	\$35.7	\$18.0	\$2.0	0.5	\$0.46
Indoor Common Area Lighting Timers (competes w/ sensor) (MURB)	10	20.1	72.1	\$20.4	\$49.1	\$5.5	2.1	\$0.22
Outdoor Lighting Sensor (MURB)	10	2.7	26.5	\$34.7	\$18.0	\$2.0	0.5	\$0.46
Outdoor Lighting Timer (competes w/ sensor) (MURB)	10	5.5	22.4	\$18.4	\$15.3	\$1.7	0.9	\$0.53
Programmable Thermostats (MURB)	10	39.8	249.5	\$30.6	\$170.1	\$19.1	3.8	\$0.12

Table 9: Residential--New Construction--Measure Characterizations - First Year 2013

Measure Name --savings at generator --2013 \$	Measure Life (Years)	Peak Demand Savings per Unit (Watts)	Annual Energy Savings per Unit (kWh)	One-Time Incremental Measure Cost (\$)	Present Value of Avoided Cost Benefits (\$)	Program Admin. Cost (\$)	Total Resource Benefit- Cost (Ratio)	Program \$/first year annual kWh Savings
0 - 10,000 kWh (0-36 GJ)	25	2238.0	10630.5	12241.1	15483.7	1626.6	1.2	\$1.02
10,001 - 20,000 kWh (36.1 - 72 GJ)	25	1790.4	8952.0	10200.9	12974.2	1369.8	1.2	\$0.95
20,001 - 30,000 kWh (72.1 - 108 GJ)	25	1342.8	7273.5	8160.7	10464.8	1112.9	1.2	\$0.85
30,001 + kWh (108.0 + GJ)	25	895.2	5595.0	6120.5	7955.3	856.1	1.3	\$0.70
Hot Water Heater Pipe Insulation	12	22.0	56.9	5.8	45.9	8.7	3.7	\$0.20
Solar Hot Water Heater, replacing electric water heater	15	481.4	1815.0	7140.6	1814.9	277.7	0.3	\$2.00
Drain Water Heat Recovery (42% efficient or higher)	20	242.2	913.1	754.9	1159.0	139.7	1.4	\$0.54
Low Flow Showerhead (base 2.0 GPM, efficient 1.25 GPM)	10	78.3	421.9	10.2	287.6	64.6	4.3	\$0.16
Faucet Aerator Base 2.2GPM, efficient 1.5 GPM (all faucet aerators in home replaced)	10	36.9	197.3	15.3	134.5	30.2	3.3	\$0.19
Programmable Thermostat	10	65.6	247.3	51.0	168.6	37.8	2.1	\$0.19
Premium Ductless Heat Pump from Baseboard	16	2372.3	7207.1	6630.6	7769.3	122.5	1.3	\$0.16
Premium Ductless Heat Pump from Standard DHP	16	828.1	1994.2	765.1	2200.9	33.9	2.9	\$0.27
Premium ASHP	15	4476.0	10130.9	1734.2	10566.5	172.2	5.4	\$0.06
Pellet Stove	15	4979.6	9525.4	3484.6	10122.9	161.9	2.9	\$0.09

Table 10: Residential--Home Energy Report--Measure Characterizations - First Year 2013

Measure Name --savings at generator --2013 \$	Measure Life (Years)	Peak Demand Savings per Unit (Watts)	Annual Energy Savings per Unit (kWh)	One-Time Incremental Measure Cost (\$)	Present Value of Avoided Cost Benefits (\$)	Program Admin. Cost (\$)	Total Resource Benefit- Cost (Ratio)	Program \$/first year annual kWh Savings
Home Energy Report	1	52.6	225.6	\$0.0	\$15.5	\$15.3	1.0	\$0.07

Table 11: Commercial--Prescriptive Retrofit (includes ROB and RET decisions)-- Program Results by Measure

Measure Name	For Plan Year 2013						For Plan Year 2014						For Plan Year 2015					
	A	B	C	D	E = C - D	F = C / D	A	B	C	D	E = C - D	F = C / D	A	B	C	D	E = C - D	F = C / D
	Peak Demand Savings (kW)	First Year Energy Savings (MWh)	Total Avoided Cost Benefits (\$)	TRC Costs (\$)	Total Net Resource Benefits (\$)	TRC (Ratio)	Peak Demand Savings (kW)	First Year Energy Savings (MWh)	Total Avoided Cost Benefits (\$)	TRC Costs (\$)	Total Net Resource Benefits (\$)	TRC (Ratio)	Peak Demand Savings (kW)	First Year Energy Savings (MWh)	Total Avoided Cost Benefits (\$)	TRC Costs (\$)	Total Net Resource Benefits (\$)	TRC (Ratio)
--savings at generator																		
--2013 \$																		
LED lamps - Hard-wired weighted Watts	74.9	458.9	\$344,031	\$301,594	\$42,436	1.1	96.1	589.0	\$474,502	\$336,087	\$138,415	1.4	89.0	545.3	\$474,779	\$319,213	\$155,566	1.5
LED lamps - Screw-in weighted Watts	148.4	908.8	\$681,344	\$597,300	\$84,044	1.1	32.2	197.4	\$159,067	\$158,335	\$732	1.0	31.0	189.9	\$165,343	\$154,919	\$10,423	1.1
LED Recessed and Surface Mounted	0.0	0.0	\$0	\$0	\$0	0.0	0.7	4.5	\$3,600	\$2,994	\$605	1.2	0.9	5.3	\$4,630	\$3,563	\$1,067	1.3
LED Track Lighting	1.4	8.7	\$6,512	\$12,026	(\$5,514)	0.5	3.5	21.4	\$17,254	\$16,612	\$642	1.0	4.0	24.4	\$21,202	\$18,195	\$3,007	1.2
LED Refrigerated Case Lighting	0.0	0.0	\$0	\$0	\$0	0.0	0.7	3.1	\$3,631	\$3,718	(\$87)	1.0	0.8	3.5	\$4,340	\$4,186	\$155	1.0
LED Pole Mounted Parking Lights	204.1	970.4	\$730,888	\$761,298	(\$30,411)	1.0	209.3	995.4	\$809,245	\$780,907	\$28,339	1.0	214.8	1,021.2	\$900,808	\$800,932	\$99,876	1.1
LED Outdoor Wall Packs	12.3	58.5	\$44,073	\$41,669	\$2,404	1.1	12.8	60.9	\$49,495	\$43,352	\$6,143	1.1	13.3	63.4	\$55,952	\$45,155	\$10,797	1.2
LED Canopy or Parking Garage	24.5	183.0	\$88,261	\$50,156	\$38,458	1.6	25.6	191.5	\$100,156	\$58,387	\$41,768	1.7	26.9	200.8	\$113,440	\$61,168	\$52,272	1.9
LED Bollard Fixtures	1.2	5.9	\$6,428	\$4,222	\$2,206	1.5	1.3	6.1	\$7,078	\$4,380	\$2,698	1.6	1.3	6.3	\$7,805	\$4,549	\$3,256	1.7
LED Traffic	1.2	10.2	\$7,634	\$4,213	\$3,420	1.8	1.2	10.9	\$8,732	\$4,505	\$4,227	1.9	1.3	11.7	\$10,059	\$4,821	\$5,237	2.1
LED Exit	25.9	295.6	\$219,942	\$91,352	\$128,590	2.4	26.2	298.8	\$237,216	\$92,340	\$144,876	2.6	26.4	301.4	\$256,831	\$93,114	\$163,717	2.8
Occupancy Sensor Switch or Fixture Mounted	190.2	657.7	\$499,247	\$180,867	\$318,380	2.8	188.0	650.0	\$536,405	\$178,741	\$357,664	3.0	184.9	639.2	\$576,167	\$175,743	\$400,424	3.3
Occupancy Sensor Ceiling or Remote	268.3	927.9	\$704,360	\$312,766	\$391,594	2.3	681.1	2,355.2	\$1,943,544	\$469,061	\$1,474,483	4.1	355.9	1,230.6	\$1,109,147	\$312,505	\$796,641	3.5
Auto Shut off Timers	29.1	100.7	\$76,414	\$15,806	\$60,608	4.8	29.4	101.8	\$83,975	\$15,977	\$67,998	5.3	29.7	102.6	\$92,500	\$16,108	\$76,392	5.7
Occupancy Sensor Controlled Power Bars	0.0	312.6	\$194,718	\$154,687	\$40,032	1.3	0.0	309.8	\$205,763	\$153,315	\$52,448	1.3	0.0	305.7	\$212,687	\$151,237	\$61,450	1.4
Current-regulating Advanced Power Bars	0.0	108.8	\$68,546	\$76,795	(\$8,249)	0.9	0.0	104.1	\$69,461	\$73,988	(\$4,527)	0.9	0.0	102.6	\$71,781	\$72,938	(\$1,158)	1.0
320W PS MH HID fixture- indoor	7.8	33.4	\$36,892	\$8,703	\$28,189	4.2	8.4	35.7	\$41,906	\$9,302	\$32,604	4.5	8.9	38.2	\$47,585	\$9,935	\$37,650	4.8
320W PS MH HID fixture- outdoor	12.1	57.5	\$62,899	\$12,597	\$50,302	5.0	12.9	61.4	\$71,356	\$13,464	\$57,891	5.3	13.8	65.6	\$80,925	\$14,379	\$66,546	5.6
200W PS MH HID fixture- indoor	5.5	23.4	\$25,824	\$7,697	\$18,127	3.4	5.9	25.0	\$29,334	\$8,228	\$21,107	3.6	6.3	26.7	\$33,310	\$8,788	\$24,522	3.8
200W PS MH HID fixture- outdoor	8.2	39.2	\$42,861	\$10,579	\$32,282	4.1	8.8	41.9	\$48,624	\$11,308	\$37,316	4.3	9.4	44.7	\$55,145	\$12,077	\$43,068	4.6
CFL - Hard-wired weighted Watts	205.9	1,261.5	\$608,348	\$345,534	\$262,814	1.8	197.3	1,208.5	\$631,902	\$332,432	\$299,470	1.9	199.9	1,224.7	\$691,929	\$336,809	\$355,120	2.1
CFL - Screw-in weighted Watts	629.7	3,857.6	\$851,657	\$455,553	\$396,105	1.9	528.0	3,234.5	\$1,324,843	\$616,986	\$707,856	2.1	601.3	3,683.8	\$1,752,147	\$668,904	\$1,083,243	2.6
T5HO Interior High Bay Fluorescent Fixture	3.6	14.3	\$15,847	\$4,453	\$11,394	3.6	3.8	15.3	\$18,044	\$4,767	\$13,277	3.8	4.1	16.4	\$20,594	\$5,112	\$15,482	4.0
T8 Interior High Bay Fluorescent Fixture	11.7	46.8	\$51,918	\$13,322	\$38,596	3.9	12.1	48.5	\$57,232	\$13,806	\$43,425	4.1	12.6	50.3	\$63,167	\$14,317	\$48,850	4.4
T5 w/Electronic Ballast	372.1	2,397.8	\$2,571,916	\$1,764,095	\$807,821	1.5	375.9	2,422.5	\$2,749,119	\$1,782,187	\$966,933	1.5	378.9	2,441.3	\$2,932,363	\$1,795,918	\$1,136,445	1.6
HPT8 fixture	59.2	381.6	\$409,290	\$198,458	\$210,832	2.1	61.4	395.6	\$448,947	\$205,725	\$243,222	2.2	63.7	410.6	\$493,150	\$213,438	\$279,712	2.3
Relamp/Reballast to HPT8	574.5	3,701.8	\$3,970,642	\$1,694,037	\$2,276,605	2.3	195.0	1,256.3	\$1,425,757	\$724,329	\$701,428	2.0	27.4	176.2	\$211,682	\$143,513	\$68,170	1.5
Low Wattage Lamps	270.5	878.8	\$487,896	\$423,571	\$64,325	1.2	277.4	901.5	\$536,601	\$434,441	\$102,160	1.2	284.6	924.8	\$590,514	\$445,497	\$145,017	1.3
Electronic Ballast - Dimming or Bi-Level	1.5	9.4	\$10,037	\$7,219	\$2,818	1.4	1.6	10.0	\$11,356	\$7,720	\$3,637	1.5	1.7	10.7	\$12,854	\$8,255	\$4,600	1.6
Photo-luminescent Exit Signs	40.9	263.2	\$282,341	\$219,068	\$63,273	1.3	40.1	258.4	\$293,292	\$215,082	\$78,210	1.4	39.2	252.3	\$303,095	\$209,993	\$93,102	1.4
Vending Machine Controllers	0.0	1,306.4	\$1,320,404	\$255,951	\$1,064,453	5.2	0.0	1,392.3	\$1,475,056	\$272,401	\$1,202,655	5.4	0.0	1,508.3	\$1,675,772	\$293,996	\$1,381,776	5.7
Cooler Covers	14.3	167.3	\$66,952	\$34,363	\$32,588	1.9	15.1	176.2	\$78,398	\$36,154	\$42,243	2.2	16.0	186.9	\$91,168	\$38,285	\$52,883	2.4
Discus and Scroll Compressors	1.8	15.2	\$14,363	\$3,551	\$10,811	4.0	1.9	16.4	\$16,447	\$3,833	\$12,614	4.3	2.1	18.1	\$19,154	\$4,200	\$14,954	4.6
Zero Energy Door	1.6	23.9	\$17,728	\$7,280	\$10,448	2.4	1.7	25.6	\$20,227	\$7,798	\$12,428	2.6	1.8	27.5	\$23,320	\$8,384	\$14,935	2.8
Anti-sweat Heater Controls	32.2	281.9	\$210,292	\$75,330	\$134,962	2.8	34.3	300.3	\$239,669	\$80,180	\$159,489	3.0	37.1	325.3	\$279,357	\$86,617	\$192,740	3.2
Evap Fan Controller for Med. Temp Walk-in	97.1	1,853.2	\$1,911,750	\$1,417,827	\$493,923	1.3	101.2	1,932.0	\$2,095,990	\$1,477,978	\$618,012	1.4	105.8	2,019.4	\$2,305,103	\$1,544,367	\$760,737	1.5
ECM motor for Refrigeration Evap Fan	133.0	1,165.2	\$1,230,711	\$382,421	\$848,291	3.2	138.7	1,214.9	\$1,354,496	\$398,636	\$955,861	3.4	145.0	1,270.0	\$1,495,186	\$416,411	\$1,078,775	3.6
Intelligent Defrost Control	193.3	136.4	\$115,032	\$96,131	\$18,901	1.2	200.3	141.4	\$141,438	\$99,582	\$41,856	1.4	208.0	146.8	\$172,608	\$103,374	\$69,234	1.7
Outside Air Economizer for Coolers	185.3	556.1	\$636,024	\$315,630	\$320,394	2.0	192.1	576.5	\$704,090	\$327,111	\$376,979	2.2	199.6	598.9	\$781,259	\$339,702	\$441,557	2.3
Energy Star Ice Machine	1.3	6.8	\$4,688	\$1,612	\$3,076	2.9	1.4	7.3	\$5,344	\$1,722	\$3,621	3.1	1.5	7.8	\$6,188	\$1,838	\$4,349	3.4
Energy Star Under Counter Com Dishwasher w/ Elec Hot Water	24.1	70.2	\$53,602	\$24,201	\$29,400	2.2	25.7	75.1	\$62,557	\$25,855	\$36,702	2.4	27.4	80.1	\$73,269	\$27,601	\$45,668	2.7
Energy Star Door TypeCom Dishwasher w/ Elec Hot Water	57.0	166.4	\$190,958	\$24,393	\$166,565	7.8	60.9	177.8	\$217,998	\$26,057	\$191,940	8.4	65.0	189.9	\$248,705	\$27,808	\$220,896	8.9
Energy Star Single Tank Conveyer Com Dishwasher w/ Elec Hot Water	48.9	142.8	\$207,489	\$16,791	\$190,698	12.4	52.3	152.6	\$235,037	\$17,935	\$217,101	13.1	55.8	162.9	\$266,262	\$19,138	\$247,124	13.9
Energy Star Com Reach-in Refrigerator or Freezer	2.2	18.9	\$12,989	\$4,895	\$8,094	2.7	2.4	20.2	\$14,679	\$5,229	\$9,449	2.8	2.5	21.6	\$16,861	\$5,582	\$11,279	3.0
Electric Pressureless Steamer	52.4	273.0	\$185,990	\$82,342	\$103,648	2.3	55.9	291.7	\$215,018	\$87,967	\$127,051	2.4	59.7	311.5	\$247,048	\$93,900	\$153,148	2.6
Combination Oven	101.8	531.8	\$362,216	\$112,469	\$249,747	3.2	108.8	568.1	\$418,742	\$120,147	\$298,595	3.5	116.2	606.6	\$481,113	\$128,237	\$352,876	3.8
EnergyStar Electric Griddle	30.3	158.0	\$135,361	\$60,809	\$74,552	2.2	32.4	168.8	\$155,199	\$64,965	\$90,234	2.4	34.6	180.2	\$177,724	\$69,350	\$108,374	2.6
Half-sized Insulated Hot Food Holding Cabinet	6.6	42.1	\$35,774	\$28,106	\$7,668	1.3	7.0	44.9	\$40,903	\$30,027	\$10,876	1.4	7.5	48.0	\$46,716	\$32,056	\$14,660	1.5
Full-sized Insulated Hot Food Holding Cabinet	18.1	118.8	\$100,911	\$35,798	\$65,114	2.8	19.3	126.9	\$115,347	\$38,243	\$77,105	3.0	20.6	135.5	\$131,706	\$40,822	\$90,884	3.2
Air Compressor Cycling Air Dryer	4.9	20.2	\$15,263	\$15,109	\$153	1.0	5.2	21.6	\$17,695	\$16,184	\$1,511	1.1	5.6	23.2	\$20,659	\$17,366	\$3,294	1.2
VSD Screw Compressors	101.7	422.9	\$319,476	\$131,150	\$188,327	2.4	108.8	452.7	\$370,152	\$140,374	\$229,778	2.6	116.6	485.0	\$431,387	\$150,323	\$281,064	2.9
Air-Entraining Air Nozzle	51.1	212.5	\$160,522	\$24,935	\$135,587	6.4	52.4	218.0	\$178,281	\$25,574	\$152,707	7.0	53.8	223.7	\$198,971	\$26,199	\$172,772	7.6
No Loss Drains	22.6	93.9	\$37,570	\$37,163	\$406	1.0	24.1	100.1	\$44,522	\$39,572	\$4,950	1.1	26.0	108.4	\$52,848	\$42,778	\$10,070	1.2
Air Receiver / Tank for Screw Compressor	297.5	1,237.7	\$935,026	\$358,055	\$576,972	2.6	305.2	1,269.8	\$1,038,208	\$367,250	\$670,958	2.8	313.1	1,302.6	\$1,158,614	\$376,529	\$782,085	3.1

Measure Name --savings at generator --2013 \$	For Plan Year 2013						For Plan Year 2014						For Plan Year 2015					
	A	B	C	D	E = C - D	F = C / D	A	B	C	D	E = C - D	F = C / D	A	B	C	D	E = C - D	F = C / D
	Peak Demand Savings (kW)	First Year Energy Savings (MWh)	Total Avoided Cost Benefits (\$)	TRC Costs (\$)	Total Net Resource Benefits (\$)	TRC (Ratio)	Peak Demand Savings (kW)	First Year Energy Savings (MWh)	Total Avoided Cost Benefits (\$)	TRC Costs (\$)	Total Net Resource Benefits (\$)	TRC (Ratio)	Peak Demand Savings (kW)	First Year Energy Savings (MWh)	Total Avoided Cost Benefits (\$)	TRC Costs (\$)	Total Net Resource Benefits (\$)	TRC (Ratio)
Split/Packaged Air Conditioner (65 - 135 kBtu/h)	0.2	7.4	\$9,197	\$9,023	\$174	1.0	1.1	53.1	\$69,007	\$16,153	\$52,854	4.3	0.7	31.4	\$42,840	\$10,287	\$32,553	4.2
Split/Packaged Heat Pump (<65 kBtu/h)	13.9	55.5	\$77,254	\$17,587	\$59,667	4.4	14.3	57.1	\$84,065	\$18,107	\$65,957	4.6	14.7	58.8	\$91,547	\$18,637	\$72,910	4.9
Split/Packaged Heat Pump (65 - 135 kBtu/h)	4.3	22.3	\$30,166	\$17,412	\$12,754	1.7	4.4	23.0	\$32,765	\$17,936	\$14,829	1.8	4.5	23.6	\$35,620	\$18,474	\$17,146	1.9
Water Source Heat Pump (<65 kBtu/h)	0.5	2.9	\$3,882	\$1,304	\$2,579	3.0	0.7	4.0	\$5,604	\$1,469	\$4,136	3.8	0.7	4.1	\$6,075	\$1,509	\$4,566	4.0
Ground Source Heat Pump (<65 kBtu/h)	0.2	0.7	\$969	\$542	\$427	1.8	0.2	0.8	\$1,095	\$580	\$515	1.9	0.2	0.8	\$1,240	\$621	\$619	2.0
Ductless Mini-Split Commercial <5.4 ton	4.2	13.4	\$15,189	\$3,930	\$11,259	3.9	4.5	14.3	\$17,340	\$4,205	\$13,135	4.1	4.8	15.3	\$19,821	\$4,503	\$15,318	4.4
PTHP units	0.4	1.7	\$2,303	\$1,033	\$1,270	2.2	0.4	1.8	\$2,600	\$1,105	\$1,495	2.4	0.4	1.9	\$2,942	\$1,183	\$1,759	2.5
HVAC Hotel O/S	3.4	28.1	\$21,004	\$6,867	\$14,137	3.1	3.6	30.0	\$23,943	\$7,305	\$16,638	3.3	3.9	32.4	\$27,911	\$7,886	\$20,025	3.5
Programmable Thermostats with Elec Heat	0.0	119.8	\$74,647	\$17,020	\$57,627	4.4	0.0	127.7	\$84,834	\$18,107	\$66,727	4.7	0.0	138.4	\$96,302	\$19,519	\$76,783	4.9
Dual Enthalpy Economizer Controls	2.7	124.9	\$92,338	\$37,033	\$55,305	2.5	2.8	133.7	\$104,775	\$39,601	\$65,174	2.6	3.1	145.5	\$121,682	\$42,997	\$78,685	2.8
Ventilation Fans with ECM Motors	163.0	296.5	\$430,641	\$145,067	\$285,574	3.0	173.9	316.4	\$492,078	\$154,752	\$337,326	3.2	188.6	343.0	\$571,778	\$167,531	\$404,247	3.4
Variable Speed Drives for Fans & Pumps	369.4	2,638.6	\$2,814,265	\$801,905	\$2,012,360	3.5	721.4	5,152.5	\$5,809,290	\$1,047,942	\$4,761,348	5.5	469.9	3,356.3	\$4,001,730	\$840,361	\$3,161,369	4.8
Program Total	5,226	30,308	\$24,954,353	\$12,381,239	\$12,573,115	2.0	5,511	31,201	\$28,381,040	\$11,811,495	\$16,569,545	2.4	4,948	28,275	\$26,799,554	\$11,171,501	\$15,628,053	2.4

Table 12: Commercial--Custom Retrofits-- Program Results by Measure

Measure Name --savings at generator --2013 \$	For Plan Year 2013						For Plan Year 2014						For Plan Year 2015					
	A	B	C	D	E = C - D	F = C / D	A	B	C	D	E = C - D	F = C / D	A	B	C	D	E = C - D	F = C / D
	Peak Demand Savings (kW)	First Year Energy Savings (MWh)	Total Avoided Cost Benefits (\$)	TRC Costs (\$)	Total Net Resource Benefits (\$)	TRC (Ratio)	Peak Demand Savings (kW)	First Year Energy Savings (MWh)	Total Avoided Cost Benefits (\$)	TRC Costs (\$)	Total Net Resource Benefits (\$)	TRC (Ratio)	Peak Demand Savings (kW)	First Year Energy Savings (MWh)	Total Avoided Cost Benefits (\$)	TRC Costs (\$)	Total Net Resource Benefits (\$)	TRC (Ratio)
LED Refrigerated Case Lighting	0.0	0.0	\$0	\$0	\$0	0.0	0.1	0.5	\$638	\$653	(\$15)	1.0	0.1	0.6	\$757	\$730	\$27	1.0
LED Street Lights	0.0	0.0	\$0	\$0	\$0	0.0	0.0	0.0	\$0	\$0	\$0	0.0	0.6	2.4	\$2,158	\$2,938	(\$780)	0.7
LED Pole Mounted Parking Lights	42.2	200.6	\$151,090	\$157,259	(\$6,169)	1.0	42.8	203.5	\$165,457	\$159,555	\$5,902	1.0	43.2	205.5	\$181,295	\$161,115	\$20,180	1.1
LED Outdoor Wall Packs	2.6	12.2	\$9,158	\$8,652	\$507	1.1	2.6	12.6	\$10,204	\$8,931	\$1,273	1.1	2.7	12.9	\$11,392	\$9,188	\$2,203	1.2
LED Canopy or Parking Garage	5.1	38.1	\$18,380	\$11,598	\$6,782	1.6	5.3	39.6	\$20,715	\$12,055	\$8,660	1.7	5.5	41.1	\$23,200	\$12,494	\$10,706	1.9
LED Bollard Fixtures	0.3	1.2	\$1,334	\$876	\$459	1.5	0.3	1.3	\$1,457	\$901	\$556	1.6	0.3	1.3	\$1,586	\$924	\$662	1.7
LED Traffic	0.2	2.1	\$1,604	\$884	\$719	1.8	0.3	2.3	\$1,831	\$944	\$887	1.9	0.3	2.4	\$2,097	\$1,005	\$1,093	2.1
LED 1x4 Troffers	4.6	29.4	\$21,988	\$28,099	(\$6,111)	0.8	4.7	30.3	\$24,358	\$28,988	(\$4,631)	0.8	4.8	31.1	\$27,050	\$29,808	(\$2,758)	0.9
LED 2x2 Troffers	3.4	21.6	\$16,186	\$20,685	(\$4,499)	0.8	3.5	22.3	\$17,899	\$21,302	(\$3,403)	0.8	3.5	22.8	\$19,841	\$21,865	(\$2,023)	0.9
LED 2x4 Troffers	5.0	32.0	\$23,987	\$30,654	(\$6,667)	0.8	5.1	33.0	\$26,572	\$31,624	(\$5,052)	0.8	5.3	34.0	\$29,509	\$32,518	(\$3,009)	0.9
Occupancy Sensor Switch or Fixture Mounted	43.4	150.1	\$113,930	\$41,245	\$72,685	2.8	75.3	260.3	\$214,827	\$55,900	\$158,927	3.8	58.8	203.4	\$183,295	\$46,402	\$136,894	4.0
Occupancy Sensor Ceiling or Remote	72.8	251.7	\$191,076	\$84,796	\$106,280	2.3	222.2	768.4	\$634,092	\$126,086	\$508,005	5.0	57.8	199.7	\$179,988	\$67,268	\$112,720	2.7
Auto Shut off Timers	20.6	71.1	\$53,973	\$11,154	\$42,820	4.8	20.2	69.8	\$57,619	\$10,953	\$46,667	5.3	19.7	68.1	\$61,398	\$10,685	\$50,713	5.7
Occupancy Sensor Controlled Power Bars	0.0	72.4	\$45,087	\$35,803	\$9,284	1.3	0.0	71.7	\$47,615	\$35,465	\$12,150	1.3	0.0	70.6	\$49,116	\$34,916	\$14,200	1.4
Daylight Harvesting	368.0	1,272.7	\$966,053	\$428,717	\$537,336	2.3	724.5	2,505.1	\$2,067,269	\$562,358	\$1,504,911	3.7	486.9	1,683.8	\$1,517,621	\$477,174	\$1,040,447	3.2
T5HO Interior High Bay Fluorescent Fixture	9.5	38.1	\$42,290	\$11,862	\$30,428	3.6	9.8	39.4	\$46,506	\$12,266	\$34,240	3.8	10.1	40.6	\$50,979	\$12,640	\$38,340	4.0
T8 Interior High Bay Fluorescent Fixture	9.3	37.1	\$41,203	\$10,551	\$30,652	3.9	9.6	38.4	\$45,311	\$10,910	\$34,401	4.2	9.9	39.5	\$49,669	\$11,243	\$38,426	4.4
T5 w/Electronic Ballast	80.4	517.9	\$555,500	\$380,914	\$174,586	1.5	81.3	523.7	\$594,330	\$385,191	\$209,139	1.5	81.9	527.5	\$633,628	\$387,992	\$245,636	1.6
HPT8 fixture	12.8	82.2	\$88,179	\$42,708	\$45,471	2.1	13.2	85.1	\$96,566	\$44,205	\$52,361	2.2	13.6	87.8	\$105,440	\$45,602	\$59,839	2.3
Delamping w/Reflectors (2 lamp)	478.5	3,083.3	\$3,307,181	\$1,735,867	\$1,571,314	1.9	489.7	3,155.6	\$3,581,115	\$1,776,551	\$1,804,564	2.0	499.0	3,215.6	\$3,862,424	\$1,810,281	\$2,052,143	2.1
Relamp/Reballast to HPT8	124.1	799.6	\$857,696	\$365,458	\$492,238	2.3	41.7	268.7	\$304,981	\$154,797	\$150,184	2.0	5.7	37.0	\$44,472	\$30,136	\$14,336	1.5
Low Wattage Lamps	53.0	172.2	\$95,616	\$82,909	\$12,707	1.2	54.3	176.5	\$105,054	\$84,959	\$20,094	1.2	55.4	180.1	\$114,997	\$86,687	\$28,310	1.3
Electronic Ballast - Dimming or Bi-Level	0.3	2.1	\$2,287	\$1,644	\$643	1.4	0.4	2.3	\$2,584	\$1,756	\$828	1.5	0.4	2.4	\$2,912	\$1,869	\$1,043	1.6
Cooler Covers	11.3	132.5	\$53,017	\$27,036	\$25,980	2.0	11.9	138.7	\$61,718	\$28,297	\$33,420	2.2	12.4	144.9	\$70,651	\$29,547	\$41,104	2.4
Floating Head Pressure Controls	0.1	295.0	\$217,573	\$92,390	\$125,183	2.4	0.1	311.3	\$242,898	\$97,486	\$145,412	2.5	0.1	328.2	\$272,723	\$102,751	\$169,972	2.7
Anti-sweat Heater Controls	25.4	222.6	\$166,059	\$58,965	\$107,094	2.8	26.8	234.7	\$187,283	\$62,163	\$125,120	3.0	28.2	247.3	\$212,337	\$65,474	\$146,863	3.2
Evap Fan Controller for Med. Temp Walk-in	76.2	1,454.4	\$1,500,328	\$1,111,530	\$388,798	1.3	78.7	1,502.6	\$1,630,116	\$1,148,376	\$481,740	1.4	81.0	1,546.7	\$1,765,471	\$1,182,017	\$583,454	1.5
Outside Air Economizer for Coolers	145.2	435.6	\$498,124	\$246,846	\$251,278	2.0	148.9	446.9	\$545,860	\$253,274	\$292,586	2.2	152.2	456.7	\$595,792	\$258,820	\$336,972	2.3
Convection Oven	13.9	72.8	\$65,258	\$31,122	\$34,136	2.1	14.9	77.6	\$74,636	\$33,212	\$41,424	2.2	15.8	82.6	\$84,918	\$35,347	\$49,571	2.4
Com Kitchen Spray Nozzles w/ Elec Hot Water	237.7	1,041.3	\$416,614	\$110,378	\$306,236	3.8	228.2	999.7	\$444,841	\$105,969	\$338,872	4.2	219.0	959.1	\$467,773	\$101,656	\$366,118	4.6
CAS Leak reduction	208.8	1,303.2	\$287,711	\$304,907	(\$17,196)	0.9	210.0	1,310.5	\$499,302	\$457,978	\$41,324	1.1	212.1	1,323.8	\$611,464	\$460,220	\$151,243	1.3
Air Compressor Cycling Air Dryer	3.9	16.0	\$12,107	\$11,976	\$131	1.0	4.1	17.1	\$13,999	\$12,795	\$1,205	1.1	4.4	18.2	\$16,227	\$13,633	\$2,594	1.2
VSD Screw Compressors	80.7	335.6	\$253,516	\$103,917	\$149,599	2.4	86.2	358.5	\$293,109	\$111,007	\$182,102	2.6	91.8	381.9	\$339,663	\$118,245	\$221,418	2.9
Air Receiver / Tank for Screw Compressor	232.3	966.6	\$730,197	\$279,050	\$451,147	2.6	235.8	980.8	\$801,894	\$283,136	\$518,758	2.8	238.1	990.4	\$880,874	\$285,889	\$594,985	3.1
Compressed Air Controls	1,471.9	9,184.5	\$6,883,637	\$1,850,343	\$5,033,294	3.7	1,413.8	8,822.1	\$7,103,258	\$1,777,294	\$5,325,964	4.0	1,754.4	10,947.7	\$9,523,743	\$2,205,453	\$7,318,290	4.3
Water Source Heat Pump (<65 kBtu/h)	0.4	2.3	\$3,038	\$1,019	\$2,019	3.0	0.4	2.3	\$3,266	\$1,040	\$2,226	3.1	0.4	2.4	\$3,500	\$1,057	\$2,443	3.3
Ground Source Heat Pump (<65 kBtu/h)	0.1	0.6	\$769	\$430	\$339	1.8	0.1	0.6	\$867	\$459	\$408	1.9	0.1	0.6	\$976	\$489	\$487	2.0
Commercial Solar Air Heating	0.0	1.5	\$1,889	\$3,150	(\$1,261)	0.6	0.0	1.6	\$2,108	\$3,362	(\$1,254)	0.6	0.0	1.7	\$2,350	\$3,580	(\$1,231)	0.7
Commercial Solar Water Heating	0.0	11.5	\$14,087	\$17,531	(\$3,445)	0.8	0.0	12.2	\$15,726	\$18,719	(\$2,993)	0.8	0.0	13.0	\$17,530	\$19,936	(\$2,407)	0.9
Commercial Heat Pump Water Heater	0.0	4.4	\$3,270	\$1,714	\$1,556	1.9	0.0	4.7	\$3,698	\$1,830	\$1,868	2.0	0.1	5.0	\$4,198	\$1,949	\$2,249	2.2
Hot Water Circulation Pump Time Clock	13.5	124.3	\$130,987	\$52,479	\$78,508	2.5	14.4	132.8	\$147,712	\$56,083	\$91,629	2.6	15.3	141.8	\$166,461	\$59,862	\$106,599	2.8
Retrocommissioning	154.9	1,858.4	\$1,382,216	\$2,119,130	(\$736,914)	0.7	161.5	1,937.2	\$1,536,638	\$2,208,936	(\$672,298)	0.7	168.0	2,015.0	\$1,715,168	\$2,297,464	(\$582,296)	0.7
EMS System	509.6	2,587.9	\$2,818,845	\$1,856,963	\$961,882	1.5	511.2	2,596.3	\$2,999,077	\$1,863,023	\$1,136,054	1.6	510.1	2,590.5	\$3,174,297	\$1,858,830	\$1,315,466	1.7
Thermodynamic Saturation Controls	3.7	173.7	\$128,968	\$131,858	(\$2,890)	1.0	3.9	182.8	\$143,849	\$138,738	\$5,111	1.0	4.1	192.1	\$161,317	\$145,811	\$15,506	1.1
Variable Speed Drives	293.5	2,096.3	\$2,235,811	\$636,374	\$1,599,437	3.5	572.5	4,089.1	\$4,610,341	\$830,417	\$3,779,924	5.6	373.4	2,667.4	\$3,180,367	\$665,517	\$2,514,851	4.8
Computer Power Management Module	442.9	570.6	\$493,187	\$127,386	\$365,800	3.9	485.9	626.0	\$633,759	\$136,299	\$497,460	4.6	477.1	614.7	\$692,750	\$133,997	\$558,754	5.2
Core Performance Office	0.7	16.4	\$16,878	\$11,647	\$5,231	1.4	2.5	59.1	\$63,802	\$14,621	\$49,181	4.4	1.9	44.4	\$50,433	\$9,926	\$40,507	5.1
Core Performance Retail	1.2	23.5	\$24,289	\$15,853	\$8,437	1.5	1.3	25.1	\$27,261	\$16,919	\$10,342	1.6	0.7	12.8	\$14,566	\$10,198	\$4,369	1.4
Core Perf School	7.1	53.2	\$56,593	\$56,998	(\$405)	1.0	7.2	54.4	\$61,109	\$58,096	\$3,013	1.1	3.5	26.6	\$31,633	\$34,012	(\$2,379)	0.9
Core Perf Mediacal Office	0.8	19.7	\$20,282	\$13,993	\$6,289	1.4	0.9	21.1	\$22,750	\$14,934	\$7,816	1.5	0.5	10.7	\$12,137	\$9,005	\$3,133	1.3
Core Performance Warehouse	0.8	12.6	\$13,047	\$8,922	\$4,126	1.5	0.8	13.5	\$14,660	\$9,527	\$5,133	1.5	0.4	6.8	\$7,852	\$5,761	\$2,091	1.4
Whole Building - 20% Eff over baseline	3.1	73.6	\$75,602	\$56,303	\$19,299	1.3	3.2	75.7	\$81,728	\$57,915	\$23,813	1.4	1.6	37.0	\$41,972	\$33,684	\$8,288	1.2
Whole Building - 40% Eff over baseline	6.2	146.3	\$150,320	\$111,948	\$38,372	1.3	6.4	150.0	\$162,017	\$114,812	\$47,204	1.4	3.2	75.8	\$86,087	\$69,085	\$17,002	1.2
Custom	2,102.3	10,163.1	\$11,110,544	\$4,501,814	\$6,608,730	2.5	1,407.3	6,803.2	\$7,891,473	\$3,013,491	\$4,877,982	2.6	1,280.3	6,189.3	\$7,619,851	\$3,207,321	\$4,412,529	2.4
Program Total	7,384	40,288	\$36,368,565	\$17,446,309	\$18,922,256	2.1	7,446	40,299	\$38,387,753	\$16,456,557	\$21,931,196	2.3	7,016	38,786	\$38,979,907	\$16,722,015	\$22,257,892	2.3

Table 13: Commercial--Small Business Direct Install-- Program Results by Measure

Measure Name --savings at generator --2013 \$	For Plan Year 2013						For Plan Year 2014						For Plan Year 2015					
	A	B	C	D	E = C - D	F = C / D	A	B	C	D	E = C - D	F = C / D	A	B	C	D	E = C - D	F = C / D
	Peak Demand Savings (kW)	First Year Energy Savings (MWh)	Total Avoided Cost Benefits (\$)	TRC Costs (\$)	Total Net Resource Benefits (\$)	TRC (Ratio)	Peak Demand Savings (kW)	First Year Energy Savings (MWh)	Total Avoided Cost Benefits (\$)	TRC Costs (\$)	Total Net Resource Benefits (\$)	TRC (Ratio)	Peak Demand Savings (kW)	First Year Energy Savings (MWh)	Total Avoided Cost Benefits (\$)	TRC Costs (\$)	Total Net Resource Benefits (\$)	TRC (Ratio)
LED lamps - Hard-wired weighted Watts	21.3	130.7	\$98,011	\$95,713	\$2,298	1.0	19.2	117.7	\$94,804	\$73,769	\$21,036	1.3	7.9	48.2	\$41,992	\$35,307	\$6,685	1.2
LED lamps - Screw-in weighted Watts	35.9	220.2	\$165,072	\$161,201	\$3,871	1.0	5.9	36.1	\$29,059	\$29,511	(\$452)	1.0	3.8	23.2	\$20,242	\$21,900	(\$1,658)	0.9
LED Track Lighting	1.1	7.0	\$5,239	\$10,198	(\$4,959)	0.5	1.2	7.5	\$6,009	\$10,885	(\$4,876)	0.6	1.3	7.9	\$6,918	\$11,595	(\$4,677)	0.6
LED Exit	5.7	65.1	\$48,468	\$25,012	\$23,456	1.9	6.1	69.5	\$55,190	\$26,693	\$28,496	2.1	6.5	74.0	\$63,076	\$28,416	\$34,660	2.2
Occupancy Sensor Switch or Fixture Mounted	47.0	162.6	\$123,404	\$56,886	\$66,517	2.2	28.7	99.3	\$81,969	\$34,756	\$47,212	2.4	17.5	60.5	\$54,521	\$21,164	\$33,357	2.6
Occupancy Sensor Ceiling or Remote	78.9	272.7	\$206,966	\$112,329	\$94,637	1.8	195.6	676.5	\$558,283	\$148,121	\$410,163	3.8	21.3	73.6	\$66,294	\$30,298	\$35,995	2.2
Auto Shut off Timers	7.6	26.2	\$19,914	\$6,085	\$13,829	3.3	8.1	28.0	\$23,105	\$6,494	\$16,611	3.6	8.6	29.8	\$26,866	\$6,913	\$19,953	3.9
Occupancy Sensor Controlled Power Bars	0.0	91.6	\$57,082	\$52,212	\$4,870	1.1	0.0	56.0	\$37,183	\$31,901	\$5,282	1.2	0.0	34.1	\$23,725	\$19,426	\$4,299	1.2
CFL - Hard-wired weighted Watts	39.3	240.7	\$116,079	\$83,960	\$32,119	1.4	41.9	257.0	\$134,356	\$89,619	\$44,736	1.5	44.7	273.7	\$154,644	\$95,450	\$59,194	1.6
CFL - Screw-in weighted Watts	159.8	979.1	\$216,167	\$188,962	\$27,205	1.1	105.1	644.0	\$439,446	\$332,455	\$106,991	1.3	84.1	515.5	\$382,347	\$237,315	\$145,032	1.6
T5 w/Electronic Ballast	72.2	465.0	\$498,742	\$376,925	\$121,817	1.3	77.0	496.3	\$563,218	\$402,305	\$160,913	1.4	82.0	528.5	\$634,824	\$428,406	\$206,418	1.5
HPT8 fixture	11.0	70.6	\$75,694	\$41,979	\$33,715	1.8	11.7	75.4	\$85,543	\$44,837	\$40,707	1.9	12.5	80.4	\$96,613	\$47,835	\$48,778	2.0
Delamping w/Reflectors (2 lamp)	637.5	4,107.7	\$4,406,027	\$2,622,148	\$1,783,879	1.7	487.4	3,140.6	\$3,564,044	\$2,004,624	\$1,559,420	1.8	480.3	3,094.7	\$3,717,111	\$1,974,991	\$1,742,120	1.9
Relamp/Reballast to HPT8	231.6	1,492.3	\$1,600,677	\$794,483	\$806,194	2.0	60.1	387.2	\$439,462	\$252,221	\$187,241	1.7	7.4	47.9	\$57,480	\$42,551	\$14,929	1.4
Low Wattage Lamps	106.4	345.6	\$191,856	\$192,399	(\$542)	1.0	85.9	279.2	\$166,197	\$155,437	\$10,760	1.1	68.6	222.9	\$142,351	\$124,078	\$18,272	1.1
Electronic Ballast - Dimming or Bi-Level	0.9	5.7	\$6,150	\$4,852	\$1,297	1.3	0.9	6.1	\$6,947	\$5,181	\$1,766	1.3	1.0	6.5	\$7,836	\$5,521	\$2,315	1.4
Photo-luminescent Exit Signs	28.5	183.5	\$196,869	\$166,505	\$30,364	1.2	16.2	104.2	\$118,283	\$94,553	\$23,730	1.3	9.3	59.7	\$71,719	\$54,165	\$17,554	1.3
ECM motor for Refrigeration Evap Fan	120.0	1,051.5	\$1,110,595	\$423,615	\$686,980	2.6	102.5	898.3	\$1,001,499	\$361,856	\$639,642	2.8	86.8	760.0	\$894,730	\$306,025	\$588,705	2.9
Com Kitchen Spray Nozzles w/ Elec Hot Water	345.4	1,512.8	\$605,262	\$274,048	\$331,214	2.2	224.1	981.6	\$436,798	\$177,812	\$258,986	2.5	144.1	631.2	\$307,863	\$114,311	\$193,552	2.7
Program Total	1,950	11,431	\$9,748,273	\$5,689,512	\$4,058,762	1.7	1,478	8,360	\$7,841,394	\$4,283,029	\$3,558,365	1.8	1,088	6,572	\$6,771,151	\$3,605,667	\$3,165,484	1.9

Table 14.1: Commercial--Office Prescriptive Program--Measure Characterizations - First Year 2013

Measure Name --savings at generator --2013 \$	Measure Life (Years)	Peak Demand Savings per Unit (Watts)	Annual Energy Savings per Unit (kWh)	One-Time Incremental Measure Cost (\$)	Present Value of Avoided Cost Benefits (\$)	Program Admin. Cost (\$)	Total Resource Benefit-Cost (Ratio)	Program \$/first year annual kWh Savings
LED lamps - Hard-wired weighted Watts	10	12	73	\$40.8	\$49.9	\$7.5	1.2	\$0.45
LED lamps - Screw-in weighted Watts	10	12	73	\$40.8	\$49.9	\$7.5	1.2	\$0.45
LED Track Lighting	10	16	95	\$122.4	\$65.0	\$9.7	0.6	\$0.58
LED Pole Mounted Parking Lights	10	220	1044	\$714.1	\$711.7	\$106.5	1.0	\$0.35
LED Outdoor Wall Packs	10	53	250	\$153.0	\$170.6	\$25.5	1.1	\$0.51
LED Canopy or Parking Garage	6	100	749	\$153.0	\$301.6	\$76.4	1.6	\$0.24
LED Bollard Fixtures	15	35	165	\$102.0	\$162.8	\$16.8	1.5	\$0.57
LED Exit	10	11	122	\$25.5	\$83.2	\$12.5	2.4	\$0.19
Occupancy Sensor Switch or Fixture Mounted	10	93	321	\$56.1	\$218.8	\$32.7	2.8	\$0.20
Occupancy Sensor Ceiling or Remote	10	156	538	\$127.5	\$367.0	\$54.9	2.3	\$0.22
Auto Shut off Timers	10	156	538	\$30.6	\$367.0	\$54.9	4.8	\$0.14
Occupancy Sensor Controlled Power Bars	8	0	181	\$71.4	\$101.0	\$18.5	1.3	\$0.16
Current-regulating Advanced Power Bars	10	0	25	\$15.3	\$17.2	\$3.0	1.1	\$0.40
39W Ceramic MH track & recessed fixture- indoor	15	67	409	\$158.1	\$399.3	\$41.8	2.2	\$0.18
100W Ceramic MH track & recessed fixture-indoor	15	102	624	\$147.9	\$608.4	\$63.6	3.2	\$0.15
CFL - Hard-wired weighted Watts	6	34	206	\$35.7	\$82.8	\$21.0	1.8	\$0.20
CFL - Screw-in weighted Watts	3	34	206	\$3.7	\$39.7	\$21.0	1.9	\$0.11
T5 w/Electronic Ballast	15	14	91	\$58.0	\$88.8	\$9.3	1.5	\$0.38
HPT8 fixture	15	9	61	\$25.5	\$59.2	\$6.2	2.1	\$0.35
Relamp/Reballast to HPT8	15	22	144	\$51.5	\$140.5	\$14.7	2.4	\$0.21
Low Wattage Lamps	7	4	13	\$5.1	\$6.5	\$1.4	1.2	\$0.18
Electronic Ballast - Dimming or Bi-Level	15	4	27	\$18.4	\$26.6	\$2.8	1.4	\$0.47
Photo-luminescent Exit Signs	15	6	42	\$30.6	\$40.7	\$4.3	1.3	\$0.47
Vending Machine Controllers	15	0	1751	\$163.2	\$1,637.7	\$178.6	5.2	\$0.13
Split/Packaged Air Conditioner (65 - 135 kBtu/h)	20	2	114	\$127.4	\$131.0	\$11.6	1.0	\$1.00
Split/Packaged Air Conditioner (135 - 240 kBtu/h)	20	4	177	\$127.4	\$203.4	\$18.1	1.5	\$0.68
Split/Packaged Air Conditioner (240 - 760 kBtu/h)	20	2	103	\$127.4	\$118.5	\$10.5	0.9	\$1.09
Split/Packaged Heat Pump (<65 kBtu/h)	20	212	849	\$183.8	\$1,071.7	\$86.6	4.4	\$0.22
Split/Packaged Heat Pump (65 - 135 kBtu/h)	20	43	225	\$153.0	\$277.1	\$22.9	1.7	\$0.67
Split/Packaged Heat Pump (135 - 240 kBtu/h)	20	26	238	\$178.5	\$283.5	\$24.2	1.5	\$0.75
Split/Packaged Heat Pump (240 - 760 kBtu/h)	20	26	224	\$178.5	\$267.7	\$22.8	1.5	\$0.79
Water Source Heat Pump (<65 kBtu/h)	20	48	293	\$102.0	\$357.4	\$29.9	3.0	\$0.38
Ground Source Heat Pump (<65 kBtu/h)	20	64	273	\$183.6	\$342.4	\$27.9	1.8	\$0.66
Ductless Mini-Split Commercial <5.4 ton	15	206	660	\$127.5	\$667.7	\$78.0	3.9	\$0.27
Programmable Thermostats with Elec Heat	8	0	908	\$35.7	\$507.1	\$107.3	4.4	\$0.13
Dual Enthalpy Economizer Controls	10	67	3159	\$612.1	\$2,153.6	\$322.3	2.5	\$0.18
Ventilation Fans with ECM Motors	18	290	528	\$204.0	\$676.2	\$53.8	3.0	\$0.30
Variable Speed Drives for Fans & Pumps	15	175	1253	\$255.0	\$1,214.7	\$127.8	3.5	\$0.22

Table 14.2: Commercial--Office Small Business Program--Measure Characterizations

Measure Name --savings at generator --2013 \$	Measure Life (Years)	Peak Demand Savings per Unit (Watts)	Annual Energy Savings per Unit (kWh)	One-Time Incremental Measure Cost (\$)	Present Value of Avoided Cost Benefits (\$)	Program Admin. Cost (\$)	Total Resource Benefit- Cost (Ratio)	Program \$/first year annual kWh Savings
LED lamps - Hard-wired weighted Watts	10	12	73	\$40.8	\$49.9	\$13.1	1.0	\$0.57
LED lamps - Screw-in weighted Watts	10	12	73	\$40.8	\$49.9	\$13.1	1.0	\$0.57
LED Track Lighting	10	16	95	\$122.4	\$65.0	\$17.0	0.5	\$1.08
LED Exit	10	11	122	\$25.5	\$83.2	\$21.8	1.9	\$0.32
Occupancy Sensor Switch or Fixture Mounted	10	93	321	\$56.1	\$218.8	\$57.3	2.2	\$0.30
Occupancy Sensor Ceiling or Remote	10	156	538	\$127.5	\$367.0	\$96.1	1.9	\$0.34
Auto Shut off Timers	10	156	538	\$30.6	\$367.0	\$96.1	3.3	\$0.22
Occupancy Sensor Controlled Power Bars	8	0	181	\$71.4	\$101.0	\$32.3	1.1	\$0.45
CFL - Hard-wired weighted Watts	6	34	206	\$35.7	\$82.8	\$36.7	1.4	\$0.30
CFL - Screw-in weighted Watts	3	34	206	\$3.7	\$39.7	\$36.7	1.2	\$0.19
T5 w/Electronic Ballast	15	14	91	\$58.0	\$88.8	\$16.3	1.3	\$0.62
HPT8 fixture	15	9	61	\$25.5	\$59.2	\$10.9	1.8	\$0.47
Delamping w/Reflectors (2 lamp)	15	17	110	\$51.0	\$107.2	\$19.7	1.7	\$0.50
Relamp/Reballast to HPT8	15	22	144	\$51.5	\$140.5	\$25.8	2.0	\$0.43
Low Wattage Lamps	7	4	13	\$5.1	\$6.5	\$2.4	1.0	\$0.45
Electronic Ballast - Dimming or Bi-Level	15	4	27	\$18.4	\$26.6	\$4.9	1.3	\$0.65
Photo-luminescent Exit Signs	15	6	42	\$30.6	\$40.7	\$7.5	1.2	\$0.69

Table 14.3: Commercial--Office Custom Retrofit Program--Measure Characterizations

Measure Name --savings at generator --2013 \$	Measure Life (Years)	Peak Demand Savings per Unit (Watts)	Annual Energy Savings per Unit (kWh)	One-Time Incremental Measure Cost (\$)	Present Value of Avoided Cost Benefits (\$)	Program Admin. Cost (\$)	Total Resource Benefit- Cost (Ratio)	Program \$/first year annual kWh Savings
LED Pole Mounted Parking Lights	10	220	1044	\$714.1	\$711.7	\$106.5	0.97	\$0.24
LED Outdoor Wall Packs	10	53	250	\$153.0	\$170.6	\$25.5	1.06	\$0.24
LED Canopy or Parking Garage	6	100	749	\$153.0	\$301.6	\$76.4	1.59	\$0.24
LED Bollard Fixtures	15	35	165	\$102.0	\$162.8	\$16.8	1.53	\$0.24
LED 2x2 Troffers	10	10	65	\$55.4	\$44.0	\$4.8	0.79	\$0.22
LED 2x4 Troffers	10	14	91	\$78.2	\$62.2	\$6.7	0.79	\$0.22
Occupancy Sensor Switch or Fixture Mounted	10	93	321	\$56.1	\$218.8	\$32.7	2.77	\$0.24
Occupancy Sensor Ceiling or Remote	10	156	538	\$127.5	\$367.0	\$54.9	2.26	\$0.24
Auto Shut off Timers	10	156	538	\$30.6	\$367.0	\$54.9	4.84	\$0.14
Occupancy Sensor Controlled Power Bars	8	0	181	\$71.4	\$101.0	\$18.5	1.26	\$0.24
Daylight Harvesting	10	156	538	\$127.5	\$367.0	\$54.9	2.26	\$0.24
T5 w/Electronic Ballast	15	14	91	\$58.0	\$88.8	\$9.3	1.46	\$0.24
HPT8 fixture	15	9	61	\$25.5	\$59.2	\$6.2	2.07	\$0.24
Delamping w/Reflectors (2 lamp)	15	17	110	\$51.0	\$107.2	\$11.2	1.91	\$0.24
Relamp/Reballast to HPT8	15	22	144	\$51.5	\$140.5	\$14.7	2.35	\$0.24
Low Wattage Lamps	7	4	13	\$5.1	\$6.5	\$1.4	1.16	\$0.24
Electronic Ballast - Dimming or Bi-Level	15	4	27	\$18.4	\$26.6	\$2.8	1.40	\$0.24
Water Source Heat Pump (<65 kBtu/h)	20	48	293	\$102.0	\$357.4	\$29.9	2.99	\$0.24
Ground Source Heat Pump (<65 kBtu/h)	20	64	273	\$183.6	\$342.4	\$27.9	1.79	\$0.24
Commercial Solar Water Heating	20	0	2256	\$3,222.5	\$2,569.2	\$166.3	0.81	\$0.22
Commercial Heat Pump Water Heater	10	4	436	\$125.0	\$296.9	\$32.1	1.91	\$0.22
Hot Water Circulation Pump Time Clock	15	107	989	\$318.6	\$951.5	\$100.9	2.50	\$0.24
EMS System	15	161	816	\$503.8	\$802.2	\$83.2	1.52	\$0.24
Thermodynamic Saturation Controls	18	27	1265	\$833.4	\$1,355.3	\$149.5	1.53	\$0.26
Variable Speed Drives	15	175	1253	\$255.0	\$1,214.7	\$127.8	3.52	\$0.24
Computer Power Management Module	15	161	207	\$25.5	\$232.7	\$15.3	5.92	\$0.18
Core Performance Office	15	158	3722	\$2,266.9	\$3,519.4	\$379.6	1.45	\$0.38
Core Perf Mediacal Office	15	192	4471	\$2,723.5	\$4,228.9	\$456.1	1.45	\$0.33
Whole Building - 20% Eff over baseline	15	110	2592	\$1,736.5	\$2,450.9	\$264.4	1.34	\$0.44
Whole Building - 40% Eff over baseline	15	220	5184	\$3,473.0	\$4,901.8	\$528.8	1.34	\$0.44
Custom	15	20601	99591	\$34,148.5	\$98,167.3	\$10,159.2	2.47	\$0.24

Table 15.1: Commercial--Retail Prescriptive Program--Measure Characterizations - First Year 2013

Measure Name --savings at generator --2013 \$	Measure Life (Years)	Peak Demand Savings per Unit (Watts)	Annual Energy Savings per Unit (kWh)	One-Time Incremental Measure Cost (\$)	Present Value of Avoided Cost Benefits (\$)	Program Admin. Cost (\$)	Total Resource Benefit- Cost (Ratio)	Program \$/first year annual kWh Savings
LED lamps - Hard-wired weighted Watts	10	12	73	\$40.8	\$49.9	\$7.5	1.15	\$0.45
LED lamps - Screw-in weighted Watts	10	12	73	\$40.8	\$49.9	\$7.5	1.15	\$0.45
LED Track Lighting	10	16	95	\$122.4	\$65.0	\$9.7	0.55	\$0.58
LED Pole Mounted Parking Lights	10	220	1044	\$714.1	\$711.7	\$106.5	0.97	\$0.34
LED Outdoor Wall Packs	10	53	250	\$153.0	\$170.6	\$25.5	1.06	\$0.51
LED Canopy or Parking Garage	6	100	749	\$153.0	\$301.6	\$76.4	1.59	\$0.24
LED Bollard Fixtures	15	35	165	\$102.0	\$162.8	\$16.8	1.53	\$0.56
LED Exit	10	11	122	\$25.5	\$83.2	\$12.5	2.41	\$0.18
Occupancy Sensor Switch or Fixture Mounted	10	93	321	\$56.1	\$218.8	\$32.7	2.77	\$0.20
Occupancy Sensor Ceiling or Remote	10	156	538	\$127.5	\$367.0	\$54.9	2.26	\$0.21
Auto Shut off Timers	10	156	538	\$30.6	\$367.0	\$54.9	4.84	\$0.14
Occupancy Sensor Controlled Power Bars	8	0	181	\$71.4	\$101.0	\$18.5	1.26	\$0.16
Current-regulating Advanced Power Bars	8	0	25	\$15.3	\$14.1	\$3.0	0.89	\$0.40
320W PS MH HID fixture- indoor	15	56	239	\$38.3	\$237.1	\$24.4	4.24	\$0.21
320W PS MH HID fixture- outdoor	15	68	322	\$38.3	\$317.4	\$32.8	5.00	\$0.18
200W PS MH HID fixture- indoor	15	39	167	\$38.3	\$165.9	\$17.1	3.36	\$0.25
200W PS MH HID fixture- outdoor	15	47	225	\$38.3	\$222.2	\$23.0	4.06	\$0.21
39W Ceramic MH track & recessed fixture- indoor	15	67	409	\$158.1	\$399.3	\$41.8	2.22	\$0.17
100W Ceramic MH track & recessed fixture-indoor	15	102	624	\$147.9	\$608.4	\$63.6	3.19	\$0.15
CFL - Hard-wired weighted Watts	6	34	206	\$35.7	\$82.8	\$21.0	1.77	\$0.20
CFL - Screw-in weighted Watts	3	34	206	\$3.7	\$39.7	\$21.0	1.87	\$0.11
T5HO Interior High Bay Fluorescent Fixture	15	176	705	\$148.9	\$702.0	\$71.9	3.56	\$0.19
T8 Interior High Bay Fluorescent Fixture	15	171	687	\$126.5	\$684.0	\$70.0	3.90	\$0.19
T5 w/Electronic Ballast	15	14	91	\$58.0	\$88.8	\$9.3	1.46	\$0.38
HPT8 fixture	15	9	61	\$25.5	\$59.2	\$6.2	2.07	\$0.35
Relamp/Reballast to HPT8	15	22	144	\$51.5	\$140.5	\$14.7	2.35	\$0.21
Low Wattage Lamps	7	4	13	\$5.1	\$6.5	\$1.4	1.16	\$0.18
Electronic Ballast - Dimming or Bi-Level	15	4	27	\$18.4	\$26.6	\$2.8	1.40	\$0.47
Photo-luminescent Exit Signs	15	6	42	\$30.6	\$40.7	\$4.3	1.29	\$0.47
Vending Machine Controllers	15	0	1751	\$163.2	\$1,637.7	\$178.6	5.16	\$0.13
Cooler Covers	5	13	147	\$15.3	\$48.5	\$15.0	1.95	\$0.16
Discus and Scroll Compressors	13	252	2142	\$280.5	\$1,817.5	\$218.5	4.05	\$0.17
Zero Energy Door	10	97	1450	\$295.8	\$988.5	\$147.9	2.44	\$0.18
Anti-sweat Heater Controls	10	106	930	\$153.0	\$633.9	\$94.9	2.80	\$0.19
Evap Fan Controller for Med. Temp Walk-in	15	181	3462	\$2,299.3	\$3,282.1	\$353.2	1.35	\$0.39
ECM motor for Refrigeration Evap Fan	15	126	1100	\$249.9	\$1,059.1	\$112.2	3.22	\$0.19
Intelligent Defrost Control	10	1197	845	\$510.0	\$575.9	\$86.2	1.20	\$0.28
Outside Air Economizer for Coolers	15	1952	5857	\$2,732.8	\$5,953.6	\$597.4	2.02	\$0.54
Energy Star Ice Machine	9	74	375	\$51.0	\$233.3	\$38.2	2.91	\$0.21
Energy Star Under Counter Com Dishwasher w/ Elec Hot Water	10	1094	3195	\$780.4	\$2,178.0	\$235.6	2.22	\$0.20
Energy Star Door Type Com Dishwasher w/ Elec Hot Water	15	3889	11356	\$525.3	\$11,569.5	\$837.2	7.83	\$0.11
Energy Star Single Tank Conveyer Com Dishwasher w/ Elec Hot Water	20	4449	12992	\$224.4	\$16,983.2	\$957.8	12.36	\$0.09
Energy Star Com Reach-in Refrigerator or Freezer	9	95	803	\$127.5	\$499.8	\$81.9	2.66	\$0.23
Electric Pressureless Steamer	5	1944	10136	\$2,040.2	\$3,336.2	\$747.2	1.33	\$0.15
Combination Oven	5	3781	19741	\$2,195.2	\$6,497.6	\$1,455.3	1.90	\$0.08
EnergyStar Electric Griddle	10	1437	7492	\$2,132.0	\$5,107.0	\$552.3	1.96	\$0.17
Half-sized Insulated Hot Food Holding Cabinet	10	311	1994	\$1,132.3	\$1,359.3	\$147.0	1.13	\$0.17
Full-sized Insulated Hot Food Holding Cabinet	10	857	5629	\$1,132.3	\$3,837.0	\$415.0	2.49	\$0.13
Air Compressor Cycling Air Dryer	10	301	1253	\$811.0	\$854.1	\$127.8	1.02	\$0.34
VSD Screw Compressors	10	5406	22491	\$4,713.8	\$15,330.5	\$2,294.3	2.44	\$0.25
Air-Entraining Air Nozzle	10	206	857	\$14.3	\$584.0	\$87.4	6.44	\$0.11
No Loss Drains	5	167	696	\$204.0	\$229.1	\$71.0	1.02	\$0.25
Air Receiver / Tank for Screw Compressor	10	2600	10817	\$2,040.2	\$7,373.2	\$1,103.4	2.62	\$0.19
Split/Packaged Air Conditioner (<65 kBtu/h)	20	1	56	\$106.2	\$64.9	\$5.8	0.63	\$1.91
Split/Packaged Air Conditioner (65 - 135 kBtu/h)	20	2	114	\$127.4	\$131.0	\$11.6	1.02	\$1.00
Split/Packaged Air Conditioner (135 - 240 kBtu/h)	20	4	177	\$127.4	\$203.4	\$18.1	1.52	\$0.68
Split/Packaged Air Conditioner (240 - 760 kBtu/h)	20	2	103	\$127.4	\$118.5	\$10.5	0.93	\$1.09
Split/Packaged Heat Pump (<65 kBtu/h)	20	212	849	\$183.8	\$1,071.7	\$86.6	4.40	\$0.22
Split/Packaged Heat Pump (65 - 135 kBtu/h)	20	43	225	\$153.0	\$277.1	\$22.9	1.74	\$0.67
Split/Packaged Heat Pump (135 - 240 kBtu/h)	20	26	238	\$178.5	\$283.5	\$24.2	1.53	\$0.74
Split/Packaged Heat Pump (240 - 760 kBtu/h)	20	26	224	\$178.5	\$267.7	\$22.8	1.46	\$0.78
Water Source Heat Pump (<65 kBtu/h)	20	48	293	\$102.0	\$357.4	\$29.9	2.98	\$0.38
Ground Source Heat Pump (<65 kBtu/h)	20	64	273	\$183.6	\$342.4	\$27.9	1.79	\$0.66
Ductless Mini-Split Commercial <5.4 ton	15	206	660	\$127.5	\$667.7	\$78.0	3.87	\$0.27
Programmable Thermostats with Elec Heat	8	0	908	\$35.7	\$507.1	\$107.3	4.39	\$0.13
Dual Enthalpy Economizer Controls	10	67	3159	\$612.1	\$2,153.6	\$322.3	2.50	\$0.18
Ventilation Fans with ECM Motors	18	290	528	\$204.0	\$676.2	\$53.8	2.97	\$0.29
Variable Speed Drives for Fans & Pumps	15	175	1253	\$255.0	\$1,214.7	\$127.8	3.51	\$0.21

Table 15.2: Commercial--Retail Small Business Program--Measure Characterizations

Measure Name --savings at generator --2013 \$	Measure Life (Years)	Peak Demand Savings per Unit (Watts)	Annual Energy Savings per Unit (kWh)	One-Time Incremental Measure Cost (\$)	Present Value of Avoided Cost Benefits (\$)	Program Admin. Cost (\$)	Total Resource Benefit- Cost (Ratio)	Program \$/first year annual kWh Savings
LED lamps - Hard-wired weighted Watts	10	12	73	\$40.8	\$49.9	\$13.1	1.0	\$0.56
LED lamps - Screw-in weighted Watts	10	12	73	\$40.8	\$49.9	\$13.1	1.0	\$0.56
LED Track Lighting	10	16	95	\$122.4	\$65.0	\$17.0	0.5	\$1.07
LED Exit	10	11	122	\$25.5	\$83.2	\$21.8	1.9	\$0.32
Occupancy Sensor Switch or Fixture Mounted	10	93	321	\$56.1	\$218.8	\$57.3	2.2	\$0.30
Occupancy Sensor Ceiling or Remote	10	156	538	\$127.5	\$367.0	\$96.1	1.9	\$0.34
Auto Shut off Timers	10	156	538	\$30.6	\$367.0	\$96.1	3.3	\$0.21
Occupancy Sensor Controlled Power Bars	8	0	181	\$71.4	\$101.0	\$32.3	1.1	\$0.45
CFL - Hard-wired weighted Watts	6	34	206	\$35.7	\$82.8	\$36.7	1.4	\$0.30
CFL - Screw-in weighted Watts	3	34	206	\$3.7	\$39.7	\$36.7	1.2	\$0.19
T5 w/Electronic Ballast	15	14	91	\$58.0	\$88.8	\$16.3	1.3	\$0.62
HPT8 fixture	15	9	61	\$25.5	\$59.2	\$10.9	1.8	\$0.47
Delamping w/Reflectors (2 lamp)	15	17	110	\$51.0	\$107.2	\$19.7	1.7	\$0.50
Relamp/Reballast to HPT8	15	22	144	\$51.5	\$140.5	\$25.8	2.0	\$0.42
Low Wattage Lamps	7	4	13	\$5.1	\$6.5	\$2.4	1.0	\$0.44
Electronic Ballast - Dimming or Bi-Level	15	4	27	\$18.4	\$26.6	\$4.9	1.3	\$0.64
Photo-luminescent Exit Signs	15	6	42	\$30.6	\$40.7	\$7.5	1.2	\$0.69
ECM motor for Refrigeration Evap Fan	15	126	1100	\$249.9	\$1,059.1	\$196.3	2.6	\$0.33
Com Kitchen Spray Nozzles w/ Elec Hot Water	5	2734	11976	\$71.4	\$3,941.9	\$2,137.9	2.2	\$0.18

Table 15.3: Commercial--Retail Custom Retrofit Program--Measure Characterizations

Measure Name --savings at generator --2013 \$	Measure Life (Years)	Peak Demand Savings per Unit (Watts)	Annual Energy Savings per Unit (kWh)	One-Time Incremental Measure Cost (\$)	Present Value of Avoided Cost Benefits (\$)	Program Admin. Cost (\$)	Total Resource Benefit- Cost (Ratio)	Program \$/first year annual kWh Savings
LED Pole Mounted Parking Lights	10	220	1044	\$714.1	\$711.7	\$106.5	1.0	\$0.24
LED Outdoor Wall Packs	10	53	250	\$153.0	\$170.6	\$25.5	1.1	\$0.24
LED Canopy or Parking Garage	6	100	749	\$153.0	\$301.6	\$76.4	1.6	\$0.24
LED Bollard Fixtures	15	35	165	\$102.0	\$162.8	\$16.8	1.5	\$0.24
LED High Bay	10	68	469	\$714.1	\$319.4	\$47.8	0.5	\$0.24
LED 2x2 Troffers	10	10	65	\$55.4	\$44.0	\$4.8	0.8	\$0.22
LED 2x4 Troffers	10	14	91	\$78.2	\$62.2	\$6.7	0.8	\$0.22
Occupancy Sensor Switch or Fixture Mounted	10	93	321	\$56.1	\$218.8	\$32.7	2.8	\$0.24
Occupancy Sensor Ceiling or Remote	10	156	538	\$127.5	\$367.0	\$54.9	2.3	\$0.24
Auto Shut off Timers	10	156	538	\$30.6	\$367.0	\$54.9	4.8	\$0.14
Occupancy Sensor Controlled Power Bars	8	0	181	\$71.4	\$101.0	\$18.5	1.3	\$0.24
Daylight Harvesting	10	156	538	\$127.5	\$367.0	\$54.9	2.3	\$0.24
T5HO Interior High Bay Fluorescent Fixture	15	176	705	\$148.9	\$702.0	\$71.9	3.6	\$0.24
T8 Interior High Bay Fluorescent Fixture	15	171	687	\$126.5	\$684.0	\$70.0	3.9	\$0.24
T5 w/Electronic Ballast	15	14	91	\$58.0	\$88.8	\$9.3	1.5	\$0.24
HPT8 fixture	15	9	61	\$25.5	\$59.2	\$6.2	2.1	\$0.24
Delamping w/Reflectors (2 lamp)	15	17	110	\$51.0	\$107.2	\$11.2	1.9	\$0.24
Relamp/Reballast to HPT8	15	22	144	\$51.5	\$140.5	\$14.7	2.4	\$0.24
Low Wattage Lamps	7	4	13	\$5.1	\$6.5	\$1.4	1.2	\$0.24
Electronic Ballast - Dimming or Bi-Level	15	4	27	\$18.4	\$26.6	\$2.8	1.4	\$0.24
Cooler Covers	5	13	147	\$15.3	\$48.5	\$15.0	2.0	\$0.19
Floating Head Pressure Controls	10	0	704	\$149.7	\$479.6	\$71.8	2.4	\$0.24
Anti-sweat Heater Controls	10	106	930	\$153.0	\$633.9	\$94.9	2.8	\$0.24
Evap Fan Controller for Med. Temp Walk-in	15	181	3462	\$2,299.3	\$3,282.1	\$353.2	1.4	\$0.24
Outside Air Economizer for Coolers	15	1952	5857	\$2,732.8	\$5,953.6	\$597.4	2.0	\$0.24
Convection Oven	12	664	3465	\$1,135.4	\$2,753.2	\$353.4	2.1	\$0.24
Com Kitchen Spray Nozzles w/ Elec Hot Water	5	2734	11976	\$71.4	\$3,941.9	\$1,221.7	3.8	\$0.11
Air Compressor Cycling Air Dryer	10	301	1253	\$811.0	\$854.1	\$127.8	1.0	\$0.24
VSD Screw Compressors	10	5406	22491	\$4,713.8	\$15,330.5	\$2,294.3	2.4	\$0.24
Air Receiver / Tank for Screw Compressor	10	2600	10817	\$2,040.2	\$7,373.2	\$1,103.4	2.6	\$0.24
Compressed Air Controls	10	8058	50283	\$5,100.5	\$34,274.4	\$5,129.3	3.7	\$0.19
Water Source Heat Pump (<65 kBtu/h)	20	48	293	\$102.0	\$357.4	\$29.9	3.0	\$0.24
Ground Source Heat Pump (<65 kBtu/h)	20	64	273	\$183.6	\$342.4	\$27.9	1.8	\$0.24
Commercial Solar Air Heating	20	0	1654	\$3,222.5	\$1,884.1	\$121.9	0.6	\$0.22
Commercial Solar Water Heating	20	0	2256	\$3,222.5	\$2,569.2	\$166.3	0.8	\$0.22
Commercial Heat Pump Water Heater	10	4	436	\$125.0	\$296.9	\$32.1	1.9	\$0.22
Hot Water Circulation Pump Time Clock	15	107	989	\$318.6	\$951.5	\$100.9	2.5	\$0.24
EMS System	15	161	816	\$503.8	\$802.2	\$83.2	1.5	\$0.24
Thermodynamic Saturation Controls	10	27	1265	\$833.4	\$862.6	\$129.1	1.0	\$0.24
Variable Speed Drives	15	175	1253	\$255.0	\$1,214.7	\$127.8	3.5	\$0.24
Computer Power Management Module	10	161	207	\$25.5	\$141.1	\$21.1	3.6	\$0.21
Core Performance Retail	15	237	4552	\$2,266.9	\$4,315.0	\$464.3	1.7	\$0.32
Core Performance Warehouse	15	115	1874	\$1,131.4	\$1,780.9	\$191.2	1.5	\$0.64
Whole Building - 20% Eff over baseline	15	110	2592	\$1,721.0	\$2,450.9	\$264.4	1.4	\$0.43
Whole Building - 40% Eff over baseline	15	220	5184	\$3,441.9	\$4,901.8	\$528.8	1.4	\$0.43
Custom	15	20601	99591	\$34,148.5	\$98,167.3	\$10,159.2	2.5	\$0.24

Table 16.1: Commercial--Education Prescriptive Program--Measure Characterizations - First Year 2013

Measure Name --savings at generator --2013 \$	Measure Life (Years)	Peak Demand Savings per Unit (Watts)	Annual Energy Savings per Unit (kWh)	One-Time Incremental Measure Cost (\$)	Present Value of Avoided Cost Benefits (\$)	Program Admin. Cost (\$)	Total Resource Benefit- Cost (Ratio)	Program \$/first year annual kWh Savings
LED lamps - Hard-wired weighted Watts	10	12	73	\$40.8	\$49.9	\$7.5	1.2	\$0.45
LED lamps - Screw-in weighted Watts	10	12	73	\$40.8	\$49.9	\$7.5	1.2	\$0.45
LED Pole Mounted Parking Lights	10	220	1044	\$714.1	\$711.7	\$106.5	1.0	\$0.34
LED Outdoor Wall Packs	10	53	250	\$153.0	\$170.6	\$25.5	1.1	\$0.51
LED Canopy or Parking Garage	6	100	749	\$153.0	\$301.6	\$76.4	1.6	\$0.24
LED Bollard Fixtures	15	35	165	\$102.0	\$162.8	\$16.8	1.5	\$0.56
LED Exit	10	11	122	\$25.5	\$83.2	\$12.5	2.4	\$0.18
Occupancy Sensor Switch or Fixture Mounted	10	93	321	\$56.1	\$218.8	\$32.7	2.8	\$0.20
Occupancy Sensor Ceiling or Remote	10	156	538	\$127.5	\$367.0	\$54.9	2.3	\$0.21
Auto Shut off Timers	10	156	538	\$30.6	\$367.0	\$54.9	4.8	\$0.14
Occupancy Sensor Controlled Power Bars	8	0	181	\$71.4	\$101.0	\$18.5	1.3	\$0.16
Current-regulating Advanced Power Bars	8	0	25	\$15.3	\$14.1	\$2.6	0.9	\$0.38
320W PS MH HID fixture- indoor	15	56	239	\$38.3	\$237.1	\$24.4	4.2	\$0.21
320W PS MH HID fixture- outdoor	15	68	322	\$38.3	\$317.4	\$32.8	5.0	\$0.18
200W PS MH HID fixture- indoor	15	39	167	\$38.3	\$165.9	\$17.1	3.4	\$0.25
200W PS MH HID fixture- outdoor	15	47	225	\$38.3	\$222.2	\$23.0	4.1	\$0.21
39W Ceramic MH track & recessed fixture- indoor	15	67	409	\$158.1	\$399.3	\$41.8	2.2	\$0.17
100W Ceramic MH track & recessed fixture-indoor	15	102	624	\$147.9	\$608.4	\$63.6	3.2	\$0.15
CFL - Hard-wired weighted Watts	6	34	206	\$35.7	\$82.8	\$21.0	1.8	\$0.20
CFL - Hard-wired weighted Watts	6	34	206	\$35.7	\$82.8	\$21.0	1.8	\$0.20
CFL - Screw-in weighted Watts	3	34	206	\$3.7	\$39.7	\$21.0	1.9	\$0.11
T5HO Interior High Bay Fluorescent Fixture	15	176	705	\$148.9	\$702.0	\$71.9	3.6	\$0.19
T8 Interior High Bay Fluorescent Fixture	15	171	687	\$126.5	\$684.0	\$70.0	3.9	\$0.19
T5 w/Electronic Ballast	15	14	91	\$58.0	\$88.8	\$9.3	1.5	\$0.38
HPT8 fixture	15	9	61	\$25.5	\$59.2	\$6.2	2.1	\$0.35
Relamp/Reballast to HPT8	15	22	144	\$51.5	\$140.5	\$14.7	2.4	\$0.21
Low Wattage Lamps	7	4	13	\$5.1	\$6.5	\$1.4	1.2	\$0.18
Electronic Ballast - Dimming or Bi-Level	15	4	27	\$18.4	\$26.6	\$2.8	1.4	\$0.47
Photo-luminescent Exit Signs	15	6	42	\$30.6	\$40.7	\$4.3	1.3	\$0.47
Vending Machine Controllers	15	0	1751	\$163.2	\$1,637.7	\$178.6	5.2	\$0.13
Cooler Covers	5	13	147	\$15.3	\$48.5	\$15.0	2.0	\$0.16
Discus and Scroll Compressors	13	252	2142	\$280.5	\$1,817.5	\$218.5	4.1	\$0.17
Zero Energy Door	10	97	1450	\$295.8	\$988.5	\$147.9	2.4	\$0.18
Anti-sweat Heater Controls	10	106	930	\$153.0	\$633.9	\$94.9	2.8	\$0.19
Evap Fan Controller for Med. Temp Walk-in	15	181	3462	\$2,299.3	\$3,282.1	\$353.2	1.4	\$0.39
ECM motor for Refrigeration Evap Fan	15	126	1100	\$249.9	\$1,059.1	\$112.2	3.2	\$0.19
Intelligent Defrost Control	10	1197	845	\$510.0	\$575.9	\$86.2	1.2	\$0.28
Outside Air Economizer for Coolers	15	1952	5857	\$2,732.8	\$5,953.6	\$597.4	2.0	\$0.54
Energy Star Ice Machine	9	74	375	\$51.0	\$233.3	\$38.2	2.9	\$0.21
Energy Star Under Counter Com Dishwasher w/ Elec Hot Water	10	1094	3195	\$780.4	\$2,178.0	\$326.0	2.2	\$0.23
Energy Star Door Type Com Dishwasher w/ Elec Hot Water	15	3889	11356	\$525.3	\$11,569.5	\$1,158.4	7.8	\$0.14
Energy Star Single Tank Conveyer Com Dishwasher w/ Elec Hot Water	20	4449	12992	\$224.4	\$16,983.2	\$1,325.3	12.4	\$0.12
Energy Star Com Reach-in Refrigerator or Freezer	9	95	803	\$127.5	\$499.8	\$81.9	2.7	\$0.23
Electric Pressureless Steamer	12	1944	10136	\$2,040.2	\$8,054.5	\$1,034.0	3.0	\$0.18
Combination Oven	12	3781	19741	\$2,195.2	\$15,686.5	\$2,013.7	4.3	\$0.11
EnergyStar Electric Griddle	12	1437	7492	\$2,132.0	\$5,953.8	\$764.3	2.3	\$0.20
Half-sized Insulated Hot Food Holding Cabinet	12	311	1994	\$1,132.3	\$1,580.0	\$203.4	1.3	\$0.20
Full-sized Insulated Hot Food Holding Cabinet	12	857	5629	\$1,132.3	\$4,458.7	\$574.2	3.0	\$0.15
Split/Packaged Air Conditioner (65 - 135 kBtu/h)	20	2	114	\$127.4	\$131.0	\$11.6	1.0	\$1.00
Split/Packaged Air Conditioner (135 - 240 kBtu/h)	20	4	177	\$127.4	\$203.4	\$18.1	1.5	\$0.68
Split/Packaged Air Conditioner (240 - 760 kBtu/h)	20	2	103	\$127.4	\$118.5	\$10.5	0.9	\$1.09
Split/Packaged Heat Pump (<65 kBtu/h)	20	212	849	\$183.8	\$1,071.7	\$86.6	4.4	\$0.22
Split/Packaged Heat Pump (65 - 135 kBtu/h)	20	43	225	\$153.0	\$277.1	\$22.9	1.7	\$0.67
Split/Packaged Heat Pump (135 - 240 kBtu/h)	20	26	238	\$178.5	\$283.5	\$24.2	1.5	\$0.74
Split/Packaged Heat Pump (240 - 760 kBtu/h)	20	26	224	\$178.5	\$267.7	\$22.8	1.5	\$0.78
Water Source Heat Pump (<65 kBtu/h)	20	48	293	\$102.0	\$357.4	\$29.9	3.0	\$0.38
Ground Source Heat Pump (<65 kBtu/h)	20	64	273	\$183.6	\$342.4	\$27.9	1.8	\$0.66
Ductless Mini-Split Commercial <5.4 ton	15	206	660	\$127.5	\$667.7	\$67.4	3.9	\$0.25
PTHP units	20	45	205	\$105.5	\$255.6	\$20.9	2.2	\$0.47
Programmable Thermostats with Elec Heat	8	0	908	\$35.7	\$507.1	\$92.6	4.4	\$0.11
Dual Enthalpy Economizer Controls	10	67	3159	\$612.1	\$2,153.6	\$322.3	2.5	\$0.18
Ventilation Fans with ECM Motors	18	290	528	\$204.0	\$676.2	\$53.8	3.0	\$0.29
Variable Speed Drives for Fans & Pumps	15	175	1253	\$255.0	\$1,214.7	\$127.8	3.5	\$0.21

Table 16.2: Commercial--Education Custom Retrofit Program--Measure Characterizations

Measure Name --savings at generator --2013 \$	Measure Life (Years)	Peak Demand Savings per Unit (Watts)	Annual Energy Savings per Unit (kWh)	One-Time Incremental Measure Cost (\$)	Present Value of Avoided Cost Benefits (\$)	Program Admin. Cost (\$)	Total Resource Benefit- Cost (Ratio)	Program \$/first year annual kWh Savings
LED Pole Mounted Parking Lights	10	220	1044	\$714.1	\$711.7	\$106.5	1.0	\$0.24
LED Outdoor Wall Packs	10	53	250	\$153.0	\$170.6	\$25.5	1.1	\$0.24
LED Canopy or Parking Garage	6	100	749	\$153.0	\$301.6	\$76.4	1.6	\$0.24
LED Bollard Fixtures	15	35	165	\$102.0	\$162.8	\$16.8	1.5	\$0.24
LED High Bay	10	68	469	\$714.1	\$319.4	\$47.8	0.5	\$0.24
LED 2x2 Troffers	10	10	65	\$55.4	\$44.0	\$6.6	0.8	\$0.24
LED 2x4 Troffers	10	14	91	\$78.2	\$62.2	\$9.3	0.8	\$0.24
Occupancy Sensor Switch or Fixture Mounted	10	93	321	\$56.1	\$218.8	\$32.7	2.8	\$0.24
Occupancy Sensor Ceiling or Remote	10	156	538	\$127.5	\$367.0	\$54.9	2.3	\$0.24
Auto Shut off Timers	10	156	538	\$30.6	\$367.0	\$54.9	4.8	\$0.14
Occupancy Sensor Controlled Power Bars	8	0	181	\$71.4	\$101.0	\$18.5	1.3	\$0.24
Daylight Harvesting	10	156	538	\$127.5	\$367.0	\$54.9	2.3	\$0.24
T5HO Interior High Bay Fluorescent Fixture	15	176	705	\$148.9	\$702.0	\$71.9	3.6	\$0.24
T8 Interior High Bay Fluorescent Fixture	15	171	687	\$126.5	\$684.0	\$70.0	3.9	\$0.24
T5 w/Electronic Ballast	15	14	91	\$58.0	\$88.8	\$9.3	1.5	\$0.24
HPT8 fixture	15	9	61	\$25.5	\$59.2	\$6.2	2.1	\$0.24
Delamping w/Reflectors (2 lamp)	15	17	110	\$51.0	\$107.2	\$11.2	1.9	\$0.24
Relamp/Reballast to HPT8	15	22	144	\$51.5	\$140.5	\$14.7	2.4	\$0.24
Low Wattage Lamps	7	4	13	\$5.1	\$6.5	\$1.4	1.2	\$0.24
Electronic Ballast - Dimming or Bi-Level	15	4	27	\$18.4	\$26.6	\$2.8	1.4	\$0.24
Cooler Covers	5	13	147	\$15.3	\$48.5	\$15.0	2.0	\$0.19
Floating Head Pressure Controls	10	0	704	\$149.7	\$479.6	\$71.8	2.4	\$0.24
Anti-sweat Heater Controls	10	106	930	\$153.0	\$633.9	\$94.9	2.8	\$0.24
Evap Fan Controller for Med. Temp Walk-in	15	181	3462	\$2,299.3	\$3,282.1	\$353.2	1.4	\$0.24
Outside Air Economizer for Coolers	15	1952	5857	\$2,732.8	\$5,953.6	\$597.4	2.0	\$0.24
Convection Oven	12	664	3465	\$1,135.4	\$2,753.2	\$353.4	2.1	\$0.24
Com Kitchen Spray Nozzles w/ Elec Hot Water	5	2734	11976	\$71.4	\$3,941.9	\$1,221.7	3.8	\$0.11
Split/Packaged Heat Pump (> 760 kBtu/h)	15	24	143	\$155.0	\$139.8	\$14.6	0.9	\$0.32
Water Source Heat Pump (<65 kBtu/h)	20	48	293	\$102.0	\$357.4	\$29.9	3.0	\$0.24
Ground Source Heat Pump (<65 kBtu/h)	20	64	273	\$183.6	\$342.4	\$27.9	1.8	\$0.24
Commercial Solar Water Heating	20	0	2256	\$3,222.5	\$2,569.2	\$230.1	0.8	\$0.24
Commercial Heat Pump Water Heater	10	4	436	\$125.0	\$296.9	\$44.4	1.9	\$0.24
Hot Water Circulation Pump Time Clock	15	107	989	\$318.6	\$951.5	\$100.9	2.5	\$0.24
EMS System	15	161	816	\$503.8	\$802.2	\$83.2	1.5	\$0.24
Thermodynamic Saturation Controls	10	27	1265	\$833.4	\$862.6	\$129.1	1.0	\$0.24
Variable Speed Drives	15	175	1253	\$255.0	\$1,214.7	\$127.8	3.5	\$0.24
Computer Power Management Module	10	161	207	\$25.5	\$141.1	\$21.1	3.6	\$0.21
Core Perf School	15	292	2196	\$2,266.9	\$2,124.7	\$224.0	0.9	\$0.56
Whole Building - 20% Eff over baseline	15	110	2592	\$1,721.0	\$2,450.9	\$264.4	1.4	\$0.43
Whole Building - 40% Eff over baseline	15	220	5184	\$3,441.9	\$4,901.8	\$528.8	1.4	\$0.43
Custom	15	20601	99591	\$34,148.5	\$98,167.3	\$10,159.2	2.5	\$0.24

Table 17.1: Commercial--Other Prescriptive Program--Measure Characterizations - First Year 2013

Measure Name --savings at generator --2013 \$	Measure Life (Years)	Peak Demand Savings per Unit (Watts)	Annual Energy Savings per Unit (kWh)	One-Time Incremental Measure Cost (\$)	Present Value of Avoided Cost Benefits (\$)	Program Admin. Cost (\$)	Total Resource Benefit- Cost (Ratio)	Program \$/first year annual kWh Savings
LED lamps - Hard-wired weighted Watts	10	12	73	\$40.8	\$49.9	\$7.5	1.2	\$0.45
LED lamps - Screw-in weighted Watts	10	12	73	\$40.8	\$49.9	\$7.5	1.2	\$0.45
LED Pole Mounted Parking Lights	10	220	1044	\$714.1	\$711.7	\$106.5	1.0	\$0.34
LED Outdoor Wall Packs	10	53	250	\$153.0	\$170.6	\$25.5	1.1	\$0.51
LED Canopy or Parking Garage	6	100	749	\$153.0	\$301.6	\$76.4	1.6	\$0.24
LED Bollard Fixtures	15	35	165	\$102.0	\$162.8	\$16.8	1.5	\$0.56
LED Traffic	10	37	328	\$102.0	\$223.4	\$33.4	1.8	\$0.26
LED Exit	10	11	122	\$25.5	\$83.2	\$12.5	2.4	\$0.18
Occupancy Sensor Switch or Fixture Mounted	10	93	321	\$56.1	\$218.8	\$32.7	2.8	\$0.20
Occupancy Sensor Ceiling or Remote	10	156	538	\$127.5	\$367.0	\$54.9	2.3	\$0.21
Auto Shut off Timers	10	156	538	\$30.6	\$367.0	\$54.9	4.8	\$0.14
Occupancy Sensor Controlled Power Bars	8	0	181	\$71.4	\$101.0	\$18.5	1.3	\$0.16
Current-regulating Advanced Power Bars	8	0	25	\$15.3	\$14.1	\$2.6	0.9	\$0.38
320W PS MH HID fixture- indoor	15	56	239	\$38.3	\$237.1	\$24.4	4.2	\$0.21
320W PS MH HID fixture- outdoor	15	68	322	\$38.3	\$317.4	\$32.8	5.0	\$0.18
200W PS MH HID fixture- indoor	15	39	167	\$38.3	\$165.9	\$17.1	3.4	\$0.25
200W PS MH HID fixture- outdoor	15	47	225	\$38.3	\$222.2	\$23.0	4.1	\$0.21
39W Ceramic MH track & recessed fixture- indoor	15	67	409	\$158.1	\$399.3	\$41.8	2.2	\$0.17
100W Ceramic MH track & recessed fixture-indoor	15	102	624	\$147.9	\$608.4	\$63.6	3.2	\$0.15
CFL - Hard-wired weighted Watts	6	34	206	\$35.7	\$82.8	\$21.0	1.8	\$0.20
CFL - Screw-in weighted Watts	3	34	206	\$3.7	\$39.7	\$21.0	1.9	\$0.11
T5HO Interior High Bay Fluorescent Fixture	15	176	705	\$148.9	\$702.0	\$71.9	3.6	\$0.19
T8 Interior High Bay Fluorescent Fixture	15	171	687	\$126.5	\$684.0	\$70.0	3.9	\$0.19
T5 w/Electronic Ballast	15	14	91	\$58.0	\$88.8	\$9.3	1.5	\$0.38
HPT8 fixture	15	9	61	\$25.5	\$59.2	\$6.2	2.1	\$0.35
Relamp/Reballast to HPT8	15	22	144	\$51.5	\$140.5	\$14.7	2.4	\$0.21
Low Wattage Lamps	7	4	13	\$5.1	\$6.5	\$1.4	1.2	\$0.18
Electronic Ballast - Dimming or Bi-Level	15	4	27	\$18.4	\$26.6	\$2.8	1.4	\$0.47
Photo-luminescent Exit Signs	15	6	42	\$30.6	\$40.7	\$4.3	1.3	\$0.47
Vending Machine Controllers	15	0	1751	\$163.2	\$1,637.7	\$178.6	5.2	\$0.13
Cooler Covers	5	13	147	\$15.3	\$48.5	\$15.0	2.0	\$0.16
Discus and Scroll Compressors	13	252	2142	\$280.5	\$1,817.5	\$218.5	4.1	\$0.17
Zero Energy Door	10	97	1450	\$295.8	\$988.5	\$147.9	2.4	\$0.18
Anti-sweat Heater Controls	10	106	930	\$153.0	\$633.9	\$94.9	2.8	\$0.19
Evap Fan Controller for Med. Temp Walk-in	15	181	3462	\$2,299.3	\$3,282.1	\$353.2	1.4	\$0.39
ECM motor for Refrigeration Evap Fan	15	126	1100	\$249.9	\$1,059.1	\$112.2	3.2	\$0.19
Intelligent Defrost Control	10	1197	845	\$510.0	\$575.9	\$86.2	1.2	\$0.28
Outside Air Economizer for Coolers	15	1952	5857	\$2,732.8	\$5,953.6	\$597.4	2.0	\$0.54
Energy Star Ice Machine	9	74	375	\$51.0	\$233.3	\$38.2	2.9	\$0.21
Energy Star Under Counter Com Dishwasher w/ Elec Hot Water	10	1094	3195	\$780.4	\$2,178.0	\$326.0	2.2	\$0.23
Energy Star Door Type Com Dishwasher w/ Elec Hot Water	15	3889	11356	\$525.3	\$11,569.5	\$1,158.4	7.8	\$0.14
Energy Star Single Tank Conveyer Com Dishwasher w/ Elec Hot Water	20	4449	12992	\$224.4	\$16,983.2	\$1,325.3	12.4	\$0.12
Energy Star Com Reach-in Refrigerator or Freezer	9	95	803	\$127.5	\$499.8	\$81.9	2.7	\$0.23
Electric Pressureless Steamer	12	1944	10136	\$2,040.2	\$8,054.5	\$1,034.0	3.0	\$0.18
Combination Oven	12	3781	19741	\$2,195.2	\$15,686.5	\$2,013.7	4.3	\$0.11
EnergyStar Electric Griddle	12	1437	7492	\$2,132.0	\$5,953.8	\$764.3	2.3	\$0.20
Half-sized Insulated Hot Food Holding Cabinet	12	311	1994	\$1,132.3	\$1,580.0	\$203.4	1.3	\$0.20
Full-sized Insulated Hot Food Holding Cabinet	12	857	5629	\$1,132.3	\$4,458.7	\$574.2	3.0	\$0.15
Air Compressor Cycling Air Dryer	10	301	1253	\$811.0	\$854.1	\$127.8	1.0	\$0.34
VSD Screw Compressors	10	5406	22491	\$4,713.8	\$15,330.5	\$2,294.3	2.4	\$0.25
Air-Entraining Air Nozzle	10	206	857	\$14.3	\$584.0	\$87.4	6.4	\$0.11
No Loss Drains	5	167	696	\$204.0	\$229.1	\$71.0	1.0	\$0.25
Air Receiver / Tank for Screw Compressor	10	2600	10817	\$2,040.2	\$7,373.2	\$1,103.4	2.6	\$0.19
Split/Packaged Air Conditioner (65 - 135 kBtu/h)	20	2	114	\$127.4	\$131.0	\$11.6	1.0	\$1.00
Split/Packaged Air Conditioner (135 - 240 kBtu/h)	20	4	177	\$127.4	\$203.4	\$18.1	1.5	\$0.68
Split/Packaged Air Conditioner (240 - 760 kBtu/h)	20	2	103	\$127.4	\$118.5	\$10.5	0.9	\$1.09
Split/Packaged Heat Pump (<65 kBtu/h)	20	212	849	\$183.8	\$1,071.7	\$86.6	4.4	\$0.22
Split/Packaged Heat Pump (65 - 135 kBtu/h)	20	43	225	\$153.0	\$277.1	\$22.9	1.7	\$0.67
Split/Packaged Heat Pump (135 - 240 kBtu/h)	20	26	238	\$178.5	\$283.5	\$24.2	1.5	\$0.74
Split/Packaged Heat Pump (240 - 760 kBtu/h)	20	26	224	\$178.5	\$267.7	\$22.8	1.5	\$0.78
Water Source Heat Pump (<65 kBtu/h)	20	48	293	\$102.0	\$357.4	\$29.9	3.0	\$0.38
Ground Source Heat Pump (<65 kBtu/h)	20	64	273	\$183.6	\$342.4	\$27.9	1.8	\$0.66
Ductless Mini-Split Commercial <5.4 ton	15	206	660	\$127.5	\$667.7	\$67.4	3.9	\$0.25
PTHP units	20	45	205	\$105.5	\$255.6	\$20.9	2.2	\$0.47
HVAC Hotel O/S	10	56	469	\$66.3	\$319.8	\$47.9	3.1	\$0.12
Programmable Thermostats with Elec Heat	8	0	908	\$35.7	\$507.1	\$92.6	4.4	\$0.11
Air Cooled Chiller with Condenser <150 tons	20	1	131	\$129.6	\$149.6	\$13.4	1.1	\$0.72
Air Cooled Chiller without Condenser <150 tons	20	1	126	\$129.6	\$143.6	\$12.8	1.1	\$0.75
Dual Enthalpy Economizer Controls	10	67	3159	\$612.1	\$2,153.6	\$322.3	2.5	\$0.18
Ventilation Fans with ECM Motors	18	290	528	\$204.0	\$676.2	\$53.8	3.0	\$0.29
Variable Speed Drives for Fans & Pumps	15	175	1253	\$255.0	\$1,214.7	\$127.8	3.5	\$0.21

Table 17.2: Commercial--Other Small Business Program--Measure Characterizations

Measure Name --savings at generator --2013 \$	Measure Life (Years)	Peak Demand Savings per Unit (Watts)	Annual Energy Savings per Unit (kWh)	One-Time Incremental Measure Cost (\$)	Present Value of Avoided Cost Benefits (\$)	Program Admin. Cost (\$)	Total Resource Benefit- Cost (Ratio)	Program \$/first year annual kWh Savings
LED lamps - Hard-wired weighted Watts	10	12	73	\$40.8	\$49.9	\$13.1	1.0	\$0.56
LED lamps - Screw-in weighted Watts	10	12	73	\$40.8	\$49.9	\$13.1	1.0	\$0.56
LED Exit	10	11	122	\$25.5	\$83.2	\$21.8	1.9	\$0.32
Occupancy Sensor Switch or Fixture Mounted	10	93	321	\$56.1	\$218.8	\$57.3	2.2	\$0.30
Occupancy Sensor Ceiling or Remote	10	156	538	\$127.5	\$367.0	\$96.1	1.9	\$0.34
Auto Shut off Timers	10	156	538	\$30.6	\$367.0	\$96.1	3.3	\$0.21
Occupancy Sensor Controlled Power Bars	8	0	181	\$71.4	\$101.0	\$32.3	1.1	\$0.45
CFL - Hard-wired weighted Watts	6	34	206	\$35.7	\$82.8	\$36.7	1.4	\$0.30
CFL - Screw-in weighted Watts	3	34	206	\$3.7	\$39.7	\$36.7	1.2	\$0.19
T5 w/Electronic Ballast	15	14	91	\$58.0	\$88.8	\$16.3	1.3	\$0.62
HPT8 fixture	15	9	61	\$25.5	\$59.2	\$10.9	1.8	\$0.47
Delamping w/Reflectors (2 lamp)	15	17	110	\$51.0	\$107.2	\$19.7	1.7	\$0.50
Relamp/Reballast to HPT8	15	22	144	\$51.5	\$140.5	\$25.8	2.0	\$0.42
Low Wattage Lamps	7	4	13	\$5.1	\$6.5	\$2.4	1.0	\$0.44
Electronic Ballast - Dimming or Bi-Level	15	4	27	\$18.4	\$26.6	\$4.9	1.3	\$0.64
Photo-luminescent Exit Signs	15	6	42	\$30.6	\$40.7	\$7.5	1.2	\$0.69
ECM motor for Refrigeration Evap Fan	15	126	1100	\$249.9	\$1,059.1	\$196.3	2.6	\$0.33
Com Kitchen Spray Nozzles w/ Elec Hot Water	5	2734	11976	\$71.4	\$3,941.9	\$2,137.9	2.2	\$0.18

Table 17.3: Commercial--Other Custom Retrofit Program--Measure Characterizations

Measure Name --savings at generator --2013 \$	Measure Life (Years)	Peak Demand Savings per Unit (Watts)	Annual Energy Savings per Unit (kWh)	One-Time Incremental Measure Cost (\$)	Present Value of Avoided Cost Benefits (\$)	Program Admin. Cost (\$)	Total Resource Benefit- Cost (Ratio)	Program \$/first year annual kWh Savings
LED Pole Mounted Parking Lights	10	220	1044	\$714.1	\$711.7	\$106.5	1.0	\$0.24
LED Outdoor Wall Packs	10	53	250	\$153.0	\$170.6	\$25.5	1.1	\$0.24
LED Canopy or Parking Garage	6	100	749	\$153.0	\$301.6	\$76.4	1.6	\$0.24
LED Bollard Fixtures	15	35	165	\$102.0	\$162.8	\$16.8	1.5	\$0.24
LED Traffic	10	37	328	\$102.0	\$223.4	\$33.4	1.8	\$0.24
LED High Bay	10	68	469	\$714.1	\$319.4	\$47.8	0.5	\$0.24
LED 2x2 Troffers	10	10	65	\$55.4	\$44.0	\$6.6	0.8	\$0.24
LED 2x4 Troffers	10	14	91	\$78.2	\$62.2	\$9.3	0.8	\$0.24
Occupancy Sensor Switch or Fixture Mounted	10	93	321	\$56.1	\$218.8	\$32.7	2.8	\$0.24
Occupancy Sensor Ceiling or Remote	10	156	538	\$127.5	\$367.0	\$54.9	2.3	\$0.24
Auto Shut off Timers	10	156	538	\$30.6	\$367.0	\$54.9	4.8	\$0.14
Occupancy Sensor Controlled Power Bars	8	0	181	\$71.4	\$101.0	\$18.5	1.3	\$0.24
Daylight Harvesting	10	156	538	\$127.5	\$367.0	\$54.9	2.3	\$0.24
T5HO Interior High Bay Fluorescent Fixture	15	176	705	\$148.9	\$702.0	\$71.9	3.6	\$0.24
T8 Interior High Bay Fluorescent Fixture	15	171	687	\$126.5	\$684.0	\$70.0	3.9	\$0.24
T5 w/Electronic Ballast	15	14	91	\$58.0	\$88.8	\$9.3	1.5	\$0.24
HPT8 fixture	15	9	61	\$25.5	\$59.2	\$6.2	2.1	\$0.24
Delamping w/Reflectors (2 lamp)	15	17	110	\$51.0	\$107.2	\$11.2	1.9	\$0.24
Relamp/Reballast to HPT8	15	22	144	\$51.5	\$140.5	\$14.7	2.4	\$0.24
Low Wattage Lamps	7	4	13	\$5.1	\$6.5	\$1.4	1.2	\$0.24
Electronic Ballast - Dimming or Bi-Level	15	4	27	\$18.4	\$26.6	\$2.8	1.4	\$0.24
Cooler Covers	5	13	147	\$15.3	\$48.5	\$15.0	2.0	\$0.19
Floating Head Pressure Controls	10	0	704	\$149.7	\$479.6	\$71.8	2.4	\$0.24
Anti-sweat Heater Controls	10	106	930	\$153.0	\$633.9	\$94.9	2.8	\$0.24
Evap Fan Controller for Med. Temp Walk-in	15	181	3462	\$2,299.3	\$3,282.1	\$353.2	1.4	\$0.24
Outside Air Economizer for Coolers	15	1952	5857	\$2,732.8	\$5,953.6	\$597.4	2.0	\$0.24
Convection Oven	12	664	3465	\$1,135.4	\$2,753.2	\$353.4	2.1	\$0.24
Com Kitchen Spray Nozzles w/ Elec Hot Water	5	2734	11976	\$71.4	\$3,941.9	\$1,221.7	3.8	\$0.11
CAS Leak reduction	3	7326	45712	\$6,120.5	\$8,829.3	\$4,663.0	1.0	\$0.22
Air Compressor Cycling Air Dryer	10	301	1253	\$811.0	\$854.1	\$127.8	1.0	\$0.24
VSD Screw Compressors	10	5406	22491	\$4,713.8	\$15,330.5	\$2,294.3	2.4	\$0.24
Air Receiver / Tank for Screw Compressor	10	2600	10817	\$2,040.2	\$7,373.2	\$1,103.4	2.6	\$0.24
Compressed Air Controls	10	8058	50283	\$5,100.5	\$34,274.4	\$5,129.3	3.7	\$0.19
Water Source Heat Pump (<65 kBtu/h)	20	48	293	\$102.0	\$357.4	\$29.9	3.0	\$0.24
Ground Source Heat Pump (<65 kBtu/h)	20	64	273	\$183.6	\$342.4	\$27.9	1.8	\$0.24
Commercial Solar Water Heating	20	0	2256	\$3,222.5	\$2,569.2	\$230.1	0.8	\$0.24
Commercial Heat Pump Water Heater	10	4	436	\$125.0	\$296.9	\$44.4	1.9	\$0.24
Hot Water Circulation Pump Time Clock	15	107	989	\$318.6	\$951.5	\$100.9	2.5	\$0.24
Retrocommissioning	10	129	1551	\$1,613.4	\$1,057.4	\$158.2	0.7	\$0.24
EMS System	15	161	816	\$503.8	\$802.2	\$83.2	1.5	\$0.24
Air Cooled Chiller with Condenser >=150 tons	20	1	131	\$129.6	\$149.6	\$13.4	1.1	\$0.24
Air Cooled Chiller without Condenser >=150 tons	20	1	141	\$129.6	\$160.6	\$14.3	1.2	\$0.24
Thermodynamic Saturation Controls	10	27	1265	\$833.4	\$862.6	\$129.1	1.0	\$0.24
Variable Speed Drives	15	175	1253	\$255.0	\$1,214.7	\$127.8	3.5	\$0.24
Computer Power Management Module	10	161	207	\$25.5	\$141.1	\$21.1	3.6	\$0.21
Core Performance Office	15	158	3722	\$2,266.9	\$3,519.4	\$379.6	1.5	\$0.37
Core Performance Retail	15	237	4552	\$2,772.4	\$4,315.0	\$464.3	1.5	\$0.32
Core Perf School	15	292	2196	\$1,337.3	\$2,124.7	\$224.0	1.5	\$0.56
Core Perf Medical Office	15	192	4471	\$2,723.5	\$4,228.9	\$456.1	1.5	\$0.33
Core Performance Warehouse	15	115	1874	\$1,141.6	\$1,780.9	\$191.2	1.5	\$0.64
Whole Building - 20% Eff over baseline	15	110	2592	\$1,736.5	\$2,450.9	\$264.4	1.3	\$0.43
Whole Building - 40% Eff over baseline	15	220	5184	\$3,473.0	\$4,901.8	\$528.8	1.3	\$0.43
Custom	15	20601	99591	\$34,148.5	\$98,167.3	\$10,159.2	2.5	\$0.24

Table 18.1: Industrial Prescriptive Program--Measure Characterizations - First Year 2013

Measure Name --savings at generator --2013 \$	Measure Life (Years)	Peak Demand Savings per Unit (Watts)	Annual Energy Savings per Unit (kWh)	One-Time Incremental Measure Cost (\$)	Present Value of Avoided Cost Benefits (\$)	Program Admin. Cost (\$)	Total Resource Benefit- Cost (Ratio)	Program \$/first year annual kWh Savings
LED lamps - Hard-wired weighted Watts	10	12	73	\$40.8	\$49.9	\$7.5	1.2	\$0.45
LED lamps - Screw-in weighted Watts	10	12	73	\$40.8	\$49.9	\$7.5	1.2	\$0.45
LED Pole Mounted Parking Lights	10	220	1044	\$714.1	\$711.7	\$106.5	1.0	\$0.34
LED Outdoor Wall Packs	10	53	250	\$153.0	\$170.6	\$25.5	1.1	\$0.51
LED Canopy or Parking Garage	6	100	749	\$153.0	\$301.6	\$76.4	1.6	\$0.24
LED Bollard Fixtures	15	35	165	\$102.0	\$162.8	\$16.8	1.5	\$0.56
LED Exit	10	11	122	\$25.5	\$83.2	\$12.5	2.4	\$0.18
Occupancy Sensor Switch or Fixture Mounted	10	93	321	\$56.1	\$218.8	\$32.7	2.8	\$0.20
Occupancy Sensor Ceiling or Remote	10	156	538	\$127.5	\$367.0	\$54.9	2.3	\$0.21
Auto Shut off Timers	10	156	538	\$30.6	\$367.0	\$54.9	4.8	\$0.14
Occupancy Sensor Controlled Power Bars	8	0	181	\$71.4	\$101.0	\$18.5	1.3	\$0.16
320W PS MH HID fixture- indoor	15	56	239	\$38.3	\$237.1	\$24.4	4.2	\$0.21
320W PS MH HID fixture- outdoor	15	68	322	\$38.3	\$317.4	\$32.8	5.0	\$0.18
200W PS MH HID fixture- indoor	15	39	167	\$38.3	\$165.9	\$17.1	3.4	\$0.25
200W PS MH HID fixture- outdoor	15	47	225	\$38.3	\$222.2	\$23.0	4.1	\$0.21
39W Ceramic MH track & recessed fixture- indoor	15	67	409	\$158.1	\$399.3	\$41.8	2.2	\$0.17
100W Ceramic MH track & recessed fixture-indoor	15	102	624	\$147.9	\$608.4	\$63.6	3.2	\$0.15
CFL - Hard-wired weighted Watts	6	34	206	\$35.7	\$82.8	\$21.0	1.8	\$0.20
CFL - Screw-in weighted Watts	3	34	206	\$3.7	\$39.7	\$21.0	1.9	\$0.11
T5HO Interior High Bay Fluorescent Fixture	15	176	705	\$148.9	\$702.0	\$71.9	3.6	\$0.19
T8 Interior High Bay Fluorescent Fixture	15	171	687	\$126.5	\$684.0	\$70.0	3.9	\$0.19
T5 w/Electronic Ballast	15	14	91	\$58.0	\$88.8	\$9.3	1.5	\$0.38
HPT8 fixture	15	9	61	\$25.5	\$59.2	\$6.2	2.1	\$0.35
Relamp/Reballast to HPT8	15	22	144	\$51.5	\$140.5	\$14.7	2.4	\$0.21
Low Wattage Lamps	7	4	13	\$5.1	\$6.5	\$1.4	1.2	\$0.18
Electronic Ballast - Dimming or Bi-Level	15	4	27	\$18.4	\$26.6	\$2.8	1.4	\$0.47
Photo-luminescent Exit Signs	15	6	42	\$30.6	\$40.7	\$4.3	1.3	\$0.47
Vending Machine Controllers	15	0	1751	\$163.2	\$1,637.7	\$178.6	5.2	\$0.13
Discus and Scroll Compressors	13	252	2142	\$280.5	\$1,817.5	\$218.5	4.1	\$0.17
Evap Fan Controller for Med. Temp Walk-in	15	181	3462	\$2,299.3	\$3,282.1	\$353.2	1.4	\$0.39
ECM motor for Refrigeration Evap Fan	15	126	1100	\$249.9	\$1,059.1	\$112.2	3.2	\$0.19
Intelligent Defrost Control	10	1197	845	\$510.0	\$575.9	\$86.2	1.2	\$0.28
Outside Air Economizer for Coolers	15	1952	5857	\$2,732.8	\$5,953.6	\$597.4	2.0	\$0.54
Air Compressor Cycling Air Dryer	10	301	1253	\$811.0	\$854.1	\$127.8	1.0	\$0.34
VSD Screw Compressors	10	5406	22491	\$4,713.8	\$15,330.5	\$2,294.3	2.4	\$0.25
Air-Entraining Air Nozzle	10	206	857	\$14.3	\$584.0	\$87.4	6.4	\$0.11
No Loss Drains	5	167	696	\$204.0	\$229.1	\$71.0	1.0	\$0.25
Air Receiver / Tank for Screw Compressor	10	2600	10817	\$2,040.2	\$7,373.2	\$1,103.4	2.6	\$0.19
Split/Packaged Air Conditioner (65 - 135 kBtu/h)	20	2	114	\$127.4	\$131.0	\$11.6	1.0	\$1.00
Split/Packaged Air Conditioner (135 - 240 kBtu/h)	20	4	177	\$127.4	\$203.4	\$18.1	1.5	\$0.68
Split/Packaged Air Conditioner (240 - 760 kBtu/h)	20	2	103	\$127.4	\$118.5	\$10.5	0.9	\$1.09
Split/Packaged Heat Pump (<65 kBtu/h)	20	212	849	\$183.8	\$1,071.7	\$86.6	4.4	\$0.22
Split/Packaged Heat Pump (65 - 135 kBtu/h)	20	43	225	\$153.0	\$277.1	\$22.9	1.7	\$0.67
Split/Packaged Heat Pump (135 - 240 kBtu/h)	20	26	238	\$178.5	\$283.5	\$24.2	1.5	\$0.74
Split/Packaged Heat Pump (240 - 760 kBtu/h)	20	26	224	\$178.5	\$267.7	\$22.8	1.5	\$0.78
Water Source Heat Pump (<65 kBtu/h)	20	48	293	\$102.0	\$357.4	\$29.9	3.0	\$0.38
Ground Source Heat Pump (<65 kBtu/h)	20	64	273	\$183.6	\$342.4	\$27.9	1.8	\$0.66
Ductless Mini-Split Commercial <5.4 ton	15	206	660	\$127.5	\$667.7	\$67.4	3.9	\$0.25
Programmable Thermostats with Elec Heat	8	0	908	\$35.7	\$507.1	\$92.6	4.4	\$0.11
Dual Enthalpy Economizer Controls	10	67	3159	\$612.1	\$2,153.6	\$322.3	2.5	\$0.18
Ventilation Fans with ECM Motors	18	290	528	\$204.0	\$676.2	\$53.8	3.0	\$0.29
Variable Speed Drives for Fans & Pumps	15	175	1253	\$255.0	\$1,214.7	\$127.8	3.5	\$0.21

Table 18.2: Industrial Custom Retrofit Program--Measure Characterizations

Measure Name --savings at generator --2013 \$	Measure Life (Years)	Peak Demand Savings per Unit (Watts)	Annual Energy Savings per Unit (kWh)	One-Time Incremental Measure Cost (\$)	Present Value of Avoided Cost Benefits (\$)	Program Admin. Cost (\$)	Total Resource Benefit- Cost (Ratio)	Program \$/first year annual kWh Savings
LED Pole Mounted Parking Lights	10	220	1044	\$714.1	\$711.7	\$106.5	1.0	\$0.24
LED Outdoor Wall Packs	10	53	250	\$153.0	\$170.6	\$25.5	1.1	\$0.24
LED Canopy or Parking Garage	6	100	749	\$153.0	\$301.6	\$76.4	1.6	\$0.24
LED Bollard Fixtures	15	35	165	\$102.0	\$162.8	\$16.8	1.5	\$0.24
LED High Bay	10	68	469	\$714.1	\$319.4	\$47.8	0.5	\$0.24
LED 2x2 Troffers	10	10	65	\$55.4	\$44.0	\$6.6	0.8	\$0.24
LED 2x4 Troffers	10	14	91	\$78.2	\$62.2	\$9.3	0.8	\$0.24
Occupancy Sensor Switch or Fixture Mounted	10	93	321	\$56.1	\$218.8	\$32.7	2.8	\$0.24
Occupancy Sensor Ceiling or Remote	10	156	538	\$127.5	\$367.0	\$54.9	2.3	\$0.24
Auto Shut off Timers	10	156	538	\$30.6	\$367.0	\$54.9	4.8	\$0.14
Occupancy Sensor Controlled Power Bars	8	0	181	\$71.4	\$101.0	\$18.5	1.3	\$0.20
Daylight Harvesting	8	0	25	\$15.3	\$14.1	\$2.6	0.9	\$0.20
T5HO Interior High Bay Fluorescent Fixture	15	176	705	\$148.9	\$702.0	\$71.9	3.6	\$0.24
T8 Interior High Bay Fluorescent Fixture	15	171	687	\$126.5	\$684.0	\$70.0	3.9	\$0.24
T5 w/Electronic Ballast	15	14	91	\$58.0	\$88.8	\$9.3	1.5	\$0.24
HPT8 fixture	15	9	61	\$25.5	\$59.2	\$6.2	2.1	\$0.24
Delamping w/Reflectors (2 lamp)	15	17	110	\$51.0	\$107.2	\$11.2	1.9	\$0.24
Relamp/Reballast to HPT8	15	22	144	\$51.5	\$140.5	\$14.7	2.4	\$0.24
Low Wattage Lamps	7	4	13	\$5.1	\$6.5	\$1.4	1.2	\$0.24
Electronic Ballast - Dimming or Bi-Level	15	4	27	\$18.4	\$26.6	\$2.8	1.4	\$0.24
Floating Head Pressure Controls	10	0	704	\$149.7	\$479.6	\$71.8	2.4	\$0.24
Evap Fan Controller for Med. Temp Walk-in	15	181	3462	\$2,299.3	\$3,282.1	\$353.2	1.4	\$0.24
Outside Air Economizer for Coolers	15	1952	5857	\$2,732.8	\$5,953.6	\$597.4	2.0	\$0.24
CAS Leak reduction	3	7326	45712	\$6,120.5	\$8,829.3	\$4,663.0	1.0	\$0.22
Air Compressor Cycling Air Dryer	10	301	1253	\$811.0	\$854.1	\$127.8	1.0	\$0.24
VSD Screw Compressors	10	5406	22491	\$4,713.8	\$15,330.5	\$2,294.3	2.4	\$0.24
Air Receiver / Tank for Screw Compressor	10	2600	10817	\$2,040.2	\$7,373.2	\$1,103.4	2.6	\$0.24
Compressed Air Controls	10	8058	50283	\$5,100.5	\$34,274.4	\$5,129.3	3.7	\$0.19
Water Source Heat Pump (<65 kBtu/h)	20	48	293	\$102.0	\$357.4	\$29.9	3.0	\$0.24
Ground Source Heat Pump (<65 kBtu/h)	20	64	273	\$183.6	\$342.4	\$27.9	1.8	\$0.24
Commercial Heat Pump Water Heater	10	4	436	\$125.0	\$296.9	\$44.4	1.9	\$0.24
Hot Water Circulation Pump Time Clock	15	107	989	\$318.6	\$951.5	\$100.9	2.5	\$0.24
Retrocommissioning	10	129	1551	\$1,613.4	\$1,057.4	\$158.2	0.7	\$0.24
EMS System	15	161	816	\$503.8	\$802.2	\$83.2	1.5	\$0.24
Thermodynamic Saturation Controls	10	27	1265	\$833.4	\$862.6	\$129.1	1.0	\$0.24
Variable Speed Drives	15	175	1253	\$255.0	\$1,214.7	\$127.8	3.5	\$0.24
Computer Power Management Module	10	161	207	\$25.5	\$141.1	\$21.1	3.6	\$0.21
Core Performance Warehouse	15	115	1874	\$1,141.6	\$1,780.9	\$191.2	1.5	\$0.64
Whole Building - 20% Eff over baseline	15	110	2592	\$1,736.5	\$2,450.9	\$264.4	1.3	\$0.43
Whole Building - 40% Eff over baseline	15	220	5184	\$3,473.0	\$4,901.8	\$528.8	1.3	\$0.43
Custom	15	20601	99591	\$34,148.5	\$98,167.3	\$10,159.2	2.5	\$0.24

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Request IR-4:

If, in any program, the 2013 participation or savings targets are within 20% of the 2011 targets and if the 2011 targets were not achieved in that program, please explain what conditions have changed and/or what steps are being taken to ensure that the 2013 targets will be achieved?

Response IR-4:

Please refer to Avon IR-2.

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Request IR-5:

With respect to Figure 4.1 – 2013 to 2015 DSM Plan Savings and Investment Including Outlook to 2017 (ENSC Evidence, p. 18), it is noted that the total investments listed for each year are different from the total program investments that were presented at the December 8, 2011, DSM Stakeholders Meeting in the Navigant Consulting presentation “Multi-Year DSM Planning Targets” (p.4).

- a) Please explain the differences in each year, providing specific information with respect to changes for budgets for DSM programs.**
- b) Please explain the rationale for these changes, including any new information received by ENSC between the Stakeholders Meeting and the filing of ENSC’s evidence in this matter.**

Response IR-5:

ENSC’s development of a DSM Plan is a continuous and evolutionary process, building on ongoing programming and market experience gained while working with DSM consultants and engaging stakeholders for input and perspectives. Differences between projected program investments discussed at the December Stakeholder Consultation Session and those filed in the DSM Plan for the 2013-2015 period for which ENSC is seeking approval result in a projected investment level that is 6.0% higher than that presented in the December session.

- a) Differences between projected program investments discussed at the December Stakeholder Consultation Session and those filed in the DSM Plan are a result of adjustments to the inputs and assumptions as well as corrections to the Energy Efficiency Resource Assessment Model (EERAM) and are identified below for each year (2013 to 2017).

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- 1 • 2013: comparing the investment projections presented to stakeholders in
 2 December 2011 to the filed corrected Plan investments, the overall level of
 3 investment was 2% higher.
 4
- 5 • Specific changes to 2013 program assumptions that impact the investment levels
 6 follow:
 - 7
 - 8 ○ A decrease in the Existing Residential program budget relating to an
 9 expected decrease in participation due to the Federal Government's
 10 withdrawal from the Energuide program as well as increased cost
 11 efficiency from new direct-install program components.
 12
 - 13 ○ An increase in the New Residential program budget due to an expected
 14 increase in builder participation through the development of the Trade
 15 Allies Network.
 16
 - 17 ○ An increase in the Efficient Product Rebates (BNI) program budget due to
 18 an anticipated increase in participation based on an expanded list of
 19 eligible measures and the availability of instant rebates.
 20
 - 21 ○ A decrease in the Direct Installation program (BNI) budget because of
 22 market saturation.
 23
- 24 • 2014: Comparing the investment projections presented to stakeholders in
 25 December 2011 to the filed Plan investments, the overall level of investment was
 26 4% higher.
 27
- 28 • 2015: Comparing the investment projections presented to stakeholders in
 29 December 2011 to the filed Plan investments, the overall level of investment was
 30 11% higher.

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- 1
- 2 • Specific changes to 2014 and 2015 programs assumptions that impact the
- 3 investment levels follow:
- 4
- 5 ○ An increase in the Custom Incentives program budget to reflect customer-
- 6 driven program changes to expand potential participation and eligibility.
- 7
- 8 ○ For anticipated changes to Existing Residential, New Residential, Efficient
- 9 Product Rebates (BNI), and Direct Installation (BNI), please see above.
- 10
- 11 • For 2016 and 2017, overall levels of projected investment are 25% higher and
- 12 23% higher, respectively. Continuing program trends from the 2013-2015 Plan
- 13 indicate these results.
- 14
- 15 b) Throughout the plan development process, ENSC considers many factors that inform the
- 16 analysis conducted that results in the filed DSM Plan. New information received by
- 17 ENSC between the Stakeholders Meeting and the filing of ENSC's evidence in this
- 18 matter includes:
- 19
- 20 • Updated, lower avoided costs provided by Nova Scotia Power in February 2012.
- 21 The newer avoided costs resulted in changes in measure benefit cost analysis and
- 22 as a result, the overall mix of measures in each program.
- 23
- 24 • The projected codes and standards and the timing of these, and the corresponding
- 25 projected effect on measure baselines, which resulted in changes in measure
- 26 savings.
- 27
- 28 • Full 2011 calendar year program information, which resulted in refinements to the
- 29 projected measure savings and costs, and ENSC program related costs.
- 30

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- Refinements to net-to-gross ratios for certain programs or measures.
- Specific measures to be included in the Green Heat Strategy were refined.
- Enabling Strategies budgets were refined.
- Corrections made to the EERAM modeling tool.

For program-specific information, please refer to part a.

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Request IR-6:

The benefits of the programs are shown in terms of energy savings (GWh) and demand savings (MW), but the dollar Lifetime Benefits are shown as a single number (\$million, second column). Please provide ENSC Evidence, Tables 4.1 – 4.4 showing Lifetime Benefits separately for demand and energy.

Response IR-6:

The following figures correspond to ENSC Evidence, Figures 4.1 to 4.4 showing lifetime benefits for energy and demand.

Figure 4.1

Year	Energy Lifetime Benefits (\$ million)	Demand Lifetime Benefits (\$ million)
2013	97.9	5.7
2014	108.3	7.7
2015	115.2	9.6
2016	122.1	12.2
2017	127.7	14.9
Total	571.2	50.0

Currency is expressed in 2013 dollars. Values may not add correctly, due to rounding.
 Lifetime benefits are expressed as the net present value of the avoided costs, over the life of the program measures.

ENSC 2013-2015 DSM Plan Filing (NSUARB-E-ENSC-R-12)
ENSC Responses to Avon Information Requests

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Figure 4.2

2013	Energy Lifetime Benefits (\$ million)	Demand Lifetime Benefits (\$ million)
RESIDENTIAL DSM PROGRAMS		
Efficient Product Rebates	8.4	0.0
Existing Residential	13.4	1.4
New Residential	7.4	1.0
Energy Savings Actions	1.0	0.0
BUSINESS, NON-PROFIT AND INSTITUTIONAL DSM PROGRAMS		
Efficient Product Rebates	23.9	1.1
Custom Incentives	34.6	1.8
Direct Installation	9.3	0.5
Total	97.9	5.7

Currency is expressed in 2013 dollars. Values may not add correctly, due to rounding. Lifetime benefits are expressed as the net present value of the avoided costs, over the life of the program measures.

Figure 4.3

2014	Energy Lifetime Benefits (\$ million)	Demand Lifetime Benefits (\$ million)
RESIDENTIAL DSM PROGRAMS		
Efficient Product Rebates	9.9	0.1
Existing Residential	17.7	2.2
New Residential	9.1	1.3
Energy Savings Actions	1.0	0.0
BUSINESS, NON-PROFIT AND INSTITUTIONAL DSM PROGRAMS		
Efficient Product Rebates	26.9	1.5
Custom Incentives	36.1	2.2
Direct Installation	7.4	0.4
Total	108.3	7.7

Currency is expressed in 2013 dollars. Values may not add correctly, due to rounding. Lifetime benefits are expressed as the net present value of the avoided costs, over the life of the program measures.

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Figure 4.4

2015	Energy Lifetime Benefits (\$ million)	Demand Lifetime Benefits (\$ million)
RESIDENTIAL DSM PROGRAMS		
Efficient Product Rebates	12.8	0.2
Existing Residential	21.5	3.0
New Residential	11.4	1.7
Energy Savings Actions	1.6	0.0
BUSINESS, NON-PROFIT AND INSTITUTIONAL DSM PROGRAMS		
Efficient Product Rebates	25.2	1.6
Custom Incentives	36.3	2.6
Direct Installation	6.4	0.4
Total	115.2	9.6

Currency is expressed in 2013 dollars. Columns may not add correctly, due to rounding.
 Lifetime benefits are expressed as the net present value of the avoided costs, over the life of the program measures.

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Request IR-7:

Reference: Figure 4.1 ENSC Evidence, p. 18 states that “an avoided cost of \$135/MWh was provided by NSPI in February 2012 and includes the combined cost of energy and capacity.” (Also noted in Figures 4.2, 4.3 and 4.4).

a) Please provide NSPI reports, work papers, calculations and other supporting materials for the development of the \$135/MWh avoided cost figure.

b) How much of the \$135/MWh is energy cost and how much is demand cost?

c) What is the time frame used for the avoided cost figure?

d) Why are the avoided costs identical for all three years, 2013-2015?

e) Does ENSC agree that changes in load, fuel cost and other factors product different avoided costs each year? Why or why not?

f) Was this accounted for? If so, how? If not, why not?

Response IR-7:

a) Please refer to Synapse IR-14a Confidential Attachment 1.

b) The \$135/MWh is a levelized avoided cost over the period 2012 to 2032. Please refer to Synapse IR-14b Confidential Attachment 2 for the estimated annual avoided energy and capacity costs for 2012 to 2032.

c) Please refer to part b.

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- 1 d) Estimated annual avoided costs were provided by Nova Scotia Power to ENSC. Please
2 refer to part b.
3
- 4 e) Yes. Nova Scotia Power accounted for these factors in the avoided costs provided to
5 ENSC. Please refer to part b.
6
- 7 f) Please refer to part e.

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Request IR-8:

- a) Does ENSC have the responsibility to determine whether the avoided cost(s) used in its evaluation and application are reasonable?**
- b) If so, please explain what steps were taken by ENSC to evaluate the \$135/MWh avoided cost and its conclusion on the reliability of this figure for the years 2013, 2014 and 2015.**
- c) If not, who has that responsibility and in what forum is this determined?**

Response IR-8:

- a) NSPI is responsible to determine its avoided costs and provide them to ENSC for DSM planning purposes.
- b) Please refer to part a.
- c) Please refer to part a.

CONFIDENTIAL (Attachment 1)

Request IR-9:

a) Please confirm that the levelized avoided costs used in the development of TRCs and PACs for the 2011 and 2012 DSM Plan were \$166/MWh for energy and \$79/MW/year for demand. If these amounts are incorrect, please provide the correct avoided costs for energy and demand used in 2011 and 2012.

b) Please explain whether the avoided cost(s) used in this application were derived using same methodology as was used to develop the avoided costs for the 2011 and 2012 DSM programs. If not, please provide the new methodology and explain why it has changed

c) Since the avoided costs have changed in 2013 as compared with previous years, please provide a complete explanation for the changes along with any supporting documentation that is referenced.

Response IR-9:

a) The TRCs and PACs for both the 2011 and 2012 DSM plans were calculated using the annual avoided costs of capacity and energy as provided in Confidential Attachment 1. For these annual avoided costs, the levelized values are \$166.07/MWh for energy and \$78.92/kW for capacity.

b) The avoided costs used in this application were derived using the same methodology as those from the 2009 IRP Update which were used for the 2011 and 2012 DSM programs.

c) Please refer to Synapse IR-14.

CONFIDENTIAL (Attachment 1)

- 1 Attachment 1 is filed Confidentially, and must be accessed through the UARB Confidential
- 2 Repository.

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Request IR-10:

In the Load Retention portion of NSPI's 2012 General Rate Application, NSPI provided calculations to the Load Retention applicants (NewPage Port Hawkesbury and Bowater Mersey) showing an average levelized avoided cost of \$62.89/MWh for the period 2012-2016. Undertaking U-7, provided by NSPI, showed levelized avoided costs of \$73.80/MWh for a high gas and high coal price scenario. Please explain the differences between those avoided costs and the avoided costs relied upon in the 2013 to 2015 DSM Plan.

Response IR-10:

The Load Retention avoided costs and the avoided costs of DSM are both calculated using the same method; the annual costs of a plan are compared to the annual costs of a second plan with load added or removed. The avoided costs are then determined by dividing the difference in costs by the change in load requirement. There are three main reasons for the differences in the Load Retention avoided costs and the avoided costs used in this DSM application:

1) **The time period considered:** The DSM avoided costs considered the period 2012 to 2032. The Load Retention rate avoided costs only considered the five year period 2012 to 2016.

2) **The load differences considered:** The DSM avoided costs were calculated based on an increasing DSM savings profile ranging from 135 GWh in 2012 to 2865 GWh in 2032. Please refer to Multeese IR-6b for the annual DSM savings. The DSM avoided costs were calculated for the specific increment in load associated with the DSM profile.

The Load Retention avoided costs were calculated based on a load decrement of approximately 2400 GWh per year. The Load Retention avoided costs were calculated for the specific decrement of load corresponding to the Bowater Mersey and Port

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1 Hawkesbury Paper Mill (formerly NewPage) load and assuming the DSM profile was in
2 place.

- 3
4 3) **The input assumptions used:** The DSM avoided costs were based on the 2009 IRP
5 Update assumptions with a subset of the assumptions updated to reflect more recent
6 information. Please refer to Avon IR-9c.

7
8 The Load Retention avoided costs were based on the 2009 IRP Update assumptions with
9 only the coal and natural gas prices updated to the 5 Year Business Plan values.

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Request IR-11:

Reference: Figure 4.2 – 2013 DSM Plan Savings and Investment (ENSC Evidence, p. 19).

- a) Please provide the data and spreadsheets (in excel with formulas intact) used to prepare Tables 4.2-4.4.**
- b) To the extent that a program does not meet or is neutral in the TRC test (namely, is equal to 1.0 or less), please explain the “strategic or long term benefits” which ENSC believes would otherwise warrant its inclusion in the program.**
- c) The “dual baseline” approach (discussed in Section 6.3) results in lower calculated savings for certain programs (see ENSC Evidence page 40, bottom bullet). Which programs’ TRC values are most likely to be affected by the dual baseline approach?**

Response IR-11:

- a) Please refer to Confidential Attachment 1, filed electronically.
- b) Over the three-year plan, no program areas fail the TRC test. The Energy Savings Actions program TRC is 1.0.

When estimating the TRC for **Energy Savings Actions**, ENSC assumed a one-year measure life, although evidence from similar programs elsewhere suggests this estimate is conservative. Because of this assumption, the benefits in any given year are dependent on the avoided costs for that year, and are therefore subject to any temporary swings in such costs. Since NSPI’s avoided capacity costs are temporarily depressed during the 2013 and 2014 years, so too are the program’s anticipated short-run benefits, which leads to an assumed TRC of 1.0. In the third year, when avoided costs increase significantly, the program TRC rises to 1.6.

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Although the TRC estimate for the above program appears marginal, ENSC's current method of calculating TRC is conservative and may need to evolve in the future. In 2012, ENSC engaged Dunskey Energy Consulting to report on the methods used in other jurisdictions, which include:

- Accounting for avoided cost benefits associated with upgrading utility transmission & distribution capacity.
- Adders to benefits for low income programs.
- Reduction of costs to reflect the fact that DSM is considered less risky than building generation capacity.
- Lower discount rates for Net Present Value estimates.
- Inclusion of participant non-energy benefits, which in some cases may be equal to or greater than the capacity and energy costs avoided by the utility.
- Attributing the benefits of future code-related energy savings to residential new construction programs.

c) ENSC has committed to determining in 2012 the programs for which early replacement is a major component. Early replacement is a key factor in calculating savings using a dual baseline approach. Until this determination is complete, ENSC does not have the information to provide a useful estimate of the programs for which TRC values are most likely to be affected.

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Request IR-12:

Please provide versions of tables 4.2-4.4 (including the spreadsheets used to prepare them) using avoided costs of: \$63/MWh and \$74/MWh.

Response IR-12:

The data provided in Figures 4.2-4.4 were developed from a spreadsheet model that applies energy and capacity avoided costs that vary year by year. Therefore, ENSC is not able to provide a version of Figures 4.2-4.4 from a singular (levelized) avoided energy cost.

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Request IR-13:

Reference: ENSC Evidence, p.23, lines 4-5, states that “[C]onservation and energy efficiency [are] a lower-cost alternative to new supply”.

a) What assumptions were made about NSPI’s need for new supply?

b) What is NSPI’s forecast reserve margin for the period 2012-2017?

Response IR-13:

a) Please refer to Multeese IR-6c Attachment 2 for the long term generation plans for the With DSM and No DSM cases. This table shows the supply-side additions required in each case.

b) The table below shows the NSPI forecast planning reserve margin for 2012 to 2017 for the With DSM and No DSM cases. The planning reserve margin is at or above the minimum requirement of 20 percent each year.

Forecast Planning Reserve Margin

	With DSM Case	No DSM Case
2012	23%	22%
2013	24%	21%
2014	27%	23%
2015	28%	24%
2016	29%	23%
2017	30%	24%

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Request IR-14:**Reference: ENSC Evidence, p.32, Recommendation #2, lines 11 – 14,**

a) Please provide details of the specific measures to be undertaken, the target market and budgets for each measure in 2013 (from Figure 4.2):

- i. Education and outreach \$2.5 million;**
- ii. Development and Research \$1.4 million;**
- iii. Other enabling strategies \$1.0 million.**

b) Please identify how participating or benefitting customer classes are identified for purposes of allocating the costs of each enabling strategy.

c) Please identify any specific enabling strategy which is not currently able to be allocated directly.

d) In your response, please identify the barrier to direct assignment, if there are means to overcome those barriers, and the timing when direct assignment will be implemented.

Response IR-14:

a) Target markets are described in part (b). Enabling Strategy budgets are broken down as follows:

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Education and Outreach			Allocation (%)	
		2013	Res.	BNI
Green Schools				
	Salaries/Materials	\$750,000	0.5	0.5
	Advertising/Promo/travel/supplies/Misc.	\$143,000	0.5	0.5
	Administration	\$95,000	0.5	0.5
Green Schools Total		\$988,000	0.5	0.5
Corporate Communications and Outreach				
	Website Update (architecture)	\$100,000	0.5	0.5
	Development of web-based customer resources, i.e. How to Videos	\$120,000	0.9	0.1
	Website/extranet development	\$60,000	0.5	0.5
	General corporate information materials	\$100,000	0.7	0.3
	Home Shows/Trade Shows	\$40,000	0.9	0.1
	Consulting Fees (agency fees, writing, photography, video)	\$120,000	0.7	0.3
	Energy efficiency campaign and ads	\$250,000	0.8	0.2
	Co-branding (sponsorship marketing)	\$150,000	0.8	0.2
	Community outreach (speaking tours, demo homes, outreach visits)	\$220,000	0.7	0.3
	Media monitoring and reporting	\$20,000	0.7	0.3
	Salaries	\$260,000	0.5	0.5
	Travel/conferences/training/memberships	\$25,000	0.5	0.5
	Office supplies/telephones, etc.	\$4,000	0.5	0.5
Corporate Communications and Outreach Total		\$1,469,000		
Education and Corp. Comm./Outreach Total		\$2,457,000		

2

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Development and Research				
	Program-Related Baseline Studies and Analysis	85,000	0.5	0.5
	Market Potential/Penetration Surveys	75,000	0.5	0.5
	Evaluation Methodologies Research	50,000	0.5	0.5
	Community-Based Social Change Work (identifying barriers to the adoption of energy-efficient behaviours and development of programs to address them)	100,000	0.6	0.4
	Pilot Programs Research	75,000	0.5	0.5
	Wood Pellet Pilot	\$200,000	0.7	0.3
	Development of Technical Reference Manuals	150,000	0.25	0.75
	Strategy Development work, including research into emerging electrical energy efficiency technologies and learning from results and activities in other jurisdictions	75,000	0.5	0.5
	DSM Data System – Maintenance and Enhancement	250,000	0.5	0.5
	Client-Focused Information System	300,000	0.5	0.5
Development and Research Total		1,360,000		
Innovative Financing				
	Finance Development	\$150,000	1	0
Innovative Financing Total		\$150,000		
Capacity Building				
	Green Heat Trade Ally Network	\$140,000	0.7	0.3
	Other Trade Ally Network	\$500,000	0.5	0.5
Capacity Building Total		\$640,000		
Working with Governments				
	Codes and Standards	\$150,000	0.5	0.5
Working with Governments Total		\$150,000		
Enabling Strategies Total		\$4,757,000		

1

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- 1 b) Participating or benefitting customer classes for Other Enabling Strategies are identified
2 as follows:

3
4 **Education and Outreach**

5
6 Green Schools- Allocated as general, across all rate classes as the benefits of building
7 a culture of energy efficiency in Nova Scotia apply at home and at work.

8
9 Corporate Communications and Outreach – Reasonable preliminary allocations have
10 been estimated although it is difficult to identify in advance which customer classes
11 will benefit and in what degree by particular measures. For example, it is obvious that
12 web-based videos and trade shows will benefit the residential class primarily. Other
13 measures are allocated as general.

14
15 **Development and Research**

16
17 The majority of these measures are allocated as general. Where possible, reasonable
18 preliminary allocations have been estimated based on expectations.

19
20 **Innovative Financing**

21
22 The Financing program is being developed for the residential sector. At present
23 ENSC has financing programs in place for the BNI sector. As such the allocation for
24 this Enabling Strategy is 100% residential.

25
26 **Capacity Building**

27
28 Green Heat Trade Ally Network - Primarily focused on providing homeowner and
29 multi-unit residential building owners with access to information to aid them in
30 making an informed decision around replacing electric baseboard heating. It will be

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used by this group to locate trained, professional suppliers, manufacturers and installers. The residential sector is expected to make up about 70% of the market for green heat.

Other Trade Ally Network - Development of a Trade Ally Network will benefit all rate classes. It is anticipated that the residential sector will make up about 70% of the users of the network. Through the Trade Ally Network, residential customers will have access to information on trained, professional and reliable trades and businesses that can facilitate the energy efficiency upgrades.

Businesses will benefit through the development of the Trade Ally Network in two ways. Firstly, they will have access to information on trained and reliable trades, consultants and distributors who can facilitate energy efficiency upgrades. Secondly, through participation in the Trade Ally Network, businesses, consultants and product distributors/manufacturers will be able to partner with ENSC in promoting energy efficient products and services to other businesses and homeowners. It is estimated that this component of the Trade Ally Network will comprise about 30% of the total.

Working with Governments

Codes and Standards - The development, implementation and enforcement of energy efficiency Codes and Standards are allocated to the residential and BNI sectors evenly. In 2012 ENSC will continue to work through the Steering Committee on Performance Energy Efficiency and Renewables to research, develop and fund new energy efficiency standards for the following products:

- | | |
|------------------------------|--------------------|
| ○ Building Energy Estimation | Business Sector |
| ○ Refrigeration Compressors | Business Sector |
| ○ Air Compressor Systems | Business Sector |
| ○ Refrigerators/Freezers | Residential Sector |

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1	○ Clothes Washers	Residential Sector
2	○ Small Network Equipment	Business/Residential
3	○ Stationary Backlit Signs	Business Sector
4	○ Fluorescent Lamp Ballast	Business Sector
5	○ Plug in Luminous Signs	Business Sector

6

7 c) Please refer to part b.

8

9 d) There is no prescribed method to predict direct assignment of many of the expenditure
 10 allocations by rate class in the areas of Education and Outreach, and Development and
 11 Research. ENSC has estimated reasonable allocations wherever possible. Over the
 12 implementation of the plan, expenditures for these Enabling Strategies may change as
 13 program needs change. As expenditures occur for the various components of Enabling
 14 Strategies, ENSC will consider the affected rate classes and directly assign costs to
 15 specific rate classes or a mix of classes as appropriate.

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Request IR-15:

To the extent that DSM programs included as part of the “Enabling Strategies” are funded by sources other than the Electricity DSM Fund, please provide the details of the other sources of funding and an explanation of the allocation of the total program expenses between or among the different sources of funding.

Response IR-15:

Please refer to Avon IR-18.

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Request IR-16:

- a) Please indicate the total energy savings and demand savings in 2011 associated with the shutdown of NewPage Port Hawkesbury.
- b) What assumptions have been made regarding the level of operations of NewPage Port Hawkesbury and Bowater Mersey in 2013-2015?
- c) What impact, if any, did this have on the development of the 2013 – 2015 DSM Plan? Please explain qualitatively and quantitatively, providing all workpapers and studies.

Response IR-16:

- a) The NewPage Port Hawkesbury mill shut down to idle load in mid-September 2011. The following table shows the difference in NewPage load from the 2011 forecast for the months in 2011 affected by the shutdown (September to December).

Month	Energy difference from forecast GWh	Demand difference at system peak MW
Sep-11	-68	+19
Oct-11	-127	-171
Nov-11	-123	-171
Dec-11	-127	-170
Total	-444	

- b) No assumptions have been made regarding the level of operations of NewPage Port Hawkesbury and Bowater Mersy since these are independent of energy efficiency or DSM activities and are outside of ENSC's DSM program planning process.
- c) The potential loss of significant load would be reflected in NSPI's avoided costs. Please refer to Multeese IR-6 and Synapse IR-14.

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Request IR-17:**Reference: 4.4 Capacity Building Programs (Appendix A, pp. 27-28)**

a) Please provide the details of training and associated expenses anticipated in connection with proposed capacity building programs for trade allies. Specifically, please provide information on the type and number of programs that will be offered, the number of anticipated participants, the entire budgeted cost of the training programs and the ENSC portion of the training costs.

b) Please provide the details (as outlined above) of training programs for trade allies offered by ENSC in 2011 and 2012.

Response IR-17:

a) The following tables for 2013, 2014, and 2015 provide ENSC's training type, specific programs, estimated participation, entire cost, and ENSC's portion of the proposed training as part of capacity building for trade allies.

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Trade Ally Training Programs -2013

Type of Training	Specific Program	Estimated Number of Participants	Entire Cost	ENSC Cost
Green Heat Trade Ally				
	Advanced Systems Training, New Products, Quality Assurance Expectations	100	\$50,000	\$40,000
Residential Trade Ally				
Existing Homes	Program Update	200	\$10,000	\$10,000
	New Energy Rating System	200	\$150,000	\$50,000
	New Energy Rating Software	60	\$45,000	\$15,000
	Skills Training	200	\$200,000	\$100,000
New Homes	Program Update	50	\$2,500	\$2,500
	New Energy Rating System	50	\$25,000	\$10,000
	New Energy Rating Software	25	\$12,000	\$4,000
	Skills Training	50	\$50,000	\$25,000
BNI Trade Ally				
Efficient Products Rebates	Program Update	200	\$10,000	\$10,000
	Technical Training	200	\$40,000	\$40,000
Custom Incentives	Program Update	100	\$5,000	\$5,000
	Technical training	100	\$20,000	\$20,000
Direct Installations	Program Update	100	\$5,000	\$5,000
	Technical training	100	\$20,000	\$20,000
Retail Trade Ally				
Efficient Products Rebates	Program Update	500	\$25,000	\$25,000
	Product Training	2000	\$100,000	\$100,000
Total			\$769,500	481,500

1

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Trade Ally Training Programs -2014

Type of Training	Specific Program	Estimated Number of Participants	Entire Cost	ENSC Cost
Green Heat Trade Ally				
	Advanced Systems Training, New Products, Quality Assurance Expectations	100	\$50,000	\$40,000
Residential Trade Ally				
Existing Homes	Program Update	225	\$11,250	\$11,250
	Skills Training	225	\$225,000	\$112,500
	New Energy Rating System	200	\$150,000	\$35,000
	New Energy Rating Software	60	\$45,000	\$15,000
New Homes	Program Update	65	\$3,250	\$3,250
	Skills Training	65	\$65,000	\$32,500
	New Energy Rating System	50	\$25,000	\$8,000
	New Energy Rating Software	25	\$12,000	\$4,000
BNI Trade Ally				
Efficient Products Rebates	Program Update	220	\$11,000	\$11,000
	Technical Training	220	\$44,000	\$22,000
Custom Incentives	Program Update	120	\$6,000	\$6,000
	Technical training	120	\$24,000	\$12,000
Direct Installations	Program Update	120	\$6,000	\$6,000
	Technical training	120	\$24,000	\$12,000
Retail Trade Ally				
Efficient Products Rebates	Program Update	500	\$25,000	\$25,000
	Product Training	2000	\$200,000	\$200,000
Total			\$926,500	555,500

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Trade Ally Training Programs -2015

Type of Training	Specific Program	Estimated Number of Participants	Entire Cost	ENSC Cost
Green Heat Trade Ally				
	Advanced Systems Training, New Products, Quality Assurance Expectations	150	\$75,000	\$75,000
Residential Trade Ally				
Existing Homes	Program Update	250	\$12,500	\$12,500
	Skills Training	250	\$250,000	\$125,000
New Homes	Program Update	75	\$5,000	\$5,000
	Skills Training	75	\$75,000	\$37,500
BNI Trade Ally				
Efficient Products Rebates	Program Update	240	\$24,000	\$20,000
	Technical Training	240	\$48,000	\$20,000
Custom Incentives	Program Update	140	\$14,000	\$10,000
	Technical training	140	\$28,000	\$10,000
Direct Installations	Program Update	140	\$14,000	\$10,000
	Technical training	140	\$28,000	\$10,000
Retail Trade Ally				
Efficient Products Rebates	Program Update	500	\$25,000	\$25,000
	Product Training	2000	\$200,000	\$200,000
Total			\$838,500	560,000

1

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- 1 b) No trade ally training programs were held in 2011. The table below identifies the 2012
 2 training programs.

Trade Ally Training Programs- 2012

Type of Training	Specific Program	Estimated Number of Participants	Entire Cost	ENSC Cost
Green Heat Trade Ally				
	ENSC Training	200	\$20,000	\$20,000
	Green Heat Program	200	\$20,000	\$20,000
Residential Trade Ally				
Existing Homes	ENSC Training	200	\$20,000	\$20,000
New Homes	ENSC Training	50	\$5,000	\$5,000
BNI Trade Ally				
Efficient Products Rebates	ENSC Training	200	\$20,000	\$20,000
Custom Incentives	ENSC Training	100	\$10,000	\$10,000
Direct Installations	ENSC Training	100	\$10,000	\$10,000
Retail Trade Ally				
Efficient Products Rebates	ENSC Training	500	\$50,000	\$50,000
	ENERGY STAR®	500	\$250,000	\$250,000
Totals			\$405,000	\$405,000

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Request IR-18:**Reference: 4.5 Working with Governments (Appendix A, pp. 29-32)**

- a) Please provide project details and associated costs for the studies and evaluations that are referenced under the Codes and Standards projects (page 30).
- b) If there are additional sources of funding to support these studies and evaluations, please provide information about the source, the amount of funding provided and the total project costs.

Response IR-18:

- a) The Steering Committee on Performance Energy Efficiency and Renewables (SCOPEER) is comprised of members from all the provinces, territories and the federal government who presently have regulations which set minimum energy efficiency standards. SCOPEER also has representation from agencies whose mandate is energy efficiency such as ENSC and the Ontario Power Authority, utilities and consumer representatives.

SCOPEER, through a request for proposals process, determines which energy efficiency standards are either created in the case of a new product or updated, in the case of an existing product. The average cost of creating or updating a national standard for energy efficiency is approximately \$120,000 and takes about three years. Once the projects are vetted and approved by SCOPEER they are sent to the Strategic Resource Task Force (SRTF), a sub-group of SCOPEER comprising Canadian regulators and utilities that fund the work. ENSC will provide \$37,500 to these groups in 2013 for energy efficiency standards development; this cost will be matched by the Nova Scotia Department of Energy.

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The Canadian Advisory Council on Energy Efficiency (CACEE) has representation from all provinces that currently have energy efficiency regulations, as well as the federal government and standards development and testing organizations. One of the goals of this group is to coordinate the development and implementation of minimum efficiency standards across all Canadian jurisdictions. In 2012 CACEE began work on the creation of a national minimum energy efficiency standard for fenestration products. The fenestration products to be studied include windows, glass doors, and skylights for low rise buildings (residential); windows, glazing and sliding doors for high-rise and large buildings; and glazing for installation in manufactured door slabs, side lights and transom lights. The first step in this process is the funding of a national market study on fenestration energy performance. ENSC will provide \$5,000; the Nova Scotia Department of Energy will match this cost to help fund this study.

ENSC will share administrative resources with the Nova Scotia Department of Labour and Advanced Education on implementation of the National Energy Code for Buildings.

ENSC will share administrative resources with the Nova Scotia Department of Energy on the development, testing and adoption of a mandatory building labeling program for both commercial and residential buildings.

ENSC will share administrative resources with Natural Resources Canada on the development, testing and adoption of a new Energy Rating System (ERS) for residential buildings.

- b) The Standards development funded through the SRTF is shared with the Nova Scotia Department of Energy. The Nova Scotia Department of Energy is providing \$37,500 in funding for energy efficiency standards development.

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1 The funding for the national market study on fenestration is shared with the Nova Scotia
2 Department of Energy. The Nova Scotia Department of Energy is providing \$5,000 in
3 funding for this study.
4

5 At this time the costs of the implementation of the National Energy Code for Buildings,
6 the development of mandatory building energy labeling, and the development and
7 implementation of the new ERS are administrative. As these projects near completion,
8 ENSC will be sharing the costs related to implementation such as public consultation,
9 outreach, advertising and other expenses.

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Request IR-19:**Reference: Appendix C, Elenchus Report, p.13, footnote 3.**

a) Please confirm that to date, enabling strategies have been allocated on the basis of customer count.

b) Please confirm that the 2012 DSM Plan allocated \$343 to Large Industrial customers for enabling strategies and in 2013, the allocation is \$286,480 (an 83,521% increase)? If not, explain.

c) Please confirm that the allocation to the Residential class in 2012 was \$4,530,014 and in 2013 it is proposed to be \$2,207,482. If not, explain.

d) Footnote 3 states that direct allocations are not yet “presently available” but “direct allocations are expected to be practical and appropriate” for many of the actual 2013-2015 enabling strategy costs in the true-up process”. Does ENSC agree that once the information and data regarding direct allocations is collected and available, enabling strategies will be able to be more accurately assigned reflecting a truer cost of service?

e) Does ENSC agree that the DSM true-up has a two year lag such that if customers overpay, they must wait two years for a refund?

Response IR-19:

a) Confirmed.

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b) The 2012 DSM Plan preliminary cost allocation allocated \$414 to the Large Industrial class for Enabling Strategies. This amount was revised in the October 21, 2011 DSM Cost Recovery Rider filing to \$343.

ENSC's 2013-2015 preliminary cost allocation to the Large Industrial class was \$286,480 for Enabling Strategies. As identified in Avon IR-22, the preliminary cost allocation for Enabling Strategies has been revised; the revision allocates \$46,134 to the Large Industrial class. Please refer to the revised Preliminary Cost Allocation Tables (Appendix C, Attachment 1) filed concurrently with this IR Response, April 18, 2012.

c) The preliminary cost allocation of the 2012 DSM Plan allocated \$4,512,188 to the Residential class for Enabling Strategies. This amount was revised in the October 21, 2011 DSM Cost Recovery Rider filing to \$4,530,014.

Please refer to the revised Preliminary Cost Allocation Tables (Appendix C, Attachment 1) filed concurrently with this IR Response, for the revised preliminary cost allocation for 2013, which allocates \$2,925,089 to the Residential class for Enabling Strategies.

d) Yes. Please refer to Avon IR-22b regarding 2013-2015 allocation estimates for Enabling Strategies.

e) Yes. The annual DSM rate rider adjustment provides true-up for overpayment as well as underpayment.

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1 **Request IR-20:**

3 **Reference: Appendix C, Attachment 1-2, Table 2 (2013)**

5 **Please provide a similar table showing the program costs assigned to the Large Industrial**
6 **Class for 2010F, 2010A, 2011F, 2011A, 2012F, 2013F, 2014F and 2015F.**

8 Response IR-20:

10 As identified in Avon IR-22, ENSC's preliminary cost allocation for 2013-2015 has been
11 revised. Please refer to the revised Preliminary Cost Allocation Tables (Appendix C, Attachment
12 1) filed concurrently with this IR Response, April 18, 2012.

14 Please refer to Attachment 1 for the program costs assigned to the Large Industrial Class based
15 on the revised allocations.

Line #

TABLE 2 Preliminary Allocation of 75% of DSM Program Costs associated with benefits realized by Large Industrial class

COLUMN FORMULA	A	B	C	D	E	F	G	H	I	J	K	L
	Σ col A to J											K * 75%
Program	Program costs incurred on participating rate classes											Program Costs Directly Assigned to Participating rate classes (75% of the total)
	Existing Homes	New Homes	Efficient Products	Home Energy Report	Prescriptive Rebates	Custom (incl. New Construction)	Small Business Direct Install	Education & Outreach	Development and Research	Other Enabling Strategies	All Program Costs Combined	
Year												
2010 F ¹	\$ -	\$ -	\$ -	\$ -	\$ 20,762	\$ 779,184	\$ -	\$ 33	\$ 21	\$ -	\$ 800,000	\$ 600,000
2010 A ²	\$ -	\$ -	\$ -	\$ -	\$ 86,266	\$ 483,075	\$ -	\$ 38	\$ 128	\$ -	\$ 569,508	\$ 427,131
2011 F ³	\$ -	\$ -	\$ -	\$ -	\$ 568,663	\$ 894,855	\$ -	\$ 89	\$ 83	\$ -	\$ 1,463,690	\$ 1,097,768
2011 A ^{4,5}	\$ -	\$ -	\$ -	\$ -	\$ 49,201	\$ 158,185	\$ -	\$ 71	\$ 118	\$ -	\$ 207,574	\$ 155,681
2012 F ⁶	\$ -	\$ -	\$ -	\$ -	\$ 239,542	\$ 1,233,145	\$ -	\$ 124	\$ 124	\$ 166	\$ 1,473,101	\$ 1,104,826
2013 F	\$ -	\$ -	\$ -	\$ -	\$ 132,765	\$ 406,067	\$ -	\$ 23,451	\$ 16,210	\$ 6,437	\$ 584,967	\$ 438,725
2014 F	\$ -	\$ -	\$ -	\$ -	\$ 130,559	\$ 389,891	\$ -	\$ 24,990	\$ 16,595	\$ 7,142	\$ 569,177	\$ 426,883
2015 F	\$ -	\$ -	\$ -	\$ -	\$ 123,726	\$ 393,790	\$ -	\$ 30,319	\$ 17,716	\$ 6,531	\$ 572,081	\$ 429,061

¹ Source: 2010 DSM Cost Recovery Rider Filed October 1, 2009² Source: 2012 DSM Cost Recovery Rider Filed October 21, 2011³ Source: 2011 DSM Plan Preliminary Cost Allocation Tables Filed February 26, 2010⁴ Source: Rate Code Allocation Preliminary Actuals Updated March 26, 2012⁵ Source: Unaudited Expenditures from Figure 2.2 of the 2013-15 Filing⁶ Source: 2012 DSM Revised Appendix B Preliminary Program Cost Allocation

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1 **Request IR-21:**

3 **Reference: Appendix C, Attachment 1-4, Table 2(b) (2013)**

5 **Please provide a similar table showing the relative share of program costs by the Large**
6 **Industrial Class for 2010F, 2010A, 2011F, 2011A, 2012F, 2013F, 2014F and 2015F.**

8 Response IR-21:

10 As identified in Avon IR-22, ENSC's preliminary cost allocation for 2013-2015 has been
11 revised. Please refer to the revised Preliminary Cost Allocation Tables (Appendix C, Attachment
12 1) filed concurrently with this IR Response, April 18, 2012.

14 Please refer to Attachment 1 for the relative share of program costs assigned to the Large
15 Industrial Class based on the revised allocations.

Line #

TABLE 2 b) Preliminary Estimate of DSM Program participation by Large Industrial class after accounting for the Municipal Class

COLUMN	A	B	C	D	E	F	G	H	I	J
Program Year	Program costs incurred on participating rate classes									
	Existing Homes	New Homes	Efficient Products	Home Energy Report	Prescriptive	Custom (incl. New Construction)	Small Business Direct Install	Education & Outreach	Development and Research	Other Enabling Strategies
2010 F ¹	0.0%	0.0%	0.0%	0.0%	13.8%	10.1%	0.0%	0.0%	0.0%	0.0%
2010 A ²	0.0%	0.0%	0.0%	0.0%	5.3%	11.8%	0.0%	0.0%	0.0%	0.0%
2011 F ³	0.0%	0.0%	0.0%	0.0%	10.9%	10.9%	0.0%	0.0%	0.0%	0.0%
2011 A ⁴	0.0%	0.0%	0.0%	0.0%	1.7%	4.3%	0.0%	0.0%	0.0%	0.0%
2012 F ⁵	0.0%	0.0%	0.0%	0.0%	5.3%	13.3%	0.0%	0.0%	0.0%	0.0%
2013 F	0.0%	0.0%	0.0%	0.0%	1.6%	4.3%	0.0%	0.9%	1.2%	0.7%
2014 F	0.0%	0.0%	0.0%	0.0%	1.6%	4.3%	0.0%	1.0%	1.2%	0.7%
2015 F	0.0%	0.0%	0.0%	0.0%	1.6%	4.3%	0.0%	1.0%	1.3%	0.8%

*Percentages less than .05 round to zero

¹ Source: 2010 DSM Cost Recovery Rider Filed October 1, 2009² Source: 2012 DSM Cost Recovery Rider Filed October 21, 2011³ Source: 2011 DSM Plan Preliminary Cost Allocation Tables Filed February 26, 2010⁴ Source: Rate Code Allocation Preliminary Actuals Updated March 26, 2012⁵ Source: 2012 DSM Revised Appendix B Preliminary Program Cost Allocation

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Request IR-22:

Reference: Appendix C, Footnote 1 to Attachment 1-4, Table 2(b) (2013), Attachment 1-9, Table 2(b) (2014) and Attachment 1-14, Table 2(b) (2015), states that the breakdown of Municipal Class sales is based on a 2011 forecast provided by MEUNSC.

a) Did ENSC secure the most current forecast from MEUNSC or NSPI for 2012? For 2013 to 2015? If so, please provide and explain why it was not used. If not, why not?

b) Please provide updated Tables 2(b) based on the more current forecast.

Response IR-22:

a) Yes. On March 20, 2012, ENSC received an updated forecast for 2012 from NSPI that was provided by the MEUNSC. In the past, this information has been provided to NSPI by MEUNSC before June 1st of the prior year. NSPI has not yet received it for 2013. ENSC will request this information directly from the MEUNSC on a go-forward basis.

b) ENSC's Preliminary Cost Allocation Tables have been updated based on the more current MEUNSC forecast. Please refer to the revised Preliminary Cost Allocation Tables (Appendix C, Attachment 1) filed concurrently with this IR Response, April 18, 2012.

During this update process, ENSC made two additional adjustments:

- Preliminary 2011 actual allocated costs were used to update the 2011 actual cost allocation and to inform the 2013-2015 allocations.
- ENSC estimated the allocation of Enabling Strategies by customer sectors.

NON-CONFIDENTIAL

Request IR-23:

How many customers comprise the Large Industrial Class in each of 2010, 2011, 2012, 2013, 2014 and 2015?

Response IR-23:

The numbers of customers comprising the Large Industrial class for 2010 through 2015 are as follows:

2010	2011	2012	2013	2014	2015
31	30	30	30	30	30

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Request IR-24:

- a) Does ENSC have a “program manager” (or similarly otherwise titled individual) responsible to liaise with each Large Industrial customer with respect to its DSM programs?**
- b) What, if any, surveys were done with the Large Industrial customers with respect to planned DSM programs in 2013-2015? Were such surveys used in developing the DSM Plan and assigning program costs 1 to the Large Industrial customers? If not, why not?**
- c) Does ENSC agree there is value in such discussions or surveys?**

Response IR-24:

- a) ENSC has account managers whose responsibilities include working with Large Industrial customers to assist them with participation in ENSC services.
- b) Since ENSC account managers meet directly with Large Industrial customers to identify opportunities for new projects and services, no surveys were conducted.
- c) Yes. Ongoing efforts led to the 2011 launch of the Embedded Energy Manager, Compressed Air Upgrade and Retro-commissioning services. The planned 2012 launch of an Energy Management Information System (EMIS) service will further benefit Large Industrial customers.

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Request IR-25:

- a) In the BNI programs is it possible (and does ENSC) track all measures by customer class? If not, for any BNI Program measure which is not tracked, evaluated and validated by customer class, please explain what alternative methodology is used to ensure that the Large Industrial customers are, in fact, paying their appropriate share of costs assigned to the Large Industrial class.**
- b) Please identify any measures in the BNI programs which have been added to or deleted from the measures filed in the 2011 Plan and the 2012 Plan. Of these, which are targeted for the Large Industrial Class?**
- c) Please provide a variance analysis of budget versus actual DSM program expenditures by measure related to the Large Industrial Class for the DSM programs offered in 2010, 2011 and 2012 similar to ENSC Avon IR-4 (2012 DSM Plan filing). Where names or programs have changed, please explain.**

Response IR-25:

- a) ENSC tracks all measures by customer class in the Custom, Small Business Energy Solutions (SBES), and Business Energy Rebates (BER) programs.**

As Smart Lighting Choices (SLC) is an upstream program that provides point-of-sale discounts, ENSC is not able to track these measures by customer class. To allocate SLC costs, Custom and SBES rate-code allocations are applied to overall SLC sales on a weighted basis (based on the percentage of SLC measures installed in those programs for each rate class).

- b) Although the mix of measures analyzed in the DSM Plan may change from year to year, the measures eligible for incentives in 2012 will remain eligible in 2013 through 2015.**

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1

2 c) Please refer to Attachment 1.

Line #

Forecast versus Actual DSM Spending for the Large Industrial Rate Class

COLUMN
FORMULA

A

B

C

D

E

F

G

H

I

J

K

 Σ B to I

J - A

Actual Expenditures

Year	Forecast Costs	Efficient Products	Existing Houses	New Houses	Low Income Households	C & I Prescriptive Rebate	C & I Custom	Small Business DI Lighting	Enabling Strategies	Total Actual Expenditures	Variance
2010	\$ 800,000	\$ -	\$ -	\$ -	\$ -	\$ 86,266	\$ 483,075	\$ -	\$ 167	\$ 569,508	\$ (230,492)
2011 ¹	\$ 1,463,690	\$ -	\$ -	\$ -	\$ -	\$ 49,201	\$ 158,185	\$ -	\$ 189	\$ 207,574	\$ (1,256,116)
2012	\$ 1,473,101	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	N/A

¹ Actual 2011 expenditures are subject to audit.

NON-CONFIDENTIAL

1 **Request IR-26:**

2
3 **Reference: Appendix C, Attachment 2-2, Table 2.2 DSM Rate Rider Impacts.**

4
5 **Please confirm that ENSC's proposed programs would result in a 52% increase in the**
6 **DSM rider in 2013 for the Large Industrial Class over the current rate rider which**
7 **includes the DSM balance adjustment.**

8
9 Response IR-26:

10
11 The referenced Rate Rider Impact table filed on February 27, 2012 indicated that allocated
12 program costs would result in a 52% increase in the DSM rider for the Large Industrial class. As
13 indicated in Avon IR-22, the Preliminary Program Cost Allocation Tables and the associated
14 Rate and Bill Impact Tables have been revised. The revised Rate Impact Tables indicate a 19.8%
15 decrease in the DSM rider for the Large Industrial class. Please refer to the revised Rate Impact
16 Table (Appendix C, Attachment 2.2) filed concurrently with this IR Response, April 18, 2012.

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Request IR-27:

Reference: Appendix C, Table 3 (2013), (2014) and (2015), Attachments 1-2, 1-10 and 1-15.

Please confirm that ENSC is allocating the following program costs to the ELI-2P-RTP class:

2013	\$ 1,437,469
2014	\$ 1,465,869
2015	\$ 1,533,347

a) In the event there are no customers receiving service under the ELI rate, how will the unrecovered DSM revenues be treated?

Response IR-27:

In the original filing, ENSC allocated program costs to ELI-2P-RTP as shown above.

ENSC has subsequently been advised by NSPI that the former ELI-2P-RTP customer will be receiving the new Load Retention Rate in 2013 and 2014. As that rate class is exempt from paying the DSM rate rider, ENSC's cost allocation has been updated with no costs allocated to that customer class. Similarly, ENSC's updated cost allocation allocates no costs to this customer class for 2015. Please refer to the revised Preliminary Cost Allocation Tables (Appendix C, Attachment 1) filed concurrently with this IR Response, April 18, 2012.

a) The costs shown above have been allocated to other customer classes in order to allow full recovery of ENSC costs.