IDAHO POWER®
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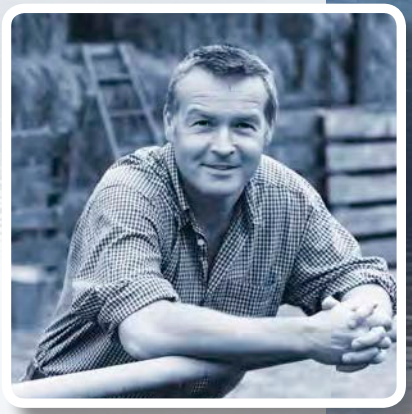
March 15, 2014

Demand-Side Management

2013 ANNUAL REPORT



SUPPLEMENT 1:
Cost-Effectiveness

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SUPPLEMENT 1: COST-EFFECTIVENESS

Cost-Effectiveness

Idaho Power considers cost-effectiveness of primary importance in the design, implementation, and tracking of energy efficiency and demand response programs. New energy efficiency and demand response programs or measures are identified both as part of the Integrated Resource Plan (IRP) process and through ongoing program development and research activities.[1] All current and potential programs and measures are screened by sector to determine cost-effectiveness. From the cost-effective demand-side management (DSM) resources, a forecast is developed and used in the IRP to define the resource potential of both energy efficiency and demand response.

Prior to the actual implementation of energy efficiency or demand response programs, Idaho Power performs a cost-effectiveness analysis to assess whether a specific potential program design will be cost-effective from the perspective of Idaho Power and its customers. Incorporated into these models are inputs from various sources to use the most current and reliable information available. When possible, Idaho Power leverages the experiences of other utilities in the region, or throughout the country, to identify specific program parameters. This is typically accomplished through discussions with other utilities' program managers and researchers. Idaho Power also uses electric industry research organizations, such as ESource, the Edison Electrical Institute (EEI), Consortium for Energy Efficiency (CEE), American Council for an Energy Efficient Economy (ACEEE), Advanced Load Control Alliance (ALCA), and Association of Energy Service Professionals (AESP), to identify similar programs and their results. Additionally, Idaho Power relies on the results of program impact evaluations and recommendations from consultants. In 2013, Idaho Power contracted with ADM Associates, Inc. (ADM), The Johnson Consulting Group, Market Decisions Corporation, Opinion Dynamics Corporation (Opinion), and TRC Energy Services for program evaluations and research.

Idaho Power's goal is to have all programs reach benefit/cost (B/C) ratios of 1.0 or greater for the total resource cost (TRC) test, utility cost (UC) test, and participant cost test (PCT) at the program level and the measure level where appropriate. An exception to the measure level cost-effectiveness is when there is an interaction between measures. Idaho Power may launch a pilot or a program to evaluate estimates or assumptions in the cost-effectiveness analysis. Following the implementation of a program, cost-effectiveness analyses are reviewed as new inputs from actual program activity become available, such as actual program expenses, savings, or participation levels. If measures or programs are determined to be not cost-effective after implementation, the program or measures are re-examined, including input provided from the company's Energy Efficiency Advisory Group (EEAG).

Methodology

For its cost-effectiveness methodology, Idaho Power relies on the Electric Power Research Institute (EPRI) *End Use Technical Assessment Guide* (TAG); the *California Standard Practice Manual* and its subsequent addendum, the National Action Plan for Energy Efficiency's (NAPEE) *Understanding Cost-Effectiveness of Energy Efficiency Programs: Best Practices, Technical Methods, and Emerging*

[1] The IRP is a biannual process with the most recent plan submitted in 2013.

Issues for Policy-Makers; and the *National Action Plan on Demand Response*. Traditionally, Idaho Power has primarily used the TRC test and the UC test to develop B/C ratios to determine the cost-effectiveness of DSM programs. These tests are still used because, as defined in the TAG and *California Standard Practice Manual*, they are most similar to supply-side tests and provide a useful basis to compare demand-side and supply-side resources.

For energy efficiency programs, each program's cost-effectiveness is reviewed annually from a one-year perspective. The annual energy-savings benefit value is summed over the life of the measure or program and is discounted to reflect 2013 dollars. The result of the one-year perspective is shown in *Supplement 1: Cost-Effectiveness.* Appendix 4 of the main *Demand-Side Management 2013 Annual Report* includes the program cost-effectiveness to-date by including the culmination of actual historic savings values and expenses as well as the ongoing energy savings benefit over the life of the measures included in a program.

The goal of demand response programs is to minimize or delay the need to build new supply-side resources. Unlike energy efficiency programs, demand response programs must acquire and retain participants each year to maintain a level of demand reduction capacity for the company. Demand response programs are expensive and generally have a higher initial investment than energy efficiency programs. As such, demand response programs are analyzed over the program life where historical program demand reduction and expenses are combined with forecasted program activity to better compare the program to a supply-side resource. While cost-effectiveness is determined over the program life, it is also calculated for each individual year.

Because the 2013 IRP process indicated a lack of near-term capacity deficits, on December 21, 2012, Idaho Power filed a proposal with the Idaho Public Utilities Commission (IPUC) to temporarily suspend two of its demand response programs, A/C Cool Credit and Irrigation Peak Rewards, for 2013. A settlement workshop was held in February 2013, with Idaho Power and interested stakeholders to discuss plans for the 2013 cycling season. The stipulation was filed on February 14, 2013. FlexPeak Management was not included in the original filing due to the company's contractual obligation to EnerNOC, Inc. As part of the public workshops on Case No. IPC-E-13-14, Idaho Power and other stakeholders agreed on a new methodology for valuing demand response. The settlement agreement was approved in IPUC Order No. 32923 on November 12, 2013. The new methodology will be applied to the cost-effectiveness models for all demand response programs in 2014.

Assumptions

Idaho Power relies on research conducted by third-party sources to obtain savings and cost assumptions for various measures. These assumptions are routinely reviewed and updated as new information becomes available. For many of the measures within *Supplement 1: Cost-Effectiveness*, savings, costs, and load shapes were derived from either the Regional Technical Forum (RTF); the *Demand-Side Management Potential Study* conducted by Nexant, Inc., in 2009, or the *Idaho Power Energy Efficiency Potential Study* conducted by EnerNOC Utility Solutions Consulting Group in 2012. In 2013, EnerNOC provided Idaho Power with updated end-use load shapes. Those updated load shapes have been applied to each program and measure when applicable.

The RTF regularly reviews, evaluates, and recommends eligible energy efficiency measures and the estimated savings and costs associated with those measures. As the RTF updates these assumptions, Idaho Power, in turn, applies those assumptions to current program offerings and assesses the need to

make any program changes. Idaho Power staff participate in the RTF by attending the monthly meetings and contributing to various sub-committees. Because cost data from the RTF information is in 2006 dollars, measures with costs from the RTF have been escalated by 15.035 percent in 2012. No 2013 inflator was available. This percentage is provided by the RTF at http://rtf.nwcouncil.org/measures/support/files/RTFStandardInformationWorkbook_v1_5.xlsx.

Idaho Power also relies on other sources, such as the Northwest Power and Conservation Council (NPCC), Northwest Energy Efficiency Alliance (NEEA), the Database for Energy Efficiency Resources (DEER), the Energy Trust of Oregon (ETO), the Bonneville Power Administration (BPA), third-party consultants, and other regional utilities. In 2013, ADM Associates began developing a technical reference manual (TRM) for the Building Efficiency and Easy Upgrades programs. Once the TRM is finalized in 2014, the measures will be reviewed and analyzed for cost-effectiveness. Occasionally, Idaho Power will also use internal engineering estimates and calculations for savings and costs based on information gathered from previous projects.

The remaining inputs used in the cost-effectiveness models are obtained from the IRP process. The *Technical Appendix* of Idaho Power's 2011 IRP is the source for the financial assumptions, including the discount rate and escalation rate. The 2013 IRP was acknowledged by the IPUC in Order No. 32980 on February 24, 2014. The 2013 IRP will be the source of all financial inputs in cost-effectiveness models in 2014. As recommended by the NAPEE *Understanding Cost-Effectiveness of Energy Efficiency Programs*¸ Idaho Power's weighted average cost of capital (WACC) of 7 percent is used to discount future benefits and costs to today's dollars. However, determining the appropriate discount rate for participant cost and benefits is difficult because of the variety of potential discount rates that can be used by the different participants as described in the TAG manual. Since the participant benefit is based on the anticipated bill savings of the customer, Idaho Power believes the WACC is not an appropriate discount rate to use. Because the customer bill savings is based on Idaho Power's 2013 average customer segment rate and is not escalated, the participant bill savings is discounted using a real discount rate of 3.88 percent, which is based on the 2011 IRP's WACC of 7 percent and an escalation rate of 3 percent. The formula to calculate the real discount rate is as follows:

$$((1 + \text{WACC}) \div (1 + \text{Escalation})) - 1 = \text{Real}$$

The IRP is also the source of the DSM alternative costs, which is the value of energy savings and demand reduction resulting from the DSM programs. These DSM alternative costs vary by season and time of day and are applied to an end-use load shape to obtain the value of that particular measure or program. The DSM alternative energy costs are based on both the projected fuel costs of a peaking unit and forward electricity prices as determined by Idaho Power's power supply model, AURORAxmp® Electric Market Model. The avoided capital cost of capacity is based on a gas-fired, simple-cycle turbine. In the 2011 IRP, the annual avoided capacity cost is $94 per kilowatt (kW). When multiplied by the effective load carrying capacity (ELCC) of 93.4 percent, the annual avoided capacity cost is $87.80/kW. The ELCC reduces the avoided capacity cost benefit.

Because demand response programs do not match the availability of generation resources, these programs should not claim the full avoided capacity cost benefit of that supply-side resource. In 2011, Idaho Power determined the ELCC for demand response programs by creating load duration curves using five years of actual total system load data and the top 100 hours (adjusted for demand response activity) of each year. Of those top 500 hours, the number of hours that fell within the operating parameters of one or more demand response program between June 1 and August 31 was used

to calculate the ELCC. Approximately 6.6 percent of the total hours were outside the programs' parameters. Therefore, an ELCC of 93.4 percent is now applied to the avoided capacity cost of a simple-cycle gas turbine in the cost-effectiveness calculation of demand response programs.

Net-to-Gross

Net-to-gross (NTG), or net-of-free-ridership (NTFR), is defined by NAPEE's *Understanding Cost-Effectiveness of Energy Efficiency Programs: Best Practices, Technical Methods, and Emerging Issues for Policy-Makers* as a ratio that does as follows:

> Adjusts the impacts of the programs so that they only reflect those energy efficiency gains that are the result of the energy efficiency program. Therefore, the NTG deducts energy savings that would have been achieved without the efficiency program (e.g., 'free-riders') and increases savings for any 'spillover' effect that occurs as an indirect result of the program. Since the NTG attempts to measure what the customers would have done in the absence of the energy efficiency program, it can be difficult to determine precisely.

For most programs and individual measures, the NTG ratios are sourced from the 2009 Nexant *Demand-Side Management Potential Study.* The NTG ratio adjustment is shown as part of *Supplement 1: Cost-Effectiveness* for each program and measure. However, for some programs, such as Energy Efficient Lighting, Irrigation Efficiency Rewards, and See ya later, refrigerator®, the unit incremental savings are net realized energy savings from third-party sources that take into account an NTG ratio adjustment. While each project within the Custom Efficiency program is analyzed independently, and Idaho Power believes there is considerable spillover from this program, a NTG ratio adjustment of 69 percent, the standard custom program NTG ratio from DEER[2], which includes a spillover adjustment, is used to calculate the cost-effectiveness of this program.

Results

Idaho Power determines cost-effectiveness on a measure basis, where relevant, and program basis. As part of *Supplement 1: Cost-Effectiveness* and where applicable, Idaho Power publishes the cost-effectiveness by measure, calculating the PCT and ratepayer impact measure (RIM) test at the program level, listing the assumptions associated with cost-effectiveness, and citing sources and dates of metrics used in the cost-effectiveness calculation.

The B/C ratio from the participant cost perspective is not calculated for the demand response programs, Weatherization Assistance for Qualified Customers (WAQC), Weatherization Solutions for Eligible Customers, See ya later, refrigerator®, and Energy House Calls. These programs have few or no customer costs. For energy efficiency programs, the cost-effectiveness models do not assume ongoing participant costs.

[2] Source: CPUC DEER NTFR Update Process for 2006–2007 Programs, found at http://www.deeresources.com/files/deer2008exante/downloads/DEER%200607%20Measure%20Update%20Report.pdf

For most programs, the *Demand-Side Management 2013 Annual Report* contains program UC and TRC B/C ratios using actual cost information over the life of the program through 2013. *Supplement 1: Cost-Effectiveness* contains annual cost-effectiveness metrics for each program using actual information from 2013, includes results of the PCT, and includes the application of an NTG factor where appropriate. Current customer energy rates are used in the calculation of the B/C ratios from a PCT and RIM perspective. Rate increases are not forecast or escalated. Where applicable, the cost-effectiveness results of demand response programs include historical expenses. A summary of the cost-effectiveness by program can be found in Table 3.

In 2013, most of Idaho Power's energy efficiency programs were cost effective, except for the Ductless Heat Pump Pilot, ENERGY STAR® Homes Northwest, and the weatherization programs for income-qualified customers.

The Ductless Heat Pump Pilot has a UC of 2.51, TRC of 0.71, and PCT of 0.81. In fall 2013, the RTF approved ductless heat pump annual savings estimates for customers not screened for supplemental fuel use. RTF savings declined from the previously provisionally deemed savings of 3,500 annual kilowatt-hour (kWh) to a range between 292 kWh and 3,016 annual kWh. As a result of the lower kWh savings, the program did not pass the TRC and PCT. The RTF will continue to evaluate ductless heat pumps for the possible inclusion of NEBs for reduced wood purchases and decreased wood-burning emissions. Idaho Power will continue to monitor the program in 2014.

The ENERGY STAR Homes Northwest program has a UC of 1.61, TRC of 0.95, and PCT of 1.46. In 2013, 7 of 267 homes were single-family homes and 260 were townhomes. Due to the lower kWh savings for townhomes versus single-family homes, the program was shown to be not cost-effective from a TRC perspective for 2013.

WAQC had a TRC of 0.74, and Weatherization Solutions for Eligible Customers had a TRC of 0.53 due to the lower estimated savings per home that resulted from the impact evaluation conducted by D&R International. Idaho Power adopted the following IPUC staff's recommendations from Case No. GNR-E-12-01 for calculating the programs' cost-effectiveness:

- Applied a 100-percent NTG.
- Claimed 100 percent of energy savings for each project.
- Included indirect administrative overhead costs. The overhead costs of 2.76 percent were calculated from the $741,287 of indirect program expenses divided by the total DSM expenses of $26,841,379 as shown in Appendix 3 of the *Demand-Side Management 2013 Annual Report*.
- Applied the 10-percent conservation preference adder.
- Amortized evaluation expenses over a three-year period.
- Claimed one dollar of NEBs for each dollar of utility and federal funds invested in health, safety, and repair measures.

No cost-effectiveness analysis was performed on the A/C Cool Credit and Irrigation Peak Rewards programs for 2013 due to the temporary suspension of the programs. In Case No. IPC-E-12-29, the company filed a settlement stipulation with the IPUC on February 14, 2003. In the stipulation, parties recognized the need for the company to incur program expenses in 2013 to maintain the programs' infrastructure for the long-term, though it may not be cost effective by traditional standards. The IPUC approved the settlement stipulation in Order No. 32776 on April 2, 2013.

The FlexPeak Management program was the only demand response program in operation in 2013. Idaho Power amended its contract with EnerNOC to operate the FlexPeak Management program in 2013 at a reduced cost. Based on these contract amendments, the cost-effectiveness analysis for the program was updated using a 5-year program life versus the previously analyzed 10-year program life. Idaho Power also calculates cost-effectiveness for each demand response program on a year-to-year basis. For 2013, FlexPeak Management had a TRC 1.41. The 5-year program life TRC ratio for FlexPeak Management program was 1.43.

Eighteen individual measures in various programs are shown to be not cost-effective from a TRC perspective. The measures will be discontinued, analyzed for additional NEBs, modified to increase potential per unit savings, or monitored to examine their impact on the specific program's overall cost-effectiveness.

Table 1. 2013 non-cost-effective measures

Program	Number of Measures	Notes
Ductless Heat Pump Pilot	5	Measures will be monitored in 2014. RTF to analyze for additional NEBs
Easy Upgrades	1	Measure will be removed in 2014 due to minimal per-unit savings.
Energy Efficient Lighting	2	One measure will be removed from the program in 2014 due to negative per-unit savings. One measure will be reviewed in 2014.
ENERGY STAR Homes Northwest	1	Measure will be reviewed in 2014.
Heating & Cooling Efficiency Program	3	Measures will be reviewed in 2014.
Home Improvement	2	Measures will be reviewed in 2014.
Home Products Program	4	Measures will be reviewed in 2014.
Total	**18**	

In addition to these 18 measures, 2 residential ENERGY STAR clothes washer and 2 residential refrigerator measures fail the UC but pass the TRC. With the inclusion of NEBs, such as gas, wastewater, and detergent savings, the clothes washers do pass the TRC test; however, the 'any' ENERGY STAR clothes washers option still fails the UC test. Idaho Power is now looking at adding clothes washers to the program using a qualified product list for clothes washers meeting a higher modified energy factor (MEF). Two refrigerator measures fail the UC test but pass the TRC test due to the incentives being higher than the incremental costs. Idaho Power will continue to monitor these measures.

Following the annual program cost-effectiveness results are tables that include measure-level cost-effectiveness. Exceptions to the measure-level tables are the demand response programs which do

not provide incentives for installed end-use measures. Other programs not analyzed at the measure level include Custom Efficiency, the custom option of Irrigation Efficiency Rewards, and WAQC, where projects include multiple interactive measures that are analyzed at the project level. Due to the application of a per-home annual energy savings number for Weatherization Solutions for Eligible Customers determined by the 2012 impact evaluation, measure-level realized energy-saving data are unavailable for 2013. The measure level cost-effectiveness analysis is not included in this report due to the lack of realized data at the measure level.

The measure-level cost-effectiveness includes inputs of measure life, energy savings, incremental cost, NTG factors, incentives, program administration cost, and net benefit. Program administration costs include all non-incentive costs: labor, marketing, training, education, purchased services, and evaluation. Energy and expense data have been rounded to the nearest whole unit which may result in minor rounding differences.

2013 DSM Detailed Expense by Program

Included in this supplement is a detailed breakout of program expenses as shown in Appendix 2 of the *Demand-Side Management 2013 Annual Report*. These expenses are broken out by funding source major-expense type (incentives, labor/administration, materials, other expenses, and purchased services).

Table 2. 2013 DSM detailed expenses by program (dollars)

Sector/Program	Idaho Rider	Oregon Rider	Idaho Power	Total Program
Energy Efficiency/Demand Response				
Residential				
A/C Cool Credit	**$ 537,163**	**$ 29,731**	**$ 96,964**	**$ 663,858**
Labor/Administrative Expense	81,728	4,300	0	**86,028**
Other Expense	43,925	2,442	0	**46,367**
Purchased Services	411,426	21,655	0	**433,081**
Incentives	83	1,333	96,964	**98,381**
Ductless Heat Pump Pilot	**230,761**	**6,814**	**0**	**237,575**
Labor/Administrative Expense	56,170	2,956	0	**59,126**
Other Expense	5,702	298	0	**6,000**
Purchased Services	10,639	560	0	**11,199**
Incentives	158,250	3,000	0	**161,250**
Energy Efficient Lighting	**1,331,113**	**25,812**	**0**	**1,356,926**
Labor/Administrative Expense	45,809	2,411	0	**48,221**
Other Expense	18,398	1,108	0	**19,506**
Purchased Services	383,288	8,240	0	**391,528**
Incentives	883,618	14,053	0	**897,671**
Energy House Calls	**164,173**	**35,822**	**0**	**199,995**
Labor/Administrative Expense	30,329	1,582	0	**31,911**
Materials and Equipment	143	4	0	**148**
Other Expense	8,983	473	0	**9,456**
Purchased Services	124,718	33,762	0	**158,480**
ENERGY STAR® Homes Northwest	**344,217**	**4,664**	**4,000**	**352,882**
Labor/Administrative Expense	30,798	1,619	0	**32,418**
Other Expense	50,234	3,035	0	**53,269**
Purchased Services	185	10	0	**195**
Incentives	263,000	0	4,000	**267,000**

Table 2. 2013 DSM detailed expenses by program (continued)

Sector/Program	Idaho Rider	Oregon Rider	Idaho Power	Total Program
Heating & Cooling Efficiency Program	**$ 317,973**	**$ 11,700**	**$ 0**	**$ 329,674**
Labor/Administrative Expense	60,834	3,201	0	**64,035**
Other Expense	86,409	4,706	0	**91,114**
Purchased Services	64,931	2,194	0	**67,125**
Incentives	105,800	1,600	0	**107,400**
Home Energy Audit Program	**88,491**	**248**	**0**	**88,740**
Labor/Administrative Expense	26,506	248	0	**26,754**
Materials and Equipment	(235)	0	0	**(235)**
Other Expense	2,221	0	0	**2,221**
Purchased Services	60,000	0	0	**60,000**
Home Improvement Program	**299,032**	**0**	**465**	**299,497**
Labor/Administrative Expense	84,912	0	0	**84,912**
Other Expense	74,206	0	0	**74,206**
Purchased Services	225	0	0	**225**
Incentives	139,690	0	465	**140,155**
Home Products Program	**391,348**	**14,117**	**50**	**405,515**
Labor/Administrative Expense	48,188	2,532	0	**50,720**
Materials and Equipment	20	1	0	**21**
Other Expense	18,054	950	50	**19,055**
Purchased Services	37,427	1,664	0	**39,091**
Incentives	287,658	8,970	0	**296,628**
Oregon Residential Weatherization	**0**	**8,248**	**768**	**9,017**
Labor/Administrative Expense	0	6,002	768	**6,770**
Materials and Equipment	0	349	0	**349**
Other Expense	0	465	0	**465**
Incentives	0	1,433	0	**1,433**
Rebate Advantage	**58,674**	**2,097**	**0**	**60,770**
Labor/Administrative Expense	9,236	484	0	**9,720**
Materials and Equipment	16	1	0	**17**
Other Expense	11,622	612	0	**12,234**
Purchased Services	6,300	500	0	**6,800**
Incentives	31,500	500	0	**32,000**
See ya later, refrigerator®	**571,304**	**17,750**	**0**	**589,054**
Labor/Administrative Expense	44,651	2,334	0	**46,985**
Materials and Equipment	58	3	0	**61**
Other Expense	49,258	2,321	0	**51,580**
Purchased Services	381,306	10,213	0	**391,519**
Incentives	96,030	2,880	0	**98,910**
Weatherization Assistance for Qualified Customers	**0**	**0**	**1,391,677**	**1,391,677**
Labor/Administrative Expense	0	0	48,919	**48,919**
Materials and Equipment	0	0	277	**277**
Other Expense	0	0	74,658	**74,658**
Purchased Services	0	0	1,267,824	**1,267,824**
Weatherization Solutions for Eligible Customers	**1,239,132**	**0**	**28,659**	**1,267,791**
Labor/Administrative Expense	6,939	0	28,659	**35,598**
Other Expenses	85,742	0	0	**85,742**
Purchased Services	1,146,452	0	0	**1,146,452**
Residential Total	**$ 5,573,384**	**$ 157,004**	**$ 1,522,584**	**$ 7,252,972**

Table 2. 2013 DSM detailed expenses by program (continued)

Sector/Program	Idaho Rider	Oregon Rider	Idaho Power	Total Program
Commercial/Industrial				
Building Efficiency	$ 1,489,195	$ 17,839	$ 0	$ 1,507,035
Labor/Administrative Expense	130,388	6,871	0	**137,259**
Other Expense	41,952	2,208	0	**44,159**
Purchased Services	166,444	8,760	0	**175,204**
Incentives	1,150,412	0	0	**1,150,412**
Custom Efficiency	**2,402,903**	**60,245**	**3,077**	**2,466,225**
Labor/Administrative Expense	429,340	22,598	3,190	**455,128**
Other Expense	246,048	9,268	0	**255,316**
Purchased Services	381,988	19,745	(113)	**401,620**
Incentives	1,345,528	8,633	0	**1,354,161**
Easy Upgrades	**3,258,427**	**101,363**	**0**	**3,359,790**
Labor/Administrative Expense	237,898	12,521	0	**250,419**
Materials and Equipment	250	13	0	**263**
Other Expense	145,303	7,637	0	**152,941**
Purchased Services	552,569	29,083	0	**581,652**
Incentives	2,322,406	52,109	0	**2,374,516**
FlexPeak Management	**108,842**	**137,184**	**2,497,589**	**2,743,615**
Labor/Administrative Expense	104,553	**5,508**	**0**	**110,062**
Other Expense	4,289	224	0	**4,512**
Purchased Services	0	0	0	**0**
Incentives	0	131,452	2,497,589	**2,629,041**
Oregon Commercial Audit	**0**	**5,090**	**0**	**5,090**
Labor/Administrative Expense	0	4,666	0	**4,666**
Other Expense	0	424	0	**424**
Commercial/Industrial Total	$ 7,259,367	$ 321,722	$ 2,500,666	$ 10,081,756
Irrigation				
Irrigation Efficiency	**2,277,059**	**134,789**	**29,539**	**2,441,386**
Labor/Administrative Expense	316,392	16,641	29,539	**362,572**
Materials and Equipment	222	12	0	**233**
Other Expense	85,956	4,600	0	**90,556**
Purchased Services	11,074	311	0	**11,385**
Incentives	1,863,415	113,225	0	**1,976,640**
Irrigation Peak Rewards	**407,496**	**30,117**	**1,634,494**	**2,072,107**
Labor/Administrative Expense	29,631	1,558	25,892	**57,081**
Other Expense	3,637	191	0	**3,829**
Purchased Services	374,228	19,696	0	**393,924**
Incentives	0	8,670	1,608,602	**1,617,272**
Irrigation Total	$ 2,684,555	$ 164,905	$ 1,664,033	$ 4,513,493
Energy Efficiency/Demand Response Total	$ 15,517,306	$ 643,631	$ 5,687,283	$ 21,848,220
Market Transformation				
NEEA	**3,147,405**	**165,653**	**0**	**3,313,058**
Purchased Services	3,147,405	165,653	0	**3,313,058**
Market Transformation Total	$ 3,147,405	$ 165,653	$ 0	$ 3,313,058

Table 2. 2013 DSM detailed expenses by program (continued)

Sector/Program	Idaho Rider	Oregon Rider	Idaho Power	Total Program
Other Programs and Activities				
Residential				
Residential Education Initiative	$ 395,668	$ 20,498	$ 0	$ 416,166
Labor/Administrative Expense	141,873	7,314	0	**149,187**
Materials and Equipment	8,420	443	0	**8,863**
Other Expense	245,040	12,724	0	**257,764**
Purchased Services	334	18	0	**352**
Residential Economizer	**74,901**	**0**	**0**	**74,901**
Labor/Administrative Expense	5,442	0	0	**5,442**
Other Expense	3	0	0	**3**
Purchased Services	69,456	0	0	**69,456**
Residential Total	$ 470,568	$ 20,498	$ 0	$ 491,067
Commercial/Industrial				
Commercial Education Initiative	**63,451**	**3,339**	**0**	**66,790**
Labor/Administrative Expense	4,707	247	0	**4,954**
Other Expense	30,876	1,625	0	**32,501**
Purchased Services	27,868	1,467	0	**29,335**
Commercial/Industrial Total	$ 63,451	$ 3,339	$ 0	$ 66,790
Other				
Energy Efficiency Direct Program Overhead	**361,910**	**19,047**	**0**	**380,957**
Labor/Administrative Expense	214,944	11,312	0	**226,256**
Materials and Equipment	168	9	0	**176**
Other Expense	146,798	7,726	0	**154,525**
Other Total	$ 361,910	$ 19,047	$ 0	$ 380,957
Other Programs and Activities Total	$ 895,929	$ 42,884	$ 0	$ 938,814
Indirect Program Expense				
Residential Overhead	**124,825**	**7,056**	**49**	**131,931**
Labor/Administrative Expense	91,360	4,807	0	**96,167**
Materials and Equipment	193	7	49	**249**
Other Expense	16,863	872	0	**17,736**
Purchased Services	16,409	1,369	0	**17,778**
Commercial/Industrial Overhead	**136,811**	**7,708**	**0**	**144,518**
Labor/Administrative Expense	99,831	5,257	0	**105,088**
Materials and Equipment	36	0	0	**36**
Other Expense	18,394	968	0	**19,362**
Purchased Services	18,550	1,482	0	**20,032**
Energy Efficiency Accounting and Analysis	**802,258**	**42,316**	**137,854**	**982,428**
Labor/Administrative Expense	430,935	22,686	133,328	**586,949**
Other Expense	57,210	3,011	4,526	**64,747**
Purchased Services	314,113	16,619	0	**330,732**
Energy Efficiency Advisory Group	**5,390**	**285**	**0**	**5,674**
Labor/Administrative Expense	4,726	250	0	**4,976**
Other Expense	664	35	0	**698**
Special Accounting Entries	**13,838,199**	**6,007**	**(14,367,471)**	**(523,265)**
Indirect Program Expenses Total	$ 14,907,483	$ 63,371	$ (14,229,567)	$ 741,287
Totals	$ 34,468,123	$ 915,540	$ (8,542,284)	$ 26,841,379

Table 3. Cost-effectiveness summary by program

Program	2013 Benefit/Cost Tests			
	Utility Cost (UC)	Total Resource Cost (TRC)	Ratepayer Impact Measure (RIM)	Participant Cost (PCT)
A/C Cool Credit	N/A	N/A	N/A	N/A
FlexPeak Management	1.43	1.43	1.43	N/A
Irrigation Peak Rewards	N/A	N/A	N/A	N/A
Ductless Heat Pump Pilot	2.51	0.71	0.85	0.81
Energy Efficient Lighting	4.79	2.61	0.89	2.96
Energy House Calls	3.95	3.95	0.83	N/A
ENERGY STAR® Homes Northwest	1.61	0.95	0.71	1.46
Heating & Cooling Efficiency Program	3.87	1.93	0.98	2.54
Home Improvement Program	3.58	1.18	0.88	1.43
Home Products Program	1.69	2.24	0.69	3.42
Rebate Advantage	5.39	3.80	0.91	6.38
See ya later, refrigerator®	1.23	1.23	0.58	N/A
Weatherization Assistance for Qualified Customers	0.95	0.74	0.56	N/A
Weatherization Solutions for Eligible Customers	0.46	0.53	0.35	N/A
Building Efficiency	5.48	3.26	1.31	2.94
Custom Efficiency	5.61	2.56	1.81	1.58
Easy Upgrades	4.71	2.61	1.26	2.42
Irrigation Efficiency	6.35	1.72	1.63	1.17

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COST-EFFECTIVENESS TABLES BY PROGRAM

FlexPeak Management

Segment: Commercial/Industrial

5-Year Program Cost-Effectiveness Summary

Program Inception:2009

Cost Inputs (net-present value [NPV])		Ref
Total Program Administration	$ 408,039	
Total Program Incentives	9,834,490	
Total Utility Cost	$ **10,242,529**	P
Total Shifted Energy Utility Cost	12,412	SE
Total Measure Equipment and Installation (Incremental Participant Cost)	$ —	M

Summary of Cost-Effectiveness Results			
Test	**Benefit**	**Cost**	**Ratio**
Utility Cost Test	$ 14,652,073	$ 10,254,941	1.43
Total Resource Cost Test	14,652,073	10,254,941	1.43
Ratepayer Impact Measure Test	14,652,073	10,242,529	1.43
Participant Cost Test	N/A	N/A	N/A

Net Benefit Inputs (NPV)			Ref
Resource Savings			
Cumulative Energy (kWh)	4,487,257	$ 296,833	
2013 Reduction Capacity (MW)	40	14,355,239	
Total Electric Savings		$ **14,652,073**	S
Participant Bill Savings			
NPV Cumulative Participant Savings		$ —	B
Other Benefits			
Non-Utility Rebates/Incentives		$ —	NUI
Non-Energy Benefits		$ —	NEB

Benefits and Costs Included in Each Test		
Utility Cost Test	= S	= P + SE
Total Resource Cost Test	= S + NUI + NEB	= P + M + SE
Ratepayer Impact Measure Test	= S	= P + B
Participant Cost Test	N/A	N/A

Assumptions for Levelized Calculations	
Discount Rate	
Nominal (Weighted Average Cost of Capital [WACC])	7.00%
Real ((1 + WACC) / (1 + Escalation)) - 1	3.88%
Escalation Rate	3.00%
Effective Load Carrying Capacity (ELCC)	93.40%
Summer Peak Line Loss (for Demand Response	13.00%
Line Losses	10.90%

Notes: Based on a contract amendment with EnerNOC signed in 2013, cost-effectiveness analysis for the program updated using a 5-year program life versus the previously analyzed 10-year program life.

As part of the public workshops for Case No. IPC-E-13-14 and approved in Order No. 32923, the new methodology for valuing demand response will be applied to demand response cost-effectiveness models in 2014.

2013 Reduction capacity based on contracted target of 35 MW (40 megawatt [MW] with Summer Peak Line Loss of 13%).

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Ductless Heat Pump Pilot

Segment: Residential

2013 Program Results

Cost Inputs (NPV)			Ref
Program Administration	$	76,325	
Program Incentives		161,250	I
Total Utility Cost	**$**	**237,575**	P
Measure Equipment and Installation (Incremental Participant Cost)	$	916,115	M

Summary of Cost-Effectiveness Results				
Test	**Benefit**		**Cost**	**Ratio**
Utility Cost Test	$	595,951	$ 237,575	2.51
Total Resource Cost Test		595,951	841,467	0.71
Ratepayer Impact Measure Test		595,951	702,627	0.85
Participant Cost Test		742,565	916,115	0.81

Net Benefit Inputs (NPV)				Ref
Resource Savings				
2013 Annual Gross Energy (kWh)	589,142	$		
NPV Cumulative Energy (kWh)	6,576,617		744,939	
Total Electric Savings		**$**	**744,939**	S
Participant Bill Savings				
NPV Cumulative Participant Savings		$	581,315	B
Other Benefits				
Non-Utility Rebates/Incentives		$	—	NUI
Non-Energy Benefits		$	—	NEB

Benefits and Costs Included in Each Test		
Utility Cost Test	= S * NTG	= P
Total Resource Cost Test	= (S + NUI + NEB) * NTG	= P + ((M-I)*NTG)
Ratepayer Impact Measure Test	= S * NTG	= P + (B * NTG)
Participant Cost Test	= B + I + NUI + NEB	= M

Assumptions for Levelized Calculations	
Discount Rate	
Nominal (WACC)	7.00%
Real ((1 + WACC) / (1 + Escalation)) – 1	3.88%
Escalation Rate	3.00%
Net-to-Gross (NTG)	80.00%
Average Customer Segment Rate/kWh	$0.086
Line Losses	10.90%

Notes: This program is not cost-effective due to lower per-unit deemed savings from the Regional Technical Forum (RTF). Program will be monitored in 2014 for the potential inclusion of non-energy benefits.

Year:2013 **Program**: Ductless Heat Pump Pilot **Market Segment**: Residential **Program Type**: Energy Efficiency

							Benefit			Cost			Benefit/Cost Tests		
Measure Name	**Measure Descriptions**	**Replacing**	**Measure Unit**	**End Use**	**Measure Life (yrs)[a]**	**NTG[b]**	**Annual Gross Energy Savings (kWh/yr)[c]**	**NPV Avoided Costs[d]**	**Non-Energy Benefit (NEB)**	**Gross Incremental Participant Cost[e]**	**Incentive/ Unit**	**Admin Cost ($/kWh)[f]**	**UC Ratio[g]**	**TRC Ratio[h]**	**Source**
Ductless Heat Pump	No supplemental fuel screen. Heating zone 2, cooling zone 1.	Zonal Electric	Unit	ENRes_SF_HeatPump	15	80%	2,585.00	$3,061.75	$–	$4,261.00	$750.00	$0.130	2.26	0.63	1,2
Ductless Heat Pump	No supplemental fuel screen. Heating zone 3, cooling zone 1.	Zonal Electric	Unit	ENRes_SF_HeatPump	15	80%	292.00	$345.85	$–	$4,261.00	$750.00	$0.130	0.35	0.08	1,2
Ductless Heat Pump	No supplemental fuel screen. Heating zone 2, cooling zone 2.	Zonal Electric	Unit	ENRes_SF_HeatPump	15	80%	2,746.00	$3,252.45	$–	$4,261.00	$750.00	$0.130	2.35	0.66	1,2
Ductless Heat Pump	No supplemental fuel screen. Heating zone 1, cooling zone 3.	Zonal Electric	Unit	ENRes_SF_HeatPump	15	80%	3,131.00	$3,708.45	$–	$4,261.00	$750.00	$0.130	2.56	0.75	1,2
Ductless Heat Pump	No supplemental fuel screen. Heating zone 2, cooling zone 3.	Zonal Electric	Unit	ENRes_SF_HeatPump	15	80%	3,016.00	$3,572.24	$–	$4,261.00	$750.00	$0.130	2.50	0.72	1,2

[a] Average measure life.

[b] Net-to-Gross (NTG) percentage. *Idaho Power Demand-Side Management Potential Study* by Nexant, Inc., 2009.

[c] Estimated kWh savings measured at the customers meter, excluding line losses.

[d] Sum of NPV of avoided costs. Based on end-use load shape; measure life; and savings, including line losses and alternative costs by pricing period as provided in the *2011 Integrated Resource Plan* (IRP).

[e] Incremental participant cost prior to customer incentives. Based on 2013 average customer costs.

[f] Average program administration and overhead costs to achieve each kWh of savings. Calculated from 2013 actuals.

[g] Utility Cost Ratio = (NPV Avoided Costs * NTG)/((Admin Cost/kWh * kWh Savings) + Incentives).

[h] Total Resource Cost Ratio = ((NPV Avoided Costs + NEB) * NTG) / ((Admin Cost/kWh * kWh Savings) + Incentives + ((Incremental Participant Cost - Incentives) * NTG))

[1] Regional Technical Forum (RTF). ResHeatingCoolingDuctlessHeatPumpsSF_v1_5.xls. 2014.

[2] Measure combination not cost-effective. Will be monitored in 2014.

Energy Efficient Lighting

Segment: Residential

2013 Program Results

Cost Inputs (NPV)		Ref
Program Administration	$ 459,255	
Program Incentives	897,671	I
Total Utility Cost	**$ 1,356,926**	P
Measure Equipment and Installation (Incremental Participant Cost)	$ 4,430,246	M

Net Benefit Inputs (NPV)			Ref
Resource Savings			
2013 Annual Gross Energy (kWh)	9,995,753		
NPV Cumulative Energy (kWh)	72,951,593	$ 6,499,196	
Total Electric Savings		**$ 6,499,196**	S
Participant Bill Savings			
NPV Cumulative Participant Savings		$ 5,951,969	B
Other Benefits			
Non-Utility Rebates/Incentives		$ —	NUI
Non-Energy Benefits		$ 6,245,977	NEB

Notes: No NTG. Deemed savings from the RTF already accounts for net realized energy savings.
NEBs include PV of periodic bulb (capital) replacement costs.

Summary of Cost-Effectiveness Results			
Test	**Benefit**	**Cost**	**Ratio**
Utility Cost Test	$ 6,499,196	$ 1,356,926	4.79
Total Resource Cost Test	12,745,173	4,889,501	2.61
Ratepayer Impact Measure Test	6,499,196	7,308,895	0.89
Participant Cost Test	13,095,617	4,430,246	2.96

Benefits and Costs Included in Each Test		
Utility Cost Test	= S * NTG	= P
Total Resource Cost Test	= (S + NUI + NEB) * NTG	= P + ((M-I)*NTG)
Ratepayer Impact Measure Test	= S * NTG	= P + (B * NTG)
Participant Cost Test	= B + I + NUI + NEB	= M

Assumptions for Levelized Calculations	
Discount Rate	
Nominal (WACC)	7.00%
Real ((1 + WACC) / (1 + Escalation)) – 1	3.88%
Escalation Rate	3.00%
Net-to-Gross (NTG)	100.00%
Average Customer Segment Rate/kWh	$0.086
Line Losses	10.90%

Year:2013 **Program**: Energy Efficient Lighting **Market Segment**: Residential **Program Type**: Energy Efficiency

							Benefit			Cost			Benefit/Cost Tests		
Measure Name	Measure Descriptions	Replacing	Measure Unit	End Use	Measure Life (yrs)[a]	NTG[b]	Annual Gross Energy Savings (kWh/yr)[c]	NPV Avoided Costs[d]	Non-Energy Benefit (NEB)[e]	Gross Incremental Participant Cost[f]	Incentive/ Unit	Admin Cost ($/kWh)[g]	UC Ratio[h]	TRC Ratio[i]	Source
Dimmable Reflector CFL	Retail. 1,015–1,439 lumens. Dimmable Reflector—All	Baseline bulb	lamp	ENRes_SF_Lighting	7	100%	18.00	$9.65	$9.03	$8.62	$2.00	$0.046	3.41	1.98	1
General Purpose CFL	Retail. 1,015–1,439 lumens. General Purpose—All	Baseline bulb	lamp	ENRes_SF_Lighting	8	100%	13.00	$7.93	$3.08	$3.62	$2.00	$0.046	3.05	2.61	1
Reflector CFL	Retail. 1,015–1,439 lumens. Reflector—All	Baseline bulb	lamp	ENRes_SF_Lighting	7	100%	18.00	$9.65	$9.03	$8.62	$2.00	$0.046	3.41	1.98	1
3-Way CFL	Retail. 1,440–2,019 lumens. 3-Way—All	Baseline bulb	lamp	ENRes_SF_Lighting	11	100%	29.00	$23.90	$10.84	$11.41	$2.00	$0.046	7.17	2.73	1
General Purpose CFL	Retail. 1,440–2,019 lumens. General Purpose—All	Baseline bulb	lamp	ENRes_SF_Lighting	9	100%	8.00	$5.46	$2.54	$3.62	$2.00	$0.046	2.31	2.00	1
3-Way CFL	Retail. 2,020–2,600 lumens. 3-Way—All	Baseline bulb	lamp	ENRes_SF_Lighting	11	100%	22.00	$18.13	$5.29	$11.16	$2.00	$0.046	6.02	1.92	1
General Purpose CFL	Retail. 2,020–2,600 lumens. General Purpose—All	Baseline bulb	lamp	ENRes_SF_Lighting	9	100%	12.00	$8.19	$6.74	$12.09	$2.00	$0.046	3.21	1.18	1
CC Candelabra decorative CFL	Retail. 250–369 lumens. CC Candelabra: decorative—All	Baseline bulb	lamp	ENRes_SF_Lighting	20	100%	1.00	$1.38	$3.65	$5.22	$2.00	$0.046	0.67	0.95	1, 2
Globe CFL	Retail. 250–369 lumens. Globe-All	Baseline bulb	lamp	ENRes_SF_Lighting	7	100%	(1.00)	$(0.54)	$3.39	$4.30	$2.00	$0.046	-0.27	0.67	1, 3
Reflector CFL	Retail. 250–369 lumens. Reflector—All	Baseline bulb	lamp	ENRes_SF_Lighting	9	100%	4.00	$2.73	$17.60	$5.96	$2.00	$0.046	1.25	3.31	1
CC Candelabra decorative CFL	Retail. 370–664 lumens. CC Candelabra: decorative—All	Baseline bulb	lamp	ENRes_SF_Lighting	20	100%	10.00	$13.78	$4.74	$4.80	$2.00	$0.046	5.60	3.52	1
General Purpose CFL	Retail. 370 to 664 lumens. General Purpose-All	Baseline bulb	lamp	ENRes_SF_Lighting	9	100%	7.00	$4.78	$3.68	$3.13	$2.00	$0.046	2.06	2.45	1
Globe CFL	Retail. 370–664 lumens. Globe—All	Baseline bulb	lamp	ENRes_SF_Lighting	7	100%	6.00	$3.22	$6.33	$5.88	$2.00	$0.046	1.41	1.55	1
Reflector CFL	Retail. 370–664 lumens. Reflector—All	Baseline bulb	lamp	ENRes_SF_Lighting	9	100%	9.00	$6.15	$18.71	$6.70	$2.00	$0.046	2.55	3.50	1
CC Candelabra decorative CFL	Retail. 665–1,014 lumens. CC Candelabra: decorative—All	Baseline bulb	lamp	ENRes_SF_Lighting	20	100%	16.00	$22.05	$4.96	$5.83	$2.00	$0.046	8.06	4.11	1

							Benefit			Cost			Benefit/Cost Tests		
Measure Name	Measure Descriptions	Replacing	Measure Unit	End Use	Measure Life (yrs)[a]	NTG[b]	Annual Gross Energy Savings (kWh/yr)[c]	NPV Avoided Costs[d]	Non-Energy Benefit (NEB)[e]	Gross Incremental Participant Cost[f]	Incentive/ Unit	Admin Cost ($/kWh)[g]	UC Ratio[h]	TRC Ratio[i]	Source
Dimmable Reflector CFL	Retail. 665–1,014 lumens. Dimmable Reflector—All	Baseline bulb	lamp	ENRes_SF_Lighting	9	100%	15.00	$10.24	$18.64	$6.78	$2.00	$0.046	3.81	3.87	1
General Purpose CFL	Retail. 665–1,014 lumens. General Purpose—All	Baseline bulb	lamp	ENRes_SF_Lighting	9	100%	8.00	$5.46	$2.82	$2.96	$2.00	$0.046	2.31	2.49	1
Globe CFL	Retail. 665–1,014 lumens. Globe—All	Baseline bulb	lamp	ENRes_SF_Lighting	7	100%	8.00	$4.29	$11.24	$5.83	$2.00	$0.046	1.81	2.50	1
Reflector CFL	Retail. 665–1,014 lumens. Reflector—All	Baseline bulb	lamp	ENRes_SF_Lighting	9	100%	15.00	$10.24	$18.64	$6.78	$2.00	$0.046	3.81	3.87	1
General Purpose CFL	Give-Away. 1,440–2,019 lumens. General Purpose—All	Baseline bulb	lamp	ENRes_SF_Lighting	8	100%	8.00	$4.88	$2.49	$—	$-–	$0.046	13.26	20.03	1
General Purpose CFL	Give-Away. 1,015–1,439 lumens. General Purpose—All	Baseline bulb	lamp	ENRes_SF_Lighting	7	100%	13.00	$6.97	$5.74	$—	$-–	$0.046	11.65	21.25	1
General Purpose CFL	Give-Away. 665–1,014 lumens. General Purpose—All	Baseline bulb	lamp	ENRes_SF_Lighting	8	100%	8.00	$4.88	$2.31	$—	$-–	$0.046	13.26	19.54	1

[a] Average measure life.

[b] No Net-to-Gross (NTG) percentage. Deemed savings from RTF includes realization rate.

[c] Estimated kWh savings measured at the customers meter, excluding line losses.

[d] Sum of NPV of avoided costs. Based on end-use load shape; measure life; and savings, including line losses and alternative costs by pricing period as provided in the *2011 Integrated Resource Plan* (IRP).

[e] Present value of periodic replacement costs.

[f] Incremental participant cost prior to customer incentives.

[g] Average program administration and overhead costs to achieve each kWh of savings. Calculated from 2013 actuals.

[h] Utility Cost Ratio = (NPV Avoided Costs * NTG)/((Admin Cost/kWh * kWh Savings) + Incentives).

[i] Total Resource Cost Ratio = ((NPV Avoided Costs + NEB) * NTG) / ((Admin Cost/kWh * kWh Savings) + Incentives + ((Incremental Participant Cost - Incentives) * NTG))

[1] RTF. ResCFLLighting_v3_0.xlsm. Retail. Any Interior. 2013.

[2] Measure not cost-effective. Will be reviewed in 2014.

[3] Measure has negative savings. Will be removed from the program in 2014.

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Energy House Calls

Segment: Residential

2013 Program Results

Cost Inputs (NPV)		Ref
Program Administration	$ 199,995	
Program Incentives	—	I
Total Utility Cost	**$ 199,995**	P
Measure Equipment and Installation (Incremental Participant Cost)	$ —	M

Net Benefit Inputs (NPV)			Ref
Resource Savings			
2013 Annual Gross Energy (kWh)	837,261		
NPV Cumulative Energy (kWh)	10,305,000	$ 988,461	
Total Electric Savings		$ **988,461**	S
Participant Bill Savings			
NPV Cumulative Participant Savings		$ 941,921	B
Other Benefits			
Non-Utility Rebates/Incentives		$ —	NUI
Non-Energy Benefits		$ —	NEB

Notes: No participant costs.

Summary of Cost-Effectiveness Results			
Test	**Benefit**	**Cost**	**Ratio**
Utility Cost Test	$ 790,769	$ 199,995	3.95
Total Resource Cost Test	790,769	199,995	3.95
Ratepayer Impact Measure Test	790,769	953,532	0.83
Participant Cost Test	N/A	N/A	N/A

Benefits and Costs Included in Each Test		
Utility Cost Test	= S * NTG	= P
Total Resource Cost Test	= (S + NUI + NEB) * NTG	= P + ((M-I)*NTG)
Ratepayer Impact Measure Test	= S * NTG	= P + (B * NTG)
Participant Cost Test	N/A	N/A

Assumptions for Levelized Calculations	
Discount Rate	
Nominal (WACC)	7.00%
Real ((1 + WACC) / (1 + Escalation)) – 1	3.88%
Escalation Rate	3.00%
Net-to-Gross (NTG)	80.00%
Average Customer Segment Rate/kWh	$0.086
Line Losses	10.90%

Year:2013 **Program**: Energy House Calls **Market Segment**: Residential **Program Type**: Energy Efficiency

							Benefit			Cost			Benefit/Cost Tests		
Measure Name	Measure Descriptions	Replacing	Measure Unit	End Use	Measure Life (yrs)[a]	NTG[b]	Annual Gross Energy Savings (kWh/yr)[c]	NPV Avoided Costs[d]	Non-Energy Benefit (NEB)	Gross Incremental Participant Cost[e]	Incentive/ Unit	Admin Cost ($/kWh)[f]	UC Ratio[g]	TRC Ratio[h]	Source
PTCS Duct Sealing	Single Wide (<= 1,000 ft^2) Manufactured Home Duct Tightness: PTCS Duct Sealing: Heating Zone 1 (Electric FAF Heating System w/CAC)	Pre-existing duct leakage	Home	ENRes_MH_Heater	18	80%	1,496.00	$1,627.40	$—	$—	$—	$0.239	3.64	3.64	1
PTCS Duct Sealing	Single Wide (<= 1,000 ft^2) Manufactured Home Duct Tightness: Heating Zone 1 (Electric FAF Heating System w/o CAC)	Pre-existing duct leakage	Home	ENRes_MH_Heater	18	80%	1,433.00	$1,558.87	$—	$—	$—	$0.239	3.64	3.64	1
PTCS Duct Sealing	Single Wide (<= 1,000 ft^2) Manufactured Home Duct Tightness: Heating Zone 1 (Electric Heat Pump Heating System)	Pre-existing duct leakage	Home	ENRes_MH_Heater	18	80%	887.00	$964.91	$—	$—	$—	$0.239	3.64	3.64	1
PTCS Duct Sealing	Single Wide (<= 1,000 ft^2) Manufactured Home Duct Tightness: Heating Zone 2 (Electric FAF Heating System w/CAC)	Pre-existing duct leakage	Home	ENRes_MH_Heater	18	80%	2,361.00	$2,568.38	$—	$—	$—	$0.239	3.64	3.64	1
PTCS Duct Sealing	Single Wide (<= 1,000 ft^2) Manufactured Home Duct Tightness: Heating Zone 2 (Electric FAF Heating System w/o CAC)	Pre-existing duct leakage	Home	ENRes_MH_Heater	18	80%	2,290.00	$2,491.15	$—	$—	$—	$0.239	3.64	3.64	1
PTCS Duct Sealing	Single Wide (<= 1,000 ft^2) Manufactured Home Duct Tightness: Heating Zone 2 (Electric Heat Pump Heating System)	Pre-existing duct leakage	Home	ENRes_MH_Heater	18	80%	1,664.00	$1,810.16	$—	$—	$—	$0.239	3.64	3.64	1
PTCS Duct Sealing	Single Wide (<= 1,000 ft^2) Manufactured Home Duct Tightness: Heating Zone 3 (Electric FAF Heating System w/CAC)	Pre-existing duct leakage	Home	ENRes_MH_Heater	18	80%	3,074.00	$3,344.01	$—	$—	$—	$0.239	3.64	3.64	1
PTCS Duct Sealing	Single Wide (<= 1,000 ft^2) Manufactured Home Duct Tightness: Heating Zone 3 (Electric FAF Heating System w/o CAC)	Pre-existing duct leakage	Home	ENRes_MH_Heater	18	80%	3,023.00	$3,288.53	$—	$—	$—	$0.239	3.64	3.64	1
PTCS Duct Sealing	Single Wide (<= 1,000 ft^2) Manufactured Home Duct Tightness: Heating Zone 3 (Electric Heat Pump Heating System)	Pre-existing duct leakage	Home	ENRes_MH_Heater	18	80%	2,324.00	$2,528.13	$—	$—	$—	$0.239	3.64	3.64	1

							Benefit			Cost			Benefit/Cost Tests		
Measure Name	Measure Descriptions	Replacing	Measure Unit	End Use	Measure Life (yrs)[a]	NTG[b]	Annual Gross Energy Savings (kWh/yr)[c]	NPV Avoided Costs[d]	Non-Energy Benefit (NEB)	Gross Incremental Participant Cost[e]	Incentive/ Unit	Admin Cost ($/kWh)[f]	UC Ratio[g]	TRC Ratio[h]	Source
PTCS Duct Sealing	Other (> 1,000 ft^2) Manufactured Home Duct Tightness: Heating Zone 1 (Electric FAF Heating System w/CAC)	Pre-existing duct leakage	Home	ENRes_MH_Heater	18	80%	1,881.00	$2,046.22	$—	$—	$—	$0.239	3.64	3.64	1
PTCS Duct Sealing	Other (> 1,000 ft^2) Manufactured Home Duct Tightness : Heating Zone 1 (Electric FAF Heating System w/o CAC)	Pre-existing duct leakage	Home	ENRes_MH_Heater	18	80%	1,799.00	$1,957.02	$—	$—	$—	$0.239	3.64	3.64	1
PTCS Duct Sealing	Other (> 1,000 ft^2) Manufactured Home Duct Tightness: Heating Zone 1 (Electric Heat Pump Heating System)	Pre-existing duct leakage	Home	ENRes_MH_Heater	18	80%	1,093.00	$1,189.01	$—	$—	$—	$0.239	3.64	3.64	1
PTCS Duct Sealing	Other (> 1,000 ft^2) Manufactured Home Duct Tightness: Heating Zone 2 (Electric FAF Heating System w/CAC)	Pre-existing duct leakage	Home	ENRes_MH_Heater	18	80%	2,898.00	$3,152.55	$—	$—	$—	$0.239	3.64	3.64	1
PTCS Duct Sealing	Other (> 1,000 ft^2) Manufactured Home Duct Tightness: Heating Zone 2 (Electric FAF Heating System w/o CAC)	Pre-existing duct leakage	Home	ENRes_MH_Heater	18	80%	2,791.00	$3,036.15	$—	$—	$—	$0.239	3.64	3.64	1
PTCS Duct Sealing	Other (> 1,000 ft^2) Manufactured Home Duct Tightness: Heating Zone 2 (Electric Heat Pump Heating System)	Pre-existing duct leakage	Home	ENRes_MH_Heater	18	80%	2,022.00	$2,199.61	$—	$—	$—	$0.239	3.64	3.64	1
PTCS Duct Sealing	Other (> 1,000 ft^2) Manufactured Home Duct Tightness: Heating Zone 3 (Electric FAF Heating System w/CAC)	Pre-existing duct leakage	Home	ENRes_MH_Heater	18	80%	3,710.00	$4,035.87	$—	$—	$—	$0.239	3.64	3.64	1
PTCS Duct Sealing	Other (> 1,000 ft^2) Manufactured Home Duct Tightness: Heating Zone 3 (Electric FAF Heating System w/o CAC)	Pre-existing duct leakage	Home	ENRes_MH_Heater	18	80%	3,645.00	$3,965.17	$—	$—	$—	$0.239	3.64	3.64	1
PTCS Duct Sealing	Other (> 1,000 ft^2) Manufactured Home Duct Tightness: Heating Zone 3 (Electric Heat Pump Heating System)	Pre-existing duct leakage	Home	ENRes_MH_Heater	18	80%	2,813.00	$3,060.09	$—	$—	$—	$0.239	3.64	3.64	1

[a] Average measure life.

[b] Net-to-Gross (NTG) percentage. *Idaho Power Demand-Side Management Potential Study* by Nexant, Inc., 2009.

[c] Estimated kWh savings measured at the customers meter, excluding line losses.

[d] Sum of NPV of avoided costs. Based on end-use load shape; measure life; and savings, including line losses and alternative costs by pricing period as provided in the *2011 Integrated Resource Plan* (IRP).

[e] No participant cost.
[f] Average program administration and overhead costs to achieve each kWh of savings. Calculated from 2013 actuals.
[g] Utility Cost Ratio = (NPV Avoided Costs * NTG)/((Admin Cost/kWh * kWh Savings) + Incentives).
[h] Total Resource Cost Ratio = ((NPV Avoided Costs + NEB) * NTG) / ((Admin Cost/kWh * kWh Savings) + Incentives + ((Incremental Participant Cost - Incentives) * NTG))
[1] RTF. ResHeatingCoolingDuctSealingMH_v2_4.xlsm. 2012.

ENERY STAR® Homes Northwest

Segment: Residential

2013 Program Results

Cost Inputs (NPV)		Ref
Program Administration	$ 85,882	
Program Incentives	267,000	I
Total Utility Cost	**$ 352,882**	P
Measure Equipment and Installation (Incremental Participant Cost)	$ 607,800	M

Net Benefit Inputs (NPV)				Ref
Resource Savings				
2013 Annual Gross Energy (kWh)	365,370	$		
NPV Cumulative Energy (kWh)	5,839,337	$	791,120	
Total Electric Savings		**$**	**791,120**	S
Participant Bill Savings				
NPV Cumulative Participant Savings		$	618,205	B
Other Benefits				
Non-Utility Rebates/Incentives		$	—	NUI
Non-Energy Benefits		$	—	NEB

Notes: 2009 International Energy Conservation Code (IECC) adopted in Idaho in 2011.

Summary of Cost-Effectiveness Results			
Test	**Benefit**	**Cost**	**Ratio**
Utility Cost Test	$ 569,607	$ 352,882	1.61
Total Resource Cost Test	569,607	598,258	0.95
Ratepayer Impact Measure Test	569,607	797,990	0.71
Participant Cost Test	885,205	607,800	1.46

Benefits and Costs Included in Each Test		
Utility Cost Test	= S * NTG	= P
Total Resource Cost Test	= (S + NUI + NEB) * NTG	= P + ((M-I)*NTG)
Ratepayer Impact Measure Test	= S * NTG	= P + (B * NTG)
Participant Cost Test	= B + I + NUI + NEB	= M

Assumptions for Levelized Calculations	
Discount Rate	
Nominal (WACC)	7.00%
Real ((1 + WACC) / (1 + Escalation)) – 1	3.88%
Escalation Rate	3.00%
Net-to-Gross (NTG)	72.00%
Average Customer Segment Rate/kWh	$0.086
Line Losses	10.90%

Year:2013 **Program**: ENERGY STAR Homes Northwest **Market Segment**: Residential **Program Type**: Energy Efficiency

							Benefit			Cost			Benefit/Cost Tests		
Measure Name	Measure Descriptions	Replacing	Measure Unit	End Use	Measure Life (yrs)[a]	NTG[b]	Annual Gross Energy Savings (kWh/yr)[c]	NPV Avoided Costs[d]	Non-Energy Benefit (NEB)	Gross Incremental Participant Cost[e]	Incentive/ Unit	Admin Cost ($/kWh)[f]	UC Ratio[g]	TRC Ratio[h]	Source
ENERGY STAR home	Home in Idaho or Montana with Heat Pump: Heating Zone 1 Cooling Zone 3	Single-family home built to International Energy Conservation Code (IECC) 2009 Code. Adopted 2011.	Home	IPC_Residential	37	72%	3,778.00	$8,702.87	$—	$3,915.69	$1,000.00	$0.246	3.25	1.56	1
ENERGY STAR home	Home in Idaho or Montana built to the DHP TCO: Heating Zone 1 Cooling Zone 3	Single family home built to IECC 2009 Code. Adopted 2011.	Home	IPC_Residential	37	72%	4,844.00	$11,158.48	$—	$5,624.69	$1,000.00	$0.246	3.67	1.46	2
ENERGY STAR home	Multifamily—Heat Pump: Heating Zone 1 Cooling Zone 3	Multi-family home built to IECC 2009 Code. Adopted 2011.	Home	IPC_Residential	36	72%	1,294.00	$2,943.67	$—	$2,294.95	$1,000.00	$0.246	1.61	0.94	3, 4

[a] Average measure life.

[b] Net-to-Gross (NTG) percentage. *Idaho Power Demand-Side Management Potential Study* by Nexant, Inc., 2009.

[c] Estimated kWh savings measured at the customers meter, excluding line losses.

[d] Sum of NPV of avoided costs. Based on end-use load shape; measure life; and savings, including line losses and alternative costs by pricing period as provided in the *2011 Integrated Resource Plan* (IRP).

[e] Incremental participant cost prior to customer incentives.

[f] Average program administration and overhead costs to achieve each kWh of savings. Calculated from 2013 actuals.

[g] Utility Cost Ratio = (NPV Avoided Costs * NTG)/((Admin Cost/kWh * kWh Savings) + Incentives).

[h] Total Resource Cost Ratio = ((NPV Avoided Costs + NEB) * NTG) / ((Admin Cost/kWh * kWh Savings) + Incentives + ((Incremental Participant Cost - Incentives) * NTG))

[1] RTF. ResNewSFEStarWAIDMT_v2_2.xls. 2012.

[2] RTF. EStarNWSFHomes_DHPtco_WAIDMT_v1_0.xls. 2011.

[3] RTF. ResMFEstarHomes2012_v1_1.xlsm. 2012.

[4] Measure combination not cost-effective. Will monitor in 2014.

Heating & Cooling Efficiency Program

Segment: Residential

2013 Program Results

Cost Inputs (NPV)			Ref
Program Administration	$	222,274	
Program Incentives		107,400	I
Total Utility Cost	**$**	**329,674**	P
Measure Equipment and Installation (Incremental Participant Cost)	$	519,312	M

Net Benefit Inputs (NPV)				Ref
Resource Savings				
2013 Annual Gross Energy (kWh)	1,003,730			
NPV Cumulative Energy (kWh)	13,039,162	$	1,594,397	
Total Electric Savings		**$**	**1,594,397**	S
Participant Bill Savings				
NPV Cumulative Participant Savings		$	1,213,310	B
Other Benefits				
Non-Utility Rebates/Incentives		$	—	NUI
Non-Energy Benefits		$	—	NEB

Summary of Cost-Effectiveness Results				
Test		**Benefit**		**Cost**	**Ratio**
Utility Cost Test	$	1,275,518	$	329,674	3.87
Total Resource Cost Test		1,275,518		659,203	1.93
Ratepayer Impact Measure Test		1,275,518		1,300,322	0.98
Participant Cost Test		1,320,710		519,312	2.54

Benefits and Costs Included in Each Test		
Utility Cost Test	= S * NTG	= P
Total Resource Cost Test	= (S + NUI + NEB) * NTG	= P + ((M-I)*NTG)
Ratepayer Impact Measure Test	= S * NTG	= P + (B * NTG)
Participant Cost Test	= B + I + NUI + NEB	= M

Assumptions for Levelized Calculations	
Discount Rate	
Nominal (WACC)	7.00%
Real ((1 + WACC) / (1 + Escalation)) – 1	3.88%
Escalation Rate	3.00%
Net-to-Gross (NTG)	80.00%
Average Customer Segment Rate/kWh	$0.086
Line Losses	10.90%

Year:2013 **Program**: Heating & Cooling Efficiency Program **Market Segment**: Residential **Program Type**: Energy Efficiency

							Benefit			Cost			Benefit/Cost Tests		
Measure Name	Measure Descriptions	Replacing	Measure Unit	End Use	Measure Life (yrs)[a]	NTG[b]	Annual Gross Energy Savings (kWh/yr)[c]	NPV Avoided Costs[d]	Non-Energy Benefit (NEB)	Gross Incremental Participant Cost[e]	Incentive/ Unit	Admin Cost ($/kWh)[f]	UC Ratio[g]	TRC Ratio[h]	Source
Air Conditioning (A/C) & Heat Pump Units	Evaporative cooler single family	Central A/C	Unit	ENRes_SF_CAC	12	80%	416.00	$605.56	$—	$—	$150.00	$0.221	2.00	2.00	1
A/C & Heat Pump Units	Evaporative cooler manufactured home	Central A/C	Unit	ENRes_MH_CAC	12	80%	309.00	$483.50	$—	$—	$150.00	$0.221	1.77	1.77	1
A/C & Heat Pump Units	Evaporative cooler multi-family	Central A/C	Unit	ENRes_MH_CAC	12	80%	296.00	$425.92	$—	$—	$150.00	$0.221	1.58	1.58	1
A/C & Heat Pump Units	Open-loop water source heat pump for existing and new construction: 14.00 EER 3.5 COP	Electric resistance/ Oil Propane	Unit	ENRes_SF_HeatPump	20	80%	8,927.00	$13,276.62	$—	$11,425.00	$1,000.00	$0.221	3.57	0.94	2, 3
A/C & Heat Pump Units	Open-loop water source heat pump: 14.00 EER 3.5 COP	Air-source heat pump	Unit	ENRes_SF_HeatPump	20	80%	2,648.00	$3,938.22	$—	$4,435.00	$500.00	$0.221	2.90	0.74	2, 4, 5
A/C & Heat Pump Units	Single-family home HVAC Conversions: Convert to Heat Pump 8.50 HSPF Heating Zone 1	Forced air furnace with central A/C	Unit	ENRes_SF_HeatPump	20	80%	5,306.00	$7,891.31	$—	$4,165.00	$800.00	$0.221	3.20	1.35	3, 6
A/C & Heat Pump Units	Single-family home HVAC Conversions: Convert to Heat Pump 8.50 HSPF Heating Zone 2	Forced air furnace with central A/C	Unit	ENRes_SF_HeatPump	20	80%	6,961.00	$10,352.70	$—	$4,165.00	$800.00	$0.221	3.54	1.65	3, 6
A/C & Heat Pump Units	Single-family home HVAC Conversions: Convert to Heat Pump 8.50 HSPF Heating Zone 3	Forced air furnace with central A/C	Unit	ENRes_SF_HeatPump	20	80%	7,876.00	$11,713.52	$—	$4,165.00	$800.00	$0.221	3.69	1.79	3, 6
A/C & Heat Pump Units	Single-family home HVAC Conversions: Convert to Heat Pump 8.50 HSPF Heating Zone 1 Cooling Zone 3	Forced air furnace w/o central A/C	Unit	ENRes_SF_HeatPump	20	80%	4,380.00	$6,514.12	$—	$6,398.00	$800.00	$0.221	2.95	0.83	3, 4, 6
A/C & Heat Pump Units	Single-family home HVAC Conversions: Convert to Heat Pump 8.50 HSPF Heating Zone 2 Cooling Zone 1	Forced air furnace w/o central A/C	Unit	ENRes_SF_HeatPump	20	80%	6,719.00	$9,992.78	$—	$6,398.00	$800.00	$0.221	3.50	1.18	3, 6

							Benefit			Cost			Benefit/Cost Tests		
Measure Name	Measure Descriptions	Replacing	Measure Unit	End Use	Measure Life (yrs)[a]	NTG[b]	Annual Gross Energy Savings (kWh/yr)[c]	NPV Avoided Costs[d]	Non-Energy Benefit (NEB)	Gross Incremental Participant Cost[e]	Incentive/ Unit	Admin Cost ($/kWh)[f]	UC Ratio[g]	TRC Ratio[h]	Source
A/C & Heat Pump Units	Single-family home HVAC Conversions: Convert to Heat Pump 8.50 HSPF Heating Zone 2 Cooling Zone 2	Forced air furnace w/o central A/C	Unit	ENRes_SF_HeatPump	20	80%	6,451.00	$9,594.20	$—	$6,398.00	$800.00	$0.221	3.45	1.14	3, 6
A/C & Heat Pump Units	Single-family home HVAC Conversions: Convert to Heat Pump 8.50 HSPF Heating Zone 2 Cooling Zone 3	Forced air furnace w/o central A/C	Unit	ENRes_SF_HeatPump	20	80%	6,035.00	$8,975.51	$—	$6,398.00	$800.00	$0.221	3.37	1.09	3, 6
A/C & Heat Pump Units	Single-family home HVAC Conversions: Convert to Heat Pump 8.50 HSPF Heating Zone 3 Cooling Zone 1	Forced air furnace w/o central A/C	Unit	ENRes_SF_HeatPump	20	80%	7,634.00	$11,353.61	$—	$6,398.00	$800.00	$0.221	3.65	1.30	3, 6
A/C & Heat Pump Units	Existing single-family home Heat Pump: upgraded to 8.50 HSPF All Climates	Heat pump	Unit	ENRes_SF_HeatPump	20	80%	2,597.00	$3,862.37	$—	$1,850.00	$250.00	$0.221	3.75	1.47	1, 5
A/C & Heat Pump Units	Existing single-family home Heat Pump: upgraded to 9.0 HSPF/14 SEER Heating Zone 1	Heat pump	Unit	ENRes_SF_HeatPump	15	80%	128.00	$151.61	$—	$58.67	$—	$0.221	4.29	1.61	7, 8
A/C & Heat Pump Units	Existing single-family home Heat Pump: upgraded to 9.0 HSPF/14 SEER Heating Zone 2	Heat pump	Unit	ENRes_SF_HeatPump	15	80%	116.00	$137.39	$—	$58.67	$—	$0.221	4.29	1.51	7, 8
A/C & Heat Pump Units	Existing single-family home Heat Pump: upgraded to 9.0 HSPF/14 SEER Heating Zone 3	Heat pump	Unit	ENRes_SF_HeatPump	15	80%	115.00	$136.21	$—	$58.67	$—	$0.221	4.29	1.51	7, 8

[a] Average measure life.

[b] Net-to-Gross (NTG) percentage. *Idaho Power Demand-Side Management Potential Study* by Nexant, Inc., 2009.

[c] Estimated kWh savings measured at the customers meter, excluding line losses.

[d] Sum of NPV of avoided costs. Based on end-use load shape; measure life; and savings, including line losses and alternative costs by pricing period as provided in the *2011 Integrated Resource Plan* (IRP).

[e] Incremental participant cost prior to customer incentives. Based on 2012–2013 median customer costs.

[f] Average program administration and overhead costs to achieve each kWh of savings. Calculated from 2013 actuals.

[g] Utility Cost Ratio = (NPV Avoided Costs * NTG)/((Admin Cost/kWh * kWh Savings) + Incentives).

[h] Total Resource Cost Ratio = ((NPV Avoided Costs + NEB) * NTG) / ((Admin Cost/kWh * kWh Savings) + Incentives + ((Incremental Participant Cost - Incentives) * NTG))

[1] Idaho Power Energy Efficiency Potential Study by EnerNOC Utility Solutions Consulting. IPC Residential LoadMAP.

[2] Savings from Ecotope, Inc., heat pump sizing specifications and heat pump measure savings estimates. December 2009.

[3] Costs based on average 2013 local contractor costs.

[4] Measure not cost-effective due to high incremental costs. Will monitor in 2014.

[5] Costs based on incremental difference between technology and RTF survey data.
[6] Savings from RTF. Res_SFHPConversion_V2_6.xlsm.2012.
[7] RTF. ResHeatingCoolingHeatPumpUpgradeSF_v2_8.xlsm. 2012.
[8] Customers receive incentive for going to an efficiency of at least an 8.5 HSPF heat pump. Incremental savings claimed for projects with an efficiency greater than a 9.0 HSPF. No additional incentive paid.

Home Improvement Program

Segment: Residential

2013 Program Results

Cost Inputs (NPV)		Ref
Program Administration	$ 159,343	
Program Incentives	140,155	I
Total Utility Cost	**$ 299,497**	P
Measure Equipment and Installation (Incremental Participant Cost)	$ 901,506	M

Net Benefit Inputs (NPV)			Ref
Resource Savings			
2013 Annual Gross Energy (kWh)	616,044		
NPV Cumulative Energy (kWh)	10,268,456	$ 1,341,804	
Total Electric Savings		**$ 1,341,804**	S
Participant Bill Savings			
NPV Cumulative Participant Savings		$ 1,145,298	B
Other Benefits			
Non-Utility Rebates/Incentives		$ —	NUI
Non-Energy Benefits		$ —	NEB

Summary of Cost-Effectiveness Results			
Test	**Benefit**	**Cost**	**Ratio**
Utility Cost Test	$ 1,073,443	$ 299,497	3.58
Total Resource Cost Test	1,073,443	908,578	1.18
Ratepayer Impact Measure Test	1,073,443	1,215,734	0.88
Participant Cost Test	1,285,452	901,506	1.43

Benefits and Costs Included in Each Test		
Utility Cost Test	= S * NTG	= P
Total Resource Cost Test	= (S + NUI + NEB) * NTG	= P + ((M-I)*NTG)
Ratepayer Impact Measure Test	= S * NTG	= P + (B * NTG)
Participant Cost Test	= B + I + NUI + NEB	= M

Assumptions for Levelized Calculations	
Discount Rate	
Nominal (WACC)	7.00%
Real ((1 + WACC) / (1 + Escalation)) – 1	3.88%
Escalation Rate	3.00%
Net-to-Gross (NTG)	80.00%
Average Customer Segment Rate/kWh	$0.086
Line Losses	10.90%

Year:2013 **Program**: Home Improvement Program **Market Segment**: Residential **Program Type**: Energy Efficiency

							Benefit			Cost			Benefit/Cost Tests		
Measure Name	Measure Descriptions	Replacing	Measure Unit	End Use	Measure Life (yrs)[a]	NTG[b]	Annual Gross Energy Savings (kWh/yr)[c]	NPV Avoided Costs[d]	Non-Energy Benefit (NEB)	Gross Incremental Participant Cost[e]	Incentive/ Unit[f]	Admin Cost ($/kWh)[g]	UC Ratio[h]	TRC Ratio[i]	Source
Single Family: Attic Insulation	R0 to R38. Average electric heating system w/o CAC. Heating Zone 1 Cooling Zone 3	Attic Insulation R0 to R38	ft_2	ENRes_SF_Heater	45	80%	2.06	$4.06	$-	$0.55	$0.15	$0.259	4.75	3.24	1
Single Family: Attic Insulation	R0 to R38. Average electric heating system w/o CAC. Heating Zone 2 Cooling Zone 1	Attic Insulation R0 to R38	ft_2	ENRes_SF_Heater	45	80%	2.87	$5.66	$-	$0.55	$0.15	$0.259	5.07	3.73	1
Single Family: Attic Insulation	R0 to R38. Average electric heating system w/o CAC. Heating Zone 2 Cooling Zone 2	Attic Insulation R0 to R38	ft_2	ENRes_SF_Heater	45	80%	2.87	$5.66	$-	$0.55	$0.15	$0.259	5.07	3.73	1
Single Family: Attic Insulation	R0 to R38. Average electric heating system w/o CAC. Heating Zone 2 Cooling Zone 3	Attic Insulation R0 to R38	ft_2	ENRes_SF_Heater	45	80%	2.87	$5.66	$-	$0.55	$0.15	$0.259	5.07	3.73	1
Single Family: Attic Insulation	R0 to R38. Average electric heating system w/o CAC. Heating Zone 3 Cooling Zone 1	Attic Insulation R0 to R38	ft_2	ENRes_SF_Heater	45	80%	3.49	$6.87	$-	$0.55	$0.15	$0.259	5.22	4.01	1
Single Family: Attic Insulation	R0 to R38. Average Heating System w/ CAC. Heating Zone 1 Cooling Zone 3	Attic Insulation R0 to R38	ft_2	ENRes_SF_HeatPump	45	80%	2.28	$5.32	$-	$0.55	$0.15	$0.259	5.76	4.02	1
Single Family: Attic Insulation	R0 to R38. Average Heating System w/ CAC. Heating Zone 2 Cooling Zone 1	Attic Insulation R0 to R38	ft_2	ENRes_SF_HeatPump	45	80%	2.97	$6.94	$-	$0.55	$0.15	$0.259	6.04	4.48	1
Single Family: Attic Insulation	R0 to R38. Average Heating System w/ CAC. Heating Zone 2 Cooling Zone 2	Attic Insulation R0 to R38	ft_2	ENRes_SF_HeatPump	45	80%	3.01	$7.05	$-	$0.55	$0.15	$0.259	6.06	4.51	1
Single Family: Attic Insulation	R0 to R38. Average Heating System w/ CAC. Heating Zone 2 Cooling Zone 3	Attic Insulation R0 to R38	ft_2	ENRes_SF_HeatPump	45	80%	3.09	$7.22	$-	$0.55	$0.15	$0.259	6.08	4.55	1
Single Family: Attic Insulation	R0 to R38. Average Heating System w/ CAC. Heating Zone 3 Cooling Zone 1	Attic Insulation R0 to R38	ft_2	ENRes_SF_HeatPump	45	80%	3.58	$8.38	$-	$0.55	$0.15	$0.259	6.22	4.79	1
Single Family: Attic Insulation	R0 to R38. Electric FAF Heating System w/ CAC. Heating Zone 1 Cooling Zone 3	Attic Insulation R0 to R38	ft_2	ENRes_SF_HeatPump	45	80%	2.65	$6.20	$-	$0.55	$0.15	$0.259	5.93	4.29	1

							Benefit			Cost			Benefit/Cost Tests		
Measure Name	Measure Descriptions	Replacing	Measure Unit	End Use	Measure Life (yrs)[a]	NTG[b]	Annual Gross Energy Savings (kWh/yr)[c]	NPV Avoided Costs[d]	Non-Energy Benefit (NEB)	Gross Incremental Participant Cost[e]	Incentive/ Unit[f]	Admin Cost ($/kWh)[g]	UC Ratio[h]	TRC Ratio[i]	Source
Single Family: Attic Insulation	R0 to R38. Electric FAF Heating System w/o CAC. Heating Zone 2 Cooling Zone 2	Attic Insulation R0 to R38	ft_2	ENRes_SF_Heater	45	80%	3.29	$6.49	$-	$0.55	$0.15	$0.259	5.18	3.93	1
Single Family: Attic Insulation	R0 to R38. Heat pump. Heating Zone 1 Cooling Zone 3	Attic Insulation R0 to R38	ft_2	ENRes_SF_HeatPump	45	80%	1.44	$3.37	$-	$0.55	$0.15	$0.259	5.15	3.20	1
Single Family: Attic Insulation	R0 to R38. Heat pump. Heating Zone 2 Cooling Zone 1	Attic Insulation R0 to R38	ft_2	ENRes_SF_HeatPump	45	80%	2.18	$5.10	$-	$0.55	$0.15	$0.259	5.71	3.94	1
Single Family: Attic Insulation	R0 to R38. Heat pump. Heating Zone 2 Cooling Zone 2	Attic Insulation R0 to R38	ft_2	ENRes_SF_HeatPump	45	80%	2.23	$5.20	$-	$0.55	$0.15	$0.259	5.73	3.98	1
Single Family: Attic Insulation	R0 to R38. Heat pump. Heating Zone 2 Cooling Zone 3	Attic Insulation R0 to R38	ft_2	ENRes_SF_HeatPump	45	80%	2.30	$5.38	$-	$0.55	$0.15	$0.259	5.77	4.04	1
Single Family: Attic Insulation	R0 to R38. Heat pump. Heating Zone 3 Cooling Zone 1	Attic Insulation R0 to R38	ft_2	ENRes_SF_HeatPump	45	80%	2.91	$6.79	$-	$0.55	$0.15	$0.259	6.02	4.45	1
Single Family: Attic Insulation	R0 to R38. Zonal Heating System w/o CAC. Heating Zone 1 Cooling Zone 3	Attic Insulation R0 to R38	ft_2	ENRes_SF_Heater	45	80%	2.17	$4.29	$-	$0.55	$0.15	$0.259	4.81	3.32	1
Single Family: Attic Insulation	R0 to R49. Average Heating System w/ CAC. Heating Zone 2 Cooling Zone 3	Attic Insulation R0 to R49	ft_2	ENRes_SF_HeatPump	45	80%	3.28	$7.68	$-	$0.55	$0.15	$0.259	6.14	4.65	1
Single Family: Attic Insulation	R0 to R49. Average electric heating system w/o CAC. Heating Zone 1 Cooling Zone 3	Attic Insulation R0 to R49	ft_2	ENRes_SF_Heater	45	80%	2.19	$4.32	$-	$0.55	$0.15	$0.259	4.82	3.33	1
Single Family: Attic Insulation	R0 to R49. Average electric heating system w/o CAC. Heating Zone 2 Cooling Zone 1	Attic Insulation R0 to R49	ft_2	ENRes_SF_Heater	45	80%	3.05	$6.02	$-	$0.55	$0.15	$0.259	5.12	3.82	1
Single Family: Attic Insulation	R0 to R49. Average electric heating system w/o CAC. Heating Zone 2 Cooling Zone 2	Attic Insulation R0 to R49	ft_2	ENRes_SF_Heater	45	80%	3.05	$6.02	$-	$0.55	$0.15	$0.259	5.12	3.82	1
Single Family: Attic Insulation	R0 to R49. Average electric heating system w/o CAC. Heating Zone 2 Cooling Zone 3	Attic Insulation R0 to R49	ft_2	ENRes_SF_Heater	45	80%	3.05	$6.02	$-	$0.55	$0.15	$0.259	5.12	3.82	1

							Benefit			Cost			Benefit/Cost Tests		
Measure Name	Measure Descriptions	Replacing	Measure Unit	End Use	Measure Life (yrs)[a]	NTG[b]	Annual Gross Energy Savings (kWh/yr)[c]	NPV Avoided Costs[d]	Non-Energy Benefit (NEB)	Gross Incremental Participant Cost[e]	Incentive/ Unit[f]	Admin Cost ($/kWh)[g]	UC Ratio[h]	TRC Ratio[i]	Source
Single Family: Attic Insulation	R0 to R49. Average electric heating system w/o CAC. Heating Zone 3 Cooling Zone 1	Attic Insulation R0 to R49	ft_2	ENRes_SF_Heater	45	80%	3.71	$7.31	$-	$0.55	$0.15	$0.259	5.27	4.09	1
Single Family: Attic Insulation	R0 to R49. Average Heating System w/ CAC. Heating Zone 1 Cooling Zone 3	Attic Insulation R0 to R49	ft_2	ENRes_SF_HeatPump	45	80%	2.42	$5.66	$-	$0.55	$0.15	$0.259	5.83	4.13	1
Single Family: Attic Insulation	R0 to R49. Average Heating System w/ CAC. Heating Zone 2 Cooling Zone 1	Attic Insulation R0 to R49	ft_2	ENRes_SF_HeatPump	45	80%	3.15	$7.37	$-	$0.55	$0.15	$0.259	6.10	4.58	1
Single Family: Attic Insulation	R0 to R49. Average Heating System w/ CAC. Heating Zone 2 Cooling Zone 2	Attic Insulation R0 to R49	ft_2	ENRes_SF_HeatPump	45	80%	3.20	$7.49	$-	$0.55	$0.15	$0.259	6.12	4.61	1
Single Family: Attic Insulation	R0 to R49. Average Heating System w/ CAC. Heating Zone 3 Cooling Zone 1	Attic Insulation R0 to R49	ft_2	ENRes_SF_HeatPump	45	80%	3.81	$8.91	$-	$0.55	$0.15	$0.259	6.27	4.89	1
Single Family: Attic Insulation	R0 to R49. Electric FAF Heating System w/ CAC. Heating Zone 1 Cooling Zone 3	Attic Insulation R0 to R49	ft_2	ENRes_SF_HeatPump	45	80%	2.82	$6.59	$-	$0.55	$0.15	$0.259	5.99	4.39	1
Single Family: Attic Insulation	R0 to R49. Electric FAF Heating System w/o CAC. Heating Zone 1 Cooling Zone 3	Attic Insulation R0 to R49	ft_2	ENRes_SF_Heater	45	80%	2.59	$5.10	$-	$0.55	$0.15	$0.259	4.98	3.58	1
Single Family: Attic Insulation	R0 to R49. Electric FAF Heating System w/o CAC. Heating Zone 2 Cooling Zone 2	Attic Insulation R0 to R49	ft_2	ENRes_SF_Heater	45	80%	3.50	$6.91	$-	$0.55	$0.15	$0.259	5.23	4.01	1
Single Family: Attic Insulation	R0 to R49. Heat pump. Heating Zone 1 Cooling Zone 3	Attic Insulation R0 to R49	ft_2	ENRes_SF_HeatPump	45	80%	1.53	$3.58	$-	$0.55	$0.15	$0.259	5.24	3.31	1
Single Family: Attic Insulation	R0 to R49. Heat pump. Heating Zone 2 Cooling Zone 1	Attic Insulation R0 to R49	ft_2	ENRes_SF_HeatPump	45	80%	2.31	$5.40	$-	$0.55	$0.15	$0.259	5.77	4.04	1
Single Family: Attic Insulation	R0 to R49. Heat pump. Heating Zone 2 Cooling Zone 2	Attic Insulation R0 to R49	ft_2	ENRes_SF_HeatPump	45	80%	2.36	$5.52	$-	$0.55	$0.15	$0.259	5.80	4.08	1
Single Family: Attic Insulation	R0 to R49. Heat pump. Heating Zone 2 Cooling Zone 3	Attic Insulation R0 to R49	ft_2	ENRes_SF_HeatPump	45	80%	2.44	$5.70	$-	$0.55	$0.15	$0.259	5.84	4.14	1

							Benefit			Cost			Benefit/Cost Tests		
Measure Name	Measure Descriptions	Replacing	Measure Unit	End Use	Measure Life (yrs)[a]	NTG[b]	Annual Gross Energy Savings (kWh/yr)[c]	NPV Avoided Costs[d]	Non-Energy Benefit (NEB)	Gross Incremental Participant Cost[e]	Incentive/ Unit[f]	Admin Cost ($/kWh)[g]	UC Ratio[h]	TRC Ratio[i]	Source
Single Family: Attic Insulation	R0 to R49. Heat pump. Heating Zone 3 Cooling Zone 1	Attic Insulation R0 to R49	ft_2	ENRes_SF_HeatPump	45	80%	3.08	$7.20	$—	$0.55	$0.15	$0.259	6.08	4.54	1
Single Family: Attic Insulation	R0 to R49. Zonal Heating System w/o CAC. Heating Zone 1 Cooling Zone 3	Attic Insulation R0 to R49	ft_2	ENRes_SF_Heater	45	80%	2.31	$4.56	$—	$0.55	$0.15	$0.259	4.87	3.41	1
Single Family: Attic Insulation	R0 to R49. Zonal Heating System w/o CAC. Heating Zone 3 Cooling Zone 1	Attic Insulation R0 to R49	ft_2	ENRes_SF_Heater	45	80%	3.69	$7.27	$—	$0.55	$0.15	$0.259	5.26	4.08	1
Single Family: Attic Insulation	R19 to R38. Average electric heating system w/o CAC. Heating Zone 1 Cooling Zone 3	Attic Insulation R19 to R38	ft_2	ENRes_SF_Heater	45	80%	0.56	$1.10	$—	$0.55	$0.15	$0.259	2.98	1.43	1
Single Family: Attic Insulation	R19 to R38. Average electric heating system w/o CAC. Heating Zone 2 Cooling Zone 1	Attic Insulation R19 to R38	ft_2	ENRes_SF_Heater	45	80%	0.78	$1.53	$—	$0.55	$0.15	$0.259	3.49	1.82	1
Single Family: Attic Insulation	R19 to R38. Average electric heating system w/o CAC. Heating Zone 2 Cooling Zone 2	Attic Insulation R19 to R38	ft_2	ENRes_SF_Heater	45	80%	0.78	$1.53	$—	$0.55	$0.15	$0.259	3.49	1.82	1
Single Family: Attic Insulation	R19 to R38. Average electric heating system w/o CAC. Heating Zone 2 Cooling Zone 3	Attic Insulation R19 to R38	ft_2	ENRes_SF_Heater	45	80%	0.78	$1.53	$—	$0.55	$0.15	$0.259	3.49	1.82	1
Single Family: Attic Insulation	R19 to R38. Average electric heating system w/o CAC. Heating Zone 3 Cooling Zone 1	Attic Insulation R19 to R38	ft_2	ENRes_SF_Heater	45	80%	0.94	$1.86	$—	$0.55	$0.15	$0.259	3.77	2.08	1
Single Family: Attic Insulation	R19 to R38. Average Heating System w/ CAC. Heating Zone 1 Cooling Zone 3	Attic Insulation R19 to R38	ft_2	ENRes_SF_HeatPump	45	80%	0.61	$1.44	$—	$0.55	$0.15	$0.259	3.72	1.83	1
Single Family: Attic Insulation	R19 to R38. Average Heating System w/ CAC. Heating Zone 2 Cooling Zone 1	Attic Insulation R19 to R38	ft_2	ENRes_SF_HeatPump	45	80%	0.80	$1.87	$—	$0.55	$0.15	$0.259	4.19	2.21	1
Single Family: Attic Insulation	R19 to R38. Average Heating System w/ CAC. Heating Zone 2 Cooling Zone 2	Attic Insulation R19 to R38	ft_2	ENRes_SF_HeatPump	45	80%	0.81	$1.90	$—	$0.55	$0.15	$0.259	4.22	2.23	1
Single Family: Attic Insulation	R19 to R38. Average Heating System w/ CAC. Heating Zone 2 Cooling Zone 3	Attic Insulation R19 to R38	ft_2	ENRes_SF_HeatPump	45	80%	0.83	$1.95	$—	$0.55	$0.15	$0.259	4.26	2.27	1

							Benefit			Cost			Benefit/Cost Tests		
Measure Name	Measure Descriptions	Replacing	Measure Unit	End Use	Measure Life (yrs)[a]	NTG[b]	Annual Gross Energy Savings (kWh/yr)[c]	NPV Avoided Costs[d]	Non-Energy Benefit (NEB)	Gross Incremental Participant Cost[e]	Incentive/ Unit[f]	Admin Cost ($/kWh)[g]	UC Ratio[h]	TRC Ratio[i]	Source
Single Family: Attic Insulation	R19 to R38. Average Heating System w/ CAC. Heating Zone 3 Cooling Zone 1	Attic Insulation R19 to R38	ft_2	ENRes_SF_HeatPump	45	80%	0.97	$2.26	$—	$0.55	$0.15	$0.259	4.52	2.51	1
Single Family: Attic Insulation	R19 to R38. Electric FAF Heating System w/ CAC. Heating Zone 1 Cooling Zone 3	Attic Insulation R19 to R38	ft_2	ENRes_SF_HeatPump	45	80%	0.72	$1.68	$—	$0.55	$0.15	$0.259	4.00	2.05	1
Single Family: Attic Insulation	R19 to R38. Electric FAF Heating System w/o CAC. Heating Zone 3 Cooling Zone 1	Attic Insulation R19 to R38	ft_2	ENRes_SF_Heater	45	80%	1.07	$2.11	$—	$0.55	$0.15	$0.259	3.95	2.26	1
Single Family: Attic Insulation	R19 to R38. Heat pump. Heating Zone 1 Cooling Zone 3	Attic Insulation R19 to R38	ft_2	ENRes_SF_HeatPump	45	80%	0.38	$0.89	$—	$0.55	$0.15	$0.259	2.87	1.25	1
Single Family: Attic Insulation	R19 to R38. Heat pump. Heating Zone 2 Cooling Zone 1	Attic Insulation R19 to R38	ft_2	ENRes_SF_HeatPump	45	80%	0.57	$1.33	$—	$0.55	$0.15	$0.259	3.57	1.72	1
Single Family: Attic Insulation	R19 to R38. Heat pump. Heating Zone 2 Cooling Zone 2	Attic Insulation R19 to R38	ft_2	ENRes_SF_HeatPump	45	80%	0.58	$1.36	$—	$0.55	$0.15	$0.259	3.61	1.75	1
Single Family: Attic Insulation	R19 to R38. Heat pump. Heating Zone 2 Cooling Zone 3	Attic Insulation R19 to R38	ft_2	ENRes_SF_HeatPump	45	80%	0.60	$1.41	$—	$0.55	$0.15	$0.259	3.68	1.80	1
Single Family: Attic Insulation	R19 to R38. Heat pump. Heating Zone 3 Cooling Zone 1	Attic Insulation R19 to R38	ft_2	ENRes_SF_HeatPump	45	80%	0.76	$1.78	$—	$0.55	$0.15	$0.259	4.10	2.13	1
Single Family: Attic Insulation	R19 to R38. Zonal Heating System w/ CAC. Heating Zone 1 Cooling Zone 3	Attic Insulation R19 to R38	ft_2	ENRes_SF_Heater	45	80%	0.65	$1.28	$—	$0.55	$0.15	$0.259	3.22	1.60	1
Single Family: Attic Insulation	R19 to R38. Zonal Heating System w/o CAC. Heating Zone 1 Cooling Zone 3	Attic Insulation R19 to R38	ft_2	ENRes_SF_Heater	45	80%	0.59	$1.16	$—	$0.55	$0.15	$0.259	3.07	1.49	1
Single Family: Attic Insulation	R19 to R38. Zonal Heating System w/o CAC. Heating Zone 2 Cooling Zone 2	Attic Insulation R19 to R38	ft_2	ENRes_SF_Heater	45	80%	0.79	$1.57	$—	$0.55	$0.15	$0.259	3.52	1.85	1
Single Family: Attic Insulation	R19 to R49. Average electric heating system w/o CAC. Heating Zone 1 Cooling Zone 3	Attic Insulation R19 to R49	ft_2	ENRes_SF_Heater	45	80%	0.69	$1.35	$—	$0.55	$0.15	$0.259	3.30	1.67	1

							Benefit			Cost			Benefit/Cost Tests		
Measure Name	Measure Descriptions	Replacing	Measure Unit	End Use	Measure Life (yrs)[a]	NTG[b]	Annual Gross Energy Savings (kWh/yr)[c]	NPV Avoided Costs[d]	Non-Energy Benefit (NEB)	Gross Incremental Participant Cost[e]	Incentive/ Unit[f]	Admin Cost ($/kWh)[g]	UC Ratio[h]	TRC Ratio[i]	Source
Single Family: Attic Insulation	R19 to R49. Average electric heating system w/o CAC. Heating Zone 2 Cooling Zone 1	Attic Insulation R19 to R49	ft_2	ENRes_SF_Heater	45	80%	0.96	$1.89	$—	$0.55	$0.15	$0.259	3.79	2.10	1
Single Family: Attic Insulation	R19 to R49. Average electric heating system w/o CAC. Heating Zone 2 Cooling Zone 2	Attic Insulation R19 to R49	ft_2	ENRes_SF_Heater	45	80%	0.96	$1.89	$—	$0.55	$0.15	$0.259	3.79	2.10	1
Single Family: Attic Insulation	R19 to R49. Average electric heating system w/o CAC. Heating Zone 2 Cooling Zone 3	Attic Insulation R19 to R49	ft_2	ENRes_SF_Heater	45	80%	0.96	$1.89	$—	$0.55	$0.15	$0.259	3.79	2.10	1
Single Family: Attic Insulation	R19 to R49. Average electric heating system w/o CAC. Heating Zone 3 Cooling Zone 1	Attic Insulation R19 to R49	ft_2	ENRes_SF_Heater	45	80%	1.16	$2.29	$—	$0.55	$0.15	$0.259	4.07	2.38	1
Single Family: Attic Insulation	R19 to R49. Average Heating System w/ CAC. Heating Zone 1 Cooling Zone 3	Attic Insulation R19 to R49	ft_2	ENRes_SF_HeatPump	45	80%	0.76	$1.77	$—	$0.55	$0.15	$0.259	4.09	2.13	1
Single Family: Attic Insulation	R19 to R49. Average Heating System w/ CAC. Heating Zone 2 Cooling Zone 1	Attic Insulation R19 to R49	ft_2	ENRes_SF_HeatPump	45	80%	0.99	$2.31	$—	$0.55	$0.15	$0.259	4.55	2.54	1
Single Family: Attic Insulation	R19 to R49. Average Heating System w/ CAC. Heating Zone 2 Cooling Zone 2	Attic Insulation R19 to R49	ft_2	ENRes_SF_HeatPump	45	80%	1.00	$2.34	$—	$0.55	$0.15	$0.259	4.58	2.57	1
Single Family: Attic Insulation	R19 to R49. Average Heating System w/ CAC. Heating Zone 2 Cooling Zone 3	Attic Insulation R19 to R49	ft_2	ENRes_SF_HeatPump	45	80%	1.03	$2.41	$—	$0.55	$0.15	$0.259	4.62	2.61	1
Single Family: Attic Insulation	R19 to R49. Average Heating System w/ CAC. Heating Zone 3 Cooling Zone 1	Attic Insulation R19 to R49	ft_2	ENRes_SF_HeatPump	45	80%	1.19	$2.79	$—	$0.55	$0.15	$0.259	4.86	2.86	1
Single Family: Attic Insulation	R19 to R49. Electric FAF Heating System w/ CAC. Heating Zone 1 Cooling Zone 3	Attic Insulation R19 to R49	ft_2	ENRes_SF_HeatPump	45	80%	0.89	$2.07	$—	$0.55	$0.15	$0.259	4.37	2.37	1
Single Family: Attic Insulation	R19 to R49. Electric FAF Heating System w/ CAC. Heating Zone 2 Cooling Zone 2	Attic Insulation R19 to R49	ft_2	ENRes_SF_HeatPump	45	80%	1.15	$2.70	$—	$0.55	$0.15	$0.259	4.81	2.81	1
Single Family: Attic Insulation	R19 to R49. Electric FAF Heating System w/o CAC. Heating Zone 1 Cooling Zone 3	Attic Insulation R19 to R49	ft_2	ENRes_SF_Heater	45	80%	0.81	$1.61	$—	$0.55	$0.15	$0.259	3.56	1.89	1

							Benefit			Cost			Benefit/Cost Tests		
Measure Name	Measure Descriptions	Replacing	Measure Unit	End Use	Measure Life (yrs)[a]	NTG[b]	Annual Gross Energy Savings (kWh/yr)[c]	NPV Avoided Costs[d]	Non-Energy Benefit (NEB)	Gross Incremental Participant Cost[e]	Incentive/ Unit[f]	Admin Cost ($/kWh)[g]	UC Ratio[h]	TRC Ratio[i]	Source
Single Family: Attic Insulation	R19 to R49. Electric FAF Heating System w/o CAC. Heating Zone 2 Cooling Zone 2	Attic Insulation R19 to R49	ft_2	ENRes_SF_Heater	45	80%	1.11	$2.18	$—	$0.55	$0.15	$0.259	4.00	2.31	1
Single Family: Attic Insulation	R19 to R49. Electric FAF Heating System w/o CAC. Heating Zone 3 Cooling Zone 1	Attic Insulation R19 to R49	ft_2	ENRes_SF_Heater	45	80%	1.32	$2.60	$—	$0.55	$0.15	$0.259	4.23	2.57	1
Single Family: Attic Insulation	R19 to R49. Heat pump. Heating Zone 1 Cooling Zone 3	Attic Insulation R19 to R49	ft_2	ENRes_SF_HeatPump	45	80%	0.47	$1.10	$—	$0.55	$0.15	$0.259	3.23	1.48	1
Single Family: Attic Insulation	R19 to R49. Heat pump. Heating Zone 2 Cooling Zone 1	Attic Insulation R19 to R49	ft_2	ENRes_SF_HeatPump	45	80%	0.70	$1.63	$—	$0.55	$0.15	$0.259	3.94	2.00	1
Single Family: Attic Insulation	R19 to R49. Heat pump. Heating Zone 2 Cooling Zone 2	Attic Insulation R19 to R49	ft_2	ENRes_SF_HeatPump	45	80%	0.71	$1.67	$—	$0.55	$0.15	$0.259	3.99	2.04	1
Single Family: Attic Insulation	R19 to R49. Heat pump. Heating Zone 2 Cooling Zone 3	Attic Insulation R19 to R49	ft_2	ENRes_SF_HeatPump	45	80%	0.74	$1.73	$—	$0.55	$0.15	$0.259	4.05	2.09	1
Single Family: Attic Insulation	R19 to R49. Heat pump. Heating Zone 3 Cooling Zone 1	Attic Insulation R19 to R49	ft_2	ENRes_SF_HeatPump	45	80%	0.93	$2.18	$—	$0.55	$0.15	$0.259	4.46	2.45	1
Single Family: Attic Insulation	R19 to R49. Zonal Heating System w/ CAC. Heating Zone 1 Cooling Zone 3	Attic Insulation R19 to R49	ft_2	ENRes_SF_HeatPump	45	80%	0.80	$1.87	$—	$0.55	$0.15	$0.259	4.19	2.21	1
Single Family: Attic Insulation	R19 to R49. Zonal Heating System w/o CAC. Heating Zone 1 Cooling Zone 3	Attic Insulation R19 to R49	ft_2	ENRes_SF_Heater	45	80%	0.73	$1.43	$—	$0.55	$0.15	$0.259	3.39	1.74	1
Single Family: Attic Insulation	R19 to R49. Zonal Heating System w/o CAC. Heating Zone 3 Cooling Zone 1	Attic Insulation R19 to R49	ft_2	ENRes_SF_Heater	45	80%	1.16	$2.30	$—	$0.55	$0.15	$0.259	4.07	2.38	1
Single Family: Floor Insulation	R0 to R30. Electric FAF Heating System w/ CAC. Heating Zone 1 Cooling Zone 3	Floor Insulation R0 to R30	ft_2	ENRes_SF_HeatPump	45	80%	1.48	$3.47	$—	$0.84	$0.50	$0.259	3.14	2.40	1
Single Family: Floor Insulation	R0 to R30. Electric FAF Heating System w/ CAC. Heating Zone 3 Cooling Zone 1	Floor Insulation R0 to R30	ft_2	ENRes_SF_HeatPump	45	80%	2.37	$5.54	$—	$0.84	$0.50	$0.259	3.98	3.20	1

							Benefit			Cost			Benefit/Cost Tests		
Measure Name	Measure Descriptions	Replacing	Measure Unit	End Use	Measure Life (yrs)[a]	NTG[b]	Annual Gross Energy Savings (kWh/yr)[c]	NPV Avoided Costs[d]	Non-Energy Benefit (NEB)	Gross Incremental Participant Cost[e]	Incentive/ Unit[f]	Admin Cost ($/kWh)[g]	UC Ratio[h]	TRC Ratio[i]	Source
Single Family: Floor Insulation	R0 to R30. Electric FAF Heating System w/o CAC. Heating Zone 1	Floor Insulation R0 to R30	ft_2	ENRes_SF_Heater	45	80%	1.53	$3.02	$—	$0.84	$0.50	$0.259	2.69	2.07	1
Single Family: Floor Insulation	R0 to R30. Electric FAF Heating System w/o CAC. Heating Zone 2	Floor Insulation R0 to R30	ft_2	ENRes_SF_Heater	45	80%	2.00	$3.94	$—	$0.84	$0.50	$0.259	3.10	2.45	1
Single Family: Floor Insulation	R0 to R30. Electric FAF Heating System w/o CAC. Heating Zone 3	Floor Insulation R0 to R30	ft_2	ENRes_SF_Heater	45	80%	2.42	$4.77	$—	$0.84	$0.50	$0.259	3.39	2.73	1
Single Family: Floor Insulation	R0 to R30. Heat Pump. Heating Zone 1 Cooling Zone 3.	Floor Insulation R0 to R30	ft_2	ENRes_SF_HeatPump	45	80%	0.61	$1.42	$—	$0.84	$0.50	$0.259	1.72	1.22	1
Single Family: Floor Insulation	R0 to R30. Heat Pump. Heating Zone 2 Cooling Zone 2.	Floor Insulation R0 to R30	ft_2	ENRes_SF_HeatPump	45	80%	0.97	$2.27	$—	$0.84	$0.50	$0.259	2.41	1.77	1
Single Family: Floor Insulation	R0 to R30. Heat Pump. Heating Zone 2 Cooling Zone 3.	Floor Insulation R0 to R30	ft_2	ENRes_SF_HeatPump	45	80%	0.97	$2.27	$—	$0.84	$0.50	$0.259	2.42	1.78	1
Single Family: Floor Insulation	R0 to R30. Heat Pump. Heating Zone 3 Cooling Zone 1.	Floor Insulation R0 to R30	ft_2	ENRes_SF_HeatPump	45	80%	1.33	$3.11	$—	$0.84	$0.50	$0.259	2.95	2.23	1
Single Family: Floor Insulation	R0 to R30. Zonal Heating System w/o CAC. Heating Zone 1 Cooling Zone 3	Floor Insulation R0 to R30	ft_2	ENRes_SF_Heater	45	80%	1.46	$2.88	$—	$0.84	$0.50	$0.259	2.62	2.00	1
Single Family: Floor Insulation	R0 to R30. Zonal Heating System w/o CAC. Heating Zone 2 Cooling Zone 2	Floor Insulation R0 to R30	ft_2	ENRes_SF_Heater	45	80%	1.91	$3.77	$—	$0.84	$0.50	$0.259	3.03	2.38	1
Single Family: Floor Insulation	R0 to R30. Zonal Heating System w/o CAC. Heating Zone 3 Cooling Zone 1	Floor Insulation R0 to R30	ft_2	ENRes_SF_Heater	45	80%	2.31	$4.55	$—	$0.84	$0.50	$0.259	3.32	2.66	1
Single Family: Wall Insulation	R0 to R11. Electric FAF Heating System w/o CAC. Heating Zone 2 Cooling Zone 2	Wall Insulation R0 to R11	ft_2	ENRes_SF_Heater	45	80%	2.43	$4.80	$—	$2.43	$0.50	$0.259	3.40	1.44	1
Single Family: Wall Insulation	R0 to R11. Electric FAF Heating System. Heating Zone 1	Wall Insulation R0 to R11	ft_2	ENRes_SF_Heater	45	80%	1.80	$3.55	$—	$2.43	$0.50	$0.259	2.94	1.13	1

							Benefit			Cost			Benefit/Cost Tests		
Measure Name	Measure Descriptions	Replacing	Measure Unit	End Use	Measure Life (yrs)[a]	NTG[b]	Annual Gross Energy Savings (kWh/yr)[c]	NPV Avoided Costs[d]	Non-Energy Benefit (NEB)	Gross Incremental Participant Cost[e]	Incentive/ Unit[f]	Admin Cost ($/kWh)[g]	UC Ratio[h]	TRC Ratio[i]	Source
Single Family: Wall Insulation	R0 to R11. Electric FAF Heating System. Heating Zone 3	Wall Insulation R0 to R11	ft_2	ENRes_SF_Heater	45	80%	2.94	$5.80	$—	$2.43	$0.50	$0.259	3.68	1.65	1
Single Family: Wall Insulation	R0 to R11. Heat Pump . Heating Zone 1 Cooling Zone 3	Wall Insulation R0 to R11	ft_2	ENRes_SF_HeatPump	45	80%	0.95	$2.23	$—	$2.43	$0.50	$0.259	2.39	0.78	1, 2
Single Family: Wall Insulation	R0 to R11. Heat Pump . Heating Zone 2 Cooling Zone 2	Wall Insulation R0 to R11	ft_2	ENRes_SF_HeatPump	45	80%	1.53	$3.59	$—	$2.43	$0.50	$0.259	3.20	1.18	1
Single Family: Wall Insulation	R0 to R11. Heat Pump. Heating Zone 3	Wall Insulation R0 to R11	ft_2	ENRes_SF_HeatPump	45	80%	2.12	$4.96	$—	$2.43	$0.50	$0.259	3.78	1.53	1
Single Family: Wall Insulation	R0 to R11. Zonal Heating System w/o CAC. Heating Zone 1 Cooling Zone 3	Wall Insulation R0 to R11	ft_2	ENRes_SF_Heater	45	80%	1.60	$3.15	$—	$2.43	$0.50	$0.259	2.76	1.02	1
Single Family: Wall Insulation	R0 to R11. Zonal Heating System w/o CAC. Heating Zone 2 Cooling Zone 3	Wall Insulation R0 to R11	ft_2	ENRes_SF_Heater	45	80%	2.13	$4.20	$—	$2.43	$0.50	$0.259	3.20	1.30	1
Single Family: Wall Insulation	R0 to R11. Zonal Heating System. Heating Zone 3	Wall Insulation R0 to R11	ft_2	ENRes_SF_Heater	45	80%	2.57	$5.07	$—	$2.43	$0.50	$0.259	3.48	1.50	1
Single Family: Window	Single Pane to Class 30: Heating Zone 2: Cooling Zone 1 (Average Heating System)	WINDOW CL30 Prime Window Replacement of Single Pane Base	ft_2	ENRes_SF_HeatPump	45	80%	29.63	$69.28	$—	$23.71	$2.50	$0.259	5.45	2.04	1
Single Family: Window	Double Pane to Class 30: Heating Zone 2: Cooling Zone 1 (Average Heating System)	WINDOW CL30 Prime Window Replacement of Double Pane Base	ft_2	ENRes_SF_HeatPump	45	80%	16.92	$39.56	$—	$23.71	$2.50	$0.259	4.60	1.33	1
Single Family: Window	Single Pane to Class 30: Heating Zone 3: Cooling Zone 1 (Average Heating System)	WINDOW CL30 Prime Window Replacement of Single Pane Base	ft_2	ENRes_SF_HeatPump	45	80%	36.61	$85.60	$—	$23.71	$2.50	$0.259	5.72	2.37	1

							Benefit			Cost			Benefit/Cost Tests		
Measure Name	Measure Descriptions	Replacing	Measure Unit	End Use	Measure Life (yrs)[a]	NTG[b]	Annual Gross Energy Savings (kWh/yr)[c]	NPV Avoided Costs[d]	Non-Energy Benefit (NEB)	Gross Incremental Participant Cost[e]	Incentive/ Unit[f]	Admin Cost ($/kWh)[g]	UC Ratio[h]	TRC Ratio[i]	Source
Single Family: Window	Double Pane to Class 30: Heating Zone 3: Cooling Zone 1 (Average Heating System)	WINDOW CL30 Prime Window Replacement of Double Pane Base	ft_2	ENRes_SF_HeatPump	45	80%	21.16	$49.48	$—	$23.71	$2.50	$0.259	4.96	1.59	1
Single Family: Window	Single Pane to Class 30: Heating Zone 2: Cooling Zone 1 (Zonal Heating System)	WINDOW CL30 Prime Window Replacement of Single Pane Base	ft_2	ENRes_SF_HeatPump	45	80%	29.62	$69.26	$—	$23.71	$2.50	$0.259	5.45	2.04	1
Single Family: Window	Double Pane to Class 30: Heating Zone 2: Cooling Zone 1 (Zonal Heating System)	WINDOW CL30 Prime Window Replacement of Double Pane Base	ft_2	ENRes_SF_HeatPump	45	80%	16.85	$39.40	$—	$23.71	$2.50	$0.259	4.59	1.32	1
Single Family: Window	Single Pane to Class 30: Heating Zone 3: Cooling Zone 1 (Zonal Heating System)	WINDOW CL30 Prime Window Replacement of Single Pane Base	ft_2	ENRes_SF_HeatPump	45	80%	35.75	$83.59	$—	$23.71	$2.50	$0.259	5.69	2.33	1
Single Family: Window	Double Pane to Class 30: Heating Zone 3: Cooling Zone 1 (Zonal Heating System)	WINDOW CL30 Prime Window Replacement of Double Pane Base	ft_2	ENRes_SF_HeatPump	45	80%	20.57	$48.10	$—	$23.71	$2.50	$0.259	4.92	1.55	1
Single Family: Window	Single Pane to Class 30: Heating Zone 2: Cooling Zone 1 (Electric FAF Heating System)	WINDOW CL30 Prime Window Replacement of Single Pane Base	ft_2	ENRes_SF_HeatPump	45	80%	33.73	$78.87	$—	$23.71	$2.50	$0.259	5.62	2.24	1
Single Family: Window	Double Pane to Class 30: Heating Zone 2: Cooling Zone 1 (Electric FAF Heating System)	WINDOW CL30 Prime Window Replacement of Double Pane Base	ft_2	ENRes_SF_HeatPump	45	80%	19.16	$44.80	$—	$23.71	$2.50	$0.259	4.80	1.47	1
Single Family: Window	Single Pane to Class 30: Heating Zone 3: Cooling Zone 1 (Electric FAF Heating System)	WINDOW CL30 Prime Window Replacement of Single Pane Base	ft_2	ENRes_SF_HeatPump	45	80%	40.98	$95.82	$—	$23.71	$2.50	$0.259	5.85	2.55	1

Measure Name	Measure Descriptions	Replacing	Measure Unit	End Use	Measure Life (yrs)[a]	NTG[b]	Benefit			Cost			Benefit/Cost Tests		Source
							Annual Gross Energy Savings (kWh/yr)[c]	NPV Avoided Costs[d]	Non-Energy Benefit (NEB)	Gross Incremental Participant Cost[e]	Incentive/ Unit[f]	Admin Cost ($/kWh)[g]	UC Ratio[h]	TRC Ratio[i]	
Single Family: Window	Double Pane to Class 30: Heating Zone 3: Cooling Zone 1 (Electric FAF Heating System)	WINDOW CL30 Prime Window Replacement of Double Pane Base	ft_2	ENRes_SF_HeatPump	45	80%	23.56	$55.09	$—	$23.71	$2.50	$0.259	5.12	1.72	1
Single Family: Window	Single Pane to Class 30: Heating Zone 2: Cooling Zone 1 (Heat Pump Heating System)	WINDOW CL30 Prime Window Replacement of Single Pane Base	ft_2	ENRes_SF_HeatPump	45	80%	22.95	$53.66	$—	$23.71	$2.50	$0.259	5.08	1.69	1
Single Family: Window	Double Pane to Class 30: Heating Zone 2: Cooling Zone 1 (Heat Pump Heating System)	WINDOW CL30 Prime Window Replacement of Double Pane Base	ft_2	ENRes_SF_HeatPump	45	80%	13.38	$31.29	$—	$23.71	$2.50	$0.259	4.20	1.09	1
Single Family: Window	Single Pane to Class 30: Heating Zone 3: Cooling Zone 1 (Heat Pump Heating System)	WINDOW CL30 Prime Window Replacement of Single Pane Base	ft_2	ENRes_SF_HeatPump	45	80%	31.10	$72.72	$—	$23.71	$2.50	$0.259	5.51	2.11	1
Single Family: Window	Double Pane to Class 30: Heating Zone 3: Cooling Zone 1 (Heat Pump Heating System)	WINDOW CL30 Prime Window Replacement of Double Pane Base	ft_2	ENRes_SF_HeatPump	45	80%	18.35	$42.91	$—	$23.71	$2.50	$0.259	4.73	1.42	1
Single Family: Window	Single Pane to Class 30: Heating Zone 2: Cooling Zone 2 (Average Heating System)	WINDOW CL30 Prime Window Replacement of Single Pane Base	ft_2	ENRes_SF_HeatPump	45	80%	30.14	$70.47	$—	$23.71	$2.50	$0.259	5.47	2.07	1
Single Family: Window	Double Pane to Class 30: Heating Zone 2: Cooling Zone 2 (Average Heating System)	WINDOW CL30 Prime Window Replacement of Double Pane Base	ft_2	ENRes_SF_HeatPump	45	80%	17.44	$40.78	$—	$23.71	$2.50	$0.259	4.65	1.36	1
Single Family: Window	Single Pane to Class 30: Heating Zone 2: Cooling Zone 2 (Zonal Heating System)	WINDOW CL30 Prime Window Replacement of Single Pane Base	ft_2	ENRes_SF_HeatPump	45	80%	30.13	$70.45	$—	$23.71	$2.50	$0.259	5.47	2.07	1

							Benefit			Cost			Benefit/Cost Tests		
Measure Name	Measure Descriptions	Replacing	Measure Unit	End Use	Measure Life (yrs)[a]	NTG[b]	Annual Gross Energy Savings (kWh/yr)[c]	NPV Avoided Costs[d]	Non-Energy Benefit (NEB)	Gross Incremental Participant Cost[e]	Incentive/ Unit[f]	Admin Cost ($/kWh)[g]	UC Ratio[h]	TRC Ratio[i]	Source
Single Family: Window	Double Pane to Class 30: Heating Zone 2: Cooling Zone 2 (Zonal Heating System)	WINDOW CL30 Prime Window Replacement of Double Pane Base	ft_2	ENRes_SF_HeatPump	45	80%	17.37	$40.61	$—	$23.71	$2.50	$0.259	4.64	1.36	1
Single Family: Window	Single Pane to Class 30: Heating Zone 2: Cooling Zone 2 (Electric FAF Heating System)	WINDOW CL30 Prime Window Replacement of Single Pane Base	ft_2	ENRes_SF_HeatPump	45	80%	34.24	$80.06	$—	$23.71	$2.50	$0.259	5.63	2.26	1
Single Family: Window	Double Pane to Class 30: Heating Zone 2: Cooling Zone 2 (Electric FAF Heating System)	WINDOW CL30 Prime Window Replacement of Double Pane Base	ft_2	ENRes_SF_HeatPump	45	80%	19.68	$46.02	$—	$23.71	$2.50	$0.259	4.85	1.50	1
Single Family: Window	Single Pane to Class 30: Heating Zone 2: Cooling Zone 2 (Heat Pump Heating System)	WINDOW CL30 Prime Window Replacement of Single Pane Base	ft_2	ENRes_SF_HeatPump	45	80%	23.46	$54.85	$—	$23.71	$2.50	$0.259	5.12	1.72	1
Single Family: Window	Double Pane to Class 30: Heating Zone 2: Cooling Zone 2 (Heat Pump Heating System)	WINDOW CL30 Prime Window Replacement of Double Pane Base	ft_2	ENRes_SF_HeatPump	45	80%	13.89	$32.48	$—	$23.71	$2.50	$0.259	4.26	1.13	1
Single Family: Window	Single Pane to Class 30: Heating Zone 1: Cooling Zone 3 (Average Heating System)	WINDOW CL30 Prime Window Replacement of Single Pane Base	ft_2	ENRes_SF_HeatPump	45	80%	22.47	$52.54	$—	$23.71	$2.50	$0.259	5.05	1.66	1
Single Family: Window	Double Pane to Class 30: Heating Zone 1: Cooling Zone 3 (Average Heating System)	WINDOW CL30 Prime Window Replacement of Double Pane Base	ft_2	ENRes_SF_HeatPump	45	80%	13.31	$31.12	$—	$23.71	$2.50	$0.259	4.19	1.09	1
Single Family: Window	Single Pane to Class 30: Heating Zone 2: Cooling Zone 3 (Average Heating System)	WINDOW CL30 Prime Window Replacement of Single Pane Base	ft_2	ENRes_SF_HeatPump	45	80%	30.86	$72.16	$—	$23.71	$2.50	$0.259	5.50	2.10	1

Measure Name	Measure Descriptions	Replacing	Measure Unit	End Use	Measure Life (yrs)[a]	NTG[b]	Benefit			Cost			Benefit/Cost Tests		Source
							Annual Gross Energy Savings (kWh/yr)[c]	NPV Avoided Costs[d]	Non-Energy Benefit (NEB)	Gross Incremental Participant Cost[e]	Incentive/ Unit[f]	Admin Cost ($/kWh)[g]	UC Ratio[h]	TRC Ratio[i]	
Single Family: Window	Double Pane to Class 30: Heating Zone 2: Cooling Zone 3 (Average Heating System)	WINDOW CL30 Prime Window Replacement of Double Pane Base	ft_2	ENRes_SF_HeatPump	45	80%	18.15	$42.44	$—	$23.71	$2.50	$0.259	4.71	1.40	1
Single Family: Window	Single Pane to Class 30: Heating Zone 1: Cooling Zone 3 (Zonal Heating System)	WINDOW CL30 Prime Window Replacement of Single Pane Base	ft_2	ENRes_SF_HeatPump	45	80%	23.36	$54.62	$—	$23.71	$2.50	$0.259	5.11	1.71	1
Single Family: Window	Double Pane to Class 30: Heating Zone 1: Cooling Zone 3 (Zonal Heating System)	WINDOW CL30 Prime Window Replacement of Double Pane Base	ft_2	ENRes_SF_HeatPump	45	80%	13.74	$32.13	$—	$23.71	$2.50	$0.259	4.24	1.12	1
Single Family: Window	Single Pane to Class 30: Heating Zone 2: Cooling Zone 3 (Zonal Heating System)	WINDOW CL30 Prime Window Replacement of Single Pane Base	ft_2	ENRes_SF_HeatPump	45	80%	30.85	$72.13	$—	$23.71	$2.50	$0.259	5.50	2.10	1
Single Family: Window	Double Pane to Class 30: Heating Zone 2: Cooling Zone 3 (Zonal Heating System)	WINDOW CL30 Prime Window Replacement of Double Pane Base	ft_2	ENRes_SF_HeatPump	45	80%	18.08	$42.27	$—	$23.71	$2.50	$0.259	4.71	1.40	1
Single Family: Window	Single Pane to Class 30: Heating Zone 1: Cooling Zone 3 (Electric FAF Heating System)	WINDOW CL30 Prime Window Replacement of Single Pane Base	ft_2	ENRes_SF_HeatPump	45	80%	26.14	$61.12	$—	$23.71	$2.50	$0.259	5.27	1.86	1
Single Family: Window	Double Pane to Class 30: Heating Zone 1: Cooling Zone 3 (Electric FAF Heating System)	WINDOW CL30 Prime Window Replacement of Double Pane Base	ft_2	ENRes_SF_HeatPump	45	80%	15.27	$35.70	$—	$23.71	$2.50	$0.259	4.43	1.22	1
Single Family: Window	Single Pane to Class 30: Heating Zone 2: Cooling Zone 3 (Electric FAF Heating System)	WINDOW CL30 Prime Window Replacement of Single Pane Base	ft_2	ENRes_SF_HeatPump	45	80%	34.96	$81.74	$—	$23.71	$2.50	$0.259	5.66	2.29	1

							Benefit			Cost			Benefit/Cost Tests		
Measure Name	Measure Descriptions	Replacing	Measure Unit	End Use	Measure Life (yrs)[a]	NTG[b]	Annual Gross Energy Savings (kWh/yr)[c]	NPV Avoided Costs[d]	Non-Energy Benefit (NEB)	Gross Incremental Participant Cost[e]	Incentive/ Unit[f]	Admin Cost ($/kWh)[g]	UC Ratio[h]	TRC Ratio[i]	Source
Single Family: Window	Double Pane to Class 30: Heating Zone 2: Cooling Zone 3 (Electric FAF Heating System)	WINDOW CL30 Prime Window Replacement of Double Pane Base	ft_2	ENRes_SF_HeatPump	45	80%	20.39	$47.68	$—	$23.71	$2.50	$0.259	4.90	1.54	1
Single Family: Window	Single Pane to Class 30: Heating Zone 1: Cooling Zone 3 (Heat Pump Heating System)	WINDOW CL30 Prime Window Replacement of Single Pane Base	ft_2	ENRes_SF_HeatPump	45	80%	14.76	$34.51	$—	$23.71	$2.50	$0.259	4.37	1.19	1
Single Family: Window	Double Pane to Class 30: Heating Zone 1: Cooling Zone 3 (Heat Pump Heating System)	WINDOW CL30 Prime Window Replacement of Double Pane Base	ft_2	ENRes_SF_HeatPump	45	80%	9.27	$21.68	$—	$23.71	$2.50	$0.259	3.54	0.79	1, 2
Single Family: Window	Single Pane to Class 30: Heating Zone 2: Cooling Zone 3 (Heat Pump Heating System)	WINDOW CL30 Prime Window Replacement of Single Pane Base	ft_2	ENRes_SF_HeatPump	45	80%	24.18	$56.54	$—	$23.71	$2.50	$0.259	5.16	1.76	1
Single Family: Window	Double Pane to Class 30: Heating Zone 2: Cooling Zone 3 (Heat Pump Heating System)	WINDOW CL30 Prime Window Replacement of Double Pane Base	ft_2	ENRes_SF_HeatPump	45	80%	14.60	$34.14	$—	$23.71	$2.50	$0.259	4.35	1.75	1

[a] Average measure life.

[b] Net-to-Gross (NTG) percentage. *Idaho Power Demand-Side Management Potential Study* by Nexant, Inc., 2009.

[c] Estimated kWh savings measured at the customers meter, excluding line losses.

[d] Sum of NPV of avoided costs. Based on end-use load shape; measure life; and savings, including line losses and alternative costs by pricing period as provided in the *2011 Integrated Resource Plan* (IRP).

[e] Incremental participant cost prior to customer incentives. Based on 2013 median customer costs.

[f] Properly sealed ducts required for the program. If additional air sealing and duct sealing was required, an additional incentive of $0.50/ln. ft. was paid.

[g] Average program administration and overhead costs to achieve each kWh of savings. Calculated from 2013 actuals.

[h] Utility Cost Ratio = (NPV Avoided Costs * NTG)/((Admin Cost/kWh * kWh Savings) + Incentives).

[i] Total Resource Cost Ratio = ((NPV Avoided Costs + NEB) * NTG) / ((Admin Cost/kWh * kWh Savings) + Incentives + ((Incremental Participant Cost - Incentives) * NTG))

[1] RTF. ResSFWx_v2_5_IdahoPower_withCAC_ByCoolingZone.xlsm. 2011.

[2] Measure combination not cost-effective. Will be monitored in 2014.

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Home Products Program

Segment: Residential

2013 Program Results

Cost Inputs (NPV)			Ref
Program Administration	$	108,887	
Program Incentives		296,628	I
Total Utility Cost	**$**	**405,515**	P
Measure Equipment and Installation (Incremental Participant Cost)	$	550,151	M

Summary of Cost-Effectiveness Results					
Test		**Benefit**		**Cost**	**Ratio**
Utility Cost Test	$	686,674	$	405,515	1.69
Total Resource Cost Test		1,365,047		608,333	2.24
Ratepayer Impact Measure Test		686,674		995,008	0.69
Participant Cost Test		1,881,461		550,151	3.42

Net Benefit Inputs (NPV)				Ref
Resource Savings				
2013 Annual Gross Energy (kWh)	885,980			
NPV Cumulative Energy (kWh)	8,613,318	$	858,342	
Total Electric Savings		**$**	**858,342**	S
Participant Bill Savings				
NPV Cumulative Participant Savings		$	736,866	B
Other Benefits				
Non-Utility Rebates/Incentives		$	—	NUI
Non-Energy Benefits		$	847,967	NEB

Benefits and Costs Included in Each Test		
Utility Cost Test	= S * NTG	= P
Total Resource Cost Test	= (S + NUI + NEB) * NTG	= P + ((M-I)*NTG)
Ratepayer Impact Measure Test	= S * NTG	= P + (B * NTG)
Participant Cost Test	= B + I + NUI + NEB	= M

Assumptions for Levelized Calculations	
Discount Rate	
Nominal (WACC)	7.00%
Real ((1 + WACC) / (1 + Escalation)) – 1	3.88%
Escalation Rate	3.00%
Net-to-Gross (NTG)	80.00%
Average Customer Segment Rate/kWh	$0.086
Line Losses	10.90%

Notes: Non-energy benefits include the NPV of avoided gas, water, and detergent savings for ENERGY STAR clothes washers and low-flow showerheads. Gas savings based on RTF's assumptions of therms saved per year.

Clothes washers removed from the program in March 2013 due to the measure as currently offered in the program not being cost-effective.

Year:2013 **Program**: Home Products Program **Market Segment**: Residential **Program Type**: Energy Efficiency

							Benefit			Cost			Benefit/Cost Tests		
Measure Name	Measure Descriptions	Replacing	Measure Unit	End Use	Measure Life (yrs)[a]	NTG[b]	Annual Gross Energy Savings (kWh/yr)[c]	NPV Avoided Costs[d]	Non-Energy Benefit (NEB)[e]	Gross Incremental Participant Cost[f]	Incentive/ Unit	Admin Cost ($/kWh)[g]	UC Ratio[h]	TRC Ratio[i]	Source
Clothes Washer	ENERGY STAR clothes washer, any MEF, any DHW, any dryer	Baseline clothes washers	Washer	ENRes_SF_Washer	14	80%	41.00	$44.99	$206.88	$78.61	$50.00	$0.366	0.55	2.29	1, 2
Clothes Washer	ENERGY STAR clothes washer MEF of 2.4 or higher and WF of 4 or lower, any DHW, any dryer	Baseline clothes washers	Washer	ENRes_SF_Washer	14	80%	70.00	$76.81	$306.34	$90.14	$50.00	$0.366	0.81	2.84	1, 2
Clothes Washer	ENERGY STAR clothes washer MEF of 3.2 or higher and WF of 2.9 or lower, any DHW, any dryer	Baseline clothes washers	Washer	ENRes_SF_Washer	14	80%	121.00	$132.77	$455.39	$270.15	$50.00	$0.366	1.13	1.74	1, 2
Refrigerator	ENERGY STAR refrigerator: any	Baseline refrigerator	Refrigerator	ENRes_SF_Refrigerator	17	80%	26.00	$31.95	$—	$14.08	$30.00	$0.366	0.65	0.95	3, 4
Refrigerator	ENERGY STAR Refrigerator: Bottom freezer w/ice thru door	Baseline refrigerator	Refrigerator	ENRes_SF_Refrigerator	17	80%	16.00	$19.66	$—	$6.52	$30.00	$0.366	0.44	0.92	3, 4
Refrigerator	ENERGY STAR Refrigerator: Bottom freezer w/o ice thru door	Baseline refrigerator	Refrigerator	ENRes_SF_Refrigerator	17	80%	18.00	$22.12	$—	$6.25	$30.00	$0.366	0.48	1.01	3
Refrigerator	ENERGY STAR Refrigerator: Side-by-side w/ice thru door	Baseline refrigerator	Refrigerator	ENRes_SF_Refrigerator	17	80%	18.00	$22.12	$—	$15.89	$30.00	$0.366	0.48	0.70	3, 4
Refrigerator	ENERGY STAR Refrigerator: Side-by-side w/o ice thru door	Baseline refrigerator	Refrigerator	ENRes_SF_Refrigerator	17	80%	21.00	$25.81	$—	$24.78	$30.00	$0.366	0.55	0.62	3, 4
Refrigerator	ENERGY STAR Refrigerator: Top freezer w/ice thru door	Baseline refrigerator	Refrigerator	ENRes_SF_Refrigerator	17	80%	24.00	$29.50	$—	$10.50	$30.00	$0.366	0.61	1.02	3
Refrigerator	ENERGY STAR Refrigerator: Top freezer w/o ice thru door	Baseline refrigerator	Refrigerator	ENRes_SF_Refrigerator	17	80%	49.00	$60.22	$—	$18.10	$30.00	$0.366	1.00	1.25	3
Freezer	ENERGY STAR freezer No tiers. any freezer	Baseline freezer	freezer	ENRes_SF_Freezer	22	80%	40.00	$60.73	$—	$4.31	$20.00	$0.366	1.40	2.20	5
Freezer	ENERGY STAR Freezer (no tiers): Chest, any defrost	Baseline freezer	freezer	ENRes_SF_Freezer	22	80%	29.00	$44.03	$—	$3.41	$20.00	$0.366	1.15	2.03	5
Freezer	ENERGY STAR Freezer (no tiers): Upright, automatic defrost	Baseline freezer	freezer	ENRes_SF_Freezer	22	80%	56.00	$85.03	$—	$5.80	$20.00	$0.366	1.68	2.33	5

							Benefit			Cost			Benefit/Cost Tests		
Measure Name	Measure Descriptions	Replacing	Measure Unit	End Use	Measure Life (yrs)[a]	NTG[b]	Annual Gross Energy Savings (kWh/yr)[c]	NPV Avoided Costs[d]	Non-Energy Benefit (NEB)[e]	Gross Incremental Participant Cost[f]	Incentive/ Unit	Admin Cost ($/kWh)[g]	UC Ratio[h]	TRC Ratio[i]	Source
Freezer	ENERGY STAR Freezer (no tiers): Upright, manual defrost	Baseline freezer	freezer	ENRes_SF_Freezer	22	80%	28.00	$42.51	$—	$2.90	$20.00	$0.366	1.12	2.05	5
Freezer	ENERGY STAR Freezer (no tiers): any upright freezer	Baseline freezer	freezer	ENRes_SF_Freezer	22	80%	47.00	$71.36	$—	$4.94	$20.00	$0.366	1.53	2.27	5
Low-flow showerhead	Low-flow showerhead 2.0 gpm any shower any water heating retail	Showerhead 2.2 gpm or higher	showerhead	ENRes_SF_WtrHtr	10	80%	66.78	$50.28	$91.61	$27.61	$7.00	$0.005	5.48	4.76	6
Low-flow showerhead	Low-flow showerhead 1.75 gpm any shower any water heating retail	Showerhead 2.2 gpm or higher	showerhead	ENRes_SF_WtrHtr	10	80%	99.77	$75.13	$134.42	$27.61	$7.00	$0.005	8.00	6.98	6
Low-flow showerhead	Low-flow showerhead 1.5 gpm any shower any water heating retail	Showerhead 2.2 gpm or higher	showerhead	ENRes_SF_WtrHtr	10	80%	129.12	$97.22	$107.91	$27.61	$7.00	$0.005	10.14	8.88	6

[a] Average measure life.

[b] Net-to-Gross (NTG) percentage. *Idaho Power Demand-Side Management Potential Study* by Nexant, Inc., 2009.

[c] Estimated kWh savings measured at the customers meter, excluding line losses.

[d] Sum of NPV of avoided costs. Based on end-use load shape; measure life; and savings, including line losses and alternative costs by pricing period as provided in the *2011 Integrated Resource Plan* (IRP).

[e] Sum of NPV of avoided cost of gas, water, and detergent savings.

[f] Incremental participant cost prior to customer incentives.

[g] Average program administration and overhead costs to achieve each kWh of savings. Calculated from 2013 actuals.

[h] Utility Cost Ratio = (NPV Avoided Costs * NTG)/((Admin Cost/kWh * kWh Savings) + Incentives).

[i] Total Resource Cost Ratio = ((NPV Avoided Costs + NEB) * NTG) / ((Admin Cost/kWh * kWh Savings) + Incentives + ((Incremental Participant Cost - Incentives) * NTG))

[1] RTF. ResClothesWasherSF_v4.0.xls. Any DHW, Any Dryer. 2013. Adjusted savings by changing Electric Water Heating saturation from 55% to 52% to match IPC mix.

[2] Measure not cost-effective. Measure removed from the program in 2013.

[3] RTF. ResRefrigerator_v3_1.xls. 2013.

[4] Measure not cost-effective. Will be monitored in 2014.

[5] RTF. ResFreezer_v2_2.xlsm. 2012.

[6] RTF. ResShowerheads_v2_1.xlsm. 2011. Adjusted savings by changing Electric Water Heating saturation from 64% to 52% to match IPC mix.

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Rebate Advantage

Segment: Residential

2013 Program Results

Cost Inputs (NPV)		Ref
Program Administration	$ 28,770	
Program Incentives	32,000	I
Total Utility Cost	**$ 60,770**	P
Measure Equipment and Installation (Incremental Participant Cost)	$ 63,920	M

Net Benefit Inputs (NPV)			Ref
Resource Savings			
2013 Annual Gross Energy (kWh)	269,891		
NPV Cumulative Energy (kWh)	3,849,999	$ 409,802	
Total Electric Savings		**$ 409,802**	S
Participant Bill Savings			
NPV Cumulative Participant Savings		$ 375,795	B
Other Benefits			
Non-Utility Rebates/Incentives		$ —	NUI
Non-Energy Benefits		$ —	NEB

Summary of Cost-Effectiveness Results			
Test	**Benefit**	**Cost**	**Ratio**
Utility Cost Test	$ 327,841	$ 60,770	5.39
Total Resource Cost Test	327,841	86,306	3.80
Ratepayer Impact Measure Test	327,841	361,407	0.91
Participant Cost Test	407,795	63,920	6.38

Benefits and Costs Included in Each Test		
Utility Cost Test	= S * NTG	= P
Total Resource Cost Test	= (S + NUI + NEB) * NTG	= P + ((M-I)*NTG)
Ratepayer Impact Measure Test	= S * NTG	= P + (B * NTG)
Participant Cost Test	= B + I + NUI + NEB	= M

Assumptions for Levelized Calculations	
Discount Rate	
Nominal (WACC)	7.00%
Real ((1 + WACC) / (1 + Escalation)) – 1	3.88%
Escalation Rate	3.00%
Net-to-Gross (NTG)	80.00%
Average Customer Segment Rate/kWh	$0.086
Line Losses	10.90%

Year:2013 **Program**: Rebate Advantage **Market Segment**: Residential **Program Type**: Energy Efficiency

							Benefit			Cost			Benefit/Cost Tests		
Measure Name	Measure Descriptions	Replacing	Measure Unit	End Use	Measure Life (yrs)[a]	NTG[b]	Annual Gross Energy Savings (kWh/yr)[c]	NPV Avoided Costs[d]	Non-Energy Benefit (NEB)	Gross Incremental Participant Cost[e]	Incentive/ Unit	Admin Cost ($/kWh)[f]	UC Ratio[g]	TRC Ratio[h]	Source
ENERGY STAR® manufactured home	New ENERGY STAR Manufactured Home with Electric FAF: Heating Zone 1	Manufactured home built to Housing and Urban Development (HUD) code.	Home	ENRes_MH_Heater	26	80%	5,420.00	$7,790.13	$—	$1,567.49	$1,000.00	$0.107	3.95	3.07	1
ENERGY STAR manufactured home	New ENERGY STAR Manufactured Home with Electric FAF: Heating Zone 2	Manufactured home built to HUD code.	Home	ENRes_MH_Heater	27	80%	6,847.00	$10,092.11	$—	$1,567.49	$1,000.00	$0.107	4.67	3.70	1
ENERGY STAR manufactured home	New ENERGY STAR Manufactured Home with Electric FAF: Heating Zone 3	Manufactured home built to HUD code.	Home	ENRes_MH_Heater	27	80%	8,057.00	$11,875.59	$—	$1,567.49	$1,000.00	$0.107	5.11	4.11	1
ENERGY STAR manufactured home	New ENERGY STAR Manufactured Home with Heat Pump: Heating Zone 1 Cooling Zone 3	Manufactured home built to HUD code.	Home	Res_HVAC	23	80%	3,254.00	$5,925.77	$—	$1,567.49	$1,000.00	$0.107	3.52	2.63	1
ENERGY STAR manufactured home	New ENERGY STAR Manufactured Home with Heat Pump: Heating Zone 2 Cooling Zone 1	Manufactured home built to HUD code.	Home	Res_HVAC	25	80%	4,346.00	$8,345.54	$—	$1,567.49	$1,000.00	$0.107	4.56	3.48	1
ENERGY STAR manufactured home	New ENERGY STAR Manufactured Home with Heat Pump: Heating Zone 2 Cooling Zone 2	Manufactured home built to HUD code.	Home	Res_HVAC	25	80%	4,390.00	$8,430.03	$—	$1,567.49	$1,000.00	$0.107	4.59	3.51	1
ENERGY STAR manufactured home	New ENERGY STAR Manufactured Home with Heat Pump: Heating Zone 2 Cooling Zone 3	Manufactured home built to HUD code.	Home	Res_HVAC	25	80%	4,472.00	$8,587.50	$—	$1,567.49	$1,000.00	$0.107	4.65	3.56	1
ENERGY STAR manufactured home	New ENERGY STAR Manufactured Home with Heat Pump: Heating Zone 3 Cooling Zone 1	Manufactured home built to HUD code.	Home	Res_HVAC	26	80%	5,516.00	$10,848.13	$—	$1,567.49	$1,000.00	$0.107	5.47	4.25	1

[a] Average measure life.

[b] Net-to-Gross (NTG) percentage. *Idaho Power Demand-Side Management Potential Study* by Nexant, Inc., 2009.

[c] Estimated kWh savings measured at the customers meter, excluding line losses.

[d] Sum of NPV of avoided costs. Based on end-use load shape; measure life; and savings, including line losses and alternative costs by pricing period as provided in the *2011 Integrated Resource Plan* (IRP).

[e] Incremental participant cost prior to customer incentives.

[f] Average program administration and overhead costs to achieve each kWh of savings. Calculated from 2013 actuals.

[g] Utility Cost Ratio = (NPV Avoided Costs * NTG)/((Admin Cost/kWh * kWh Savings) + Incentives).

[h] Total Resource Cost Ratio = ((NPV Avoided Costs + NEB) * NTG) / ((Admin Cost/kWh * kWh Savings) + Incentives + ((Incremental Participant Cost - Incentives) * NTG))
[1] RTF. NewMH_EStar_EcoRated_v1_3.xls. 2013.

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See ya later, refrigerator®

Segment: Residential

2013 Program Results

Cost Inputs (NPV)			Ref
Program Administration	$	490,144	
Program Incentives		98,910	I
Total Utility Cost	**$**	**589,054**	P
Measure Equipment and Installation (Incremental Participant Cost)	$	—	M

Summary of Cost-Effectiveness Results					
Test		**Benefit**		**Cost**	**Ratio**
Utility Cost Test	$	723,695	$	589,054	1.23
Total Resource Cost Test		723,695		589,054	1.23
Ratepayer Impact Measure Test		723,695		1,257,050	0.58
Participant Cost Test		N/A		N/A	N/A

Net Benefit Inputs (NPV)				Ref
Resource Savings				
2013 Annual Gross Energy (kWh)	1,442,344			
NPV Cumulative Energy (kWh)	8,394,736	$	723,695	
Total Electric Savings		**$**	**723,695**	S
Participant Bill Savings				
NPV Cumulative Participant Savings		$	667,996	B
Other Benefits				
Non-Utility Rebates/Incentives		$	—	NUI
Non-Energy Benefits		$	—	NEB

Benefits and Costs Included in Each Test		
Utility Cost Test	= S * NTG	= P
Total Resource Cost Test	= (S + NUI + NEB) * NTG	= P + ((M-I)*NTG)
Ratepayer Impact Measure Test	= S * NTG	= P + (B * NTG)
Participant Cost Test	N/A	N/A

Assumptions for Levelized Calculations	
Discount Rate	
Nominal (WACC)	7.00%
Real ((1 + WACC) / (1 + Escalation)) – 1	3.88%
Escalation Rate	3.00%
Net-to-Gross (NTG)	100.00%
Average Customer Segment Rate/kWh	$0.086
Line Losses	10.90%

Notes: No NTG. Deemed savings from the Regional Technical Forum (RTF) already accounts for net realized energy savings.
No participant costs.

Year:2013 **Program**: See ya later, refrigerator® **Market Segment**: Residential **Program Type**: Energy Efficiency

							Benefit			Cost			Benefit/Cost Tests		
Measure Name	Measure Descriptions	Replacing	Measure Unit	End Use	Measure Life (yrs)[a]	NTG[b]	Annual Gross Energy Savings (kWh/yr)[c]	NPV Avoided Costs[d]	Non-Energy Benefit (NEB)	Gross Incremental Participant Cost[e]	Incentive/ Unit	Admin Cost ($/kWh)[f]	UC Ratio[g]	TRC Ratio[h]	Source
Freezer Recycling	Freezer removal and decommissioning		Freezer	ENRes_SF_Freezer	5	100%	478.00	$192.09	$—	$—	$30.00	$0.340	1.00	1.00	1
Refrigerator Recycling	Refrigerator removal and decommissioning		Refrigerator	ENRes_SF_SecRef	7	100%	424.00	$232.35	$—	$—	$30.00	$0.340	1.33	1.33	1

[a] Average measure life.

[b] No Net-to-Gross (NTG) percentage. Deemed savings from RTF includes realization rates.

[c] Estimated kWh savings measured at the customers meter, excluding line losses.

[d] Sum of NPV of avoided costs. Based on end-use load shape; measure life; and savings, including line losses and alternative costs by pricing period as provided in the *2011 Integrated Resource Plan* (IRP).

[e] No participant cost.

[f] Average program administration and overhead costs to achieve each kWh of savings. Calculated from 2013 actuals.

[g] Utility Cost Ratio = (NPV Avoided Costs * NTG)/((Admin Cost/kWh * kWh Savings) + Incentives).

[h] Total Resource Cost Ratio = ((NPV Avoided Costs + NEB) * NTG) / ((Admin Cost/kWh * kWh Savings) + Incentives + ((Incremental Participant Cost - Incentives) * NTG))

[1] RTF. ResFridgeFreezeDecommissioning_v2.5.xlsm. 2012.

Weatherization Assistance for Qualified Customers

Segment: Residential

2013 Program Results

Cost Inputs (NPV)			Ref
Program Administration	$	247,587	
CAP Agency Payments		1,144,090	
Total Program Expenses	**$**	**1,391,677**	
Less: 2013 Evaluations Expenses (Unamortized Years 2 & 3)		(48,089)	
Total Utility Cost	**$**	**1,343,588**	P
Idaho Power Indirect Overhead Expense Allocation—2.76%	$	37,083	OH
Additional State Funding		660,343	M

Summary of Cost-Effectiveness Results					
Test		**Benefit**		**Cost**	**Ratio**
Utility Cost Test	$	1,310,726	$	1,380,671	0.95
Total Resource Cost Test		1,502,827		2,041,014	0.74
Ratepayer Impact Measure Test		1,310,726		2,329,919	0.56
Participant Cost Test		N/A		N/A	N/A

Net Benefit Inputs (NPV)				Ref
Resource Savings				
2013 Annual Gross Energy (kWh)	681,736			
NPV Cumulative Energy (kWh)	9,737,706	$	1,191,569	
10% Credit (Northwest Power Act)			119,157	
Total Electric Savings		**$**	**1,310,726**	S
Participant Bill Savings				
NPV Cumulative Participant Savings		$	949,247	B
Other Benefits				
Non-Utility Rebates/Incentives		$	—	NUI
Non-Energy Benefits				
Health and Safety			163,713	
Repair			28,388	
Other			—	
Non-Energy Benefits Total		**$**	**192,101**	NEB

Benefits and Costs Included in Each Test		
Utility Cost Test	= S * NTG	= P + OH
Total Resource Cost Test	= (S + NUI + NEB) * NTG	= P + OH + M
Ratepayer Impact Measure Test	= S * NTG	= P + OH +(B * NTG)
Participant Cost Test	N/A	N/A

Assumptions for Levelized Calculations	
Discount Rate	
Nominal (WACC)	7.00%
Real ((1 + WACC) / (1 + Escalation)) – 1	3.88%
Escalation Rate	3.00%
Net-to-Gross (NTG)	100.00%
Average Customer Segment Rate/kWh	$0.086
Line Losses	10.90%

Notes: Savings based on average realized savings of 2,684 kWh per home. Savings from the billing analysis of the 2011 projects.

Program cost-effectiveness incorporated Idaho Public Utilities Commission (IPUC) staff recommendations from Case No. GNR-E-12-01. Recommendations include:

Claimed 100% of savings; increased NTG to 100%; added a 10% conservation preference adder; health, safety, and repair non-energy benefits; amortized evaluation expenses over a three-year period; and allocation of indirect overhead expenses.

No customer participant costs. Costs shown are from the DOE state weatherization assistance program.

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Weatherization Solutions for Eligible Customers

Segment: Residential

2013 Program Results

Cost Inputs (NPV)			Ref
Program Administration	$	232,695	
Weatherization LLC Payments		1,035,096	
Total Program Expenses	**$**	**1,267,791**	
Less: 2013 Evaluations Expenses (Unamortized Years 2 & 3)		(48,089)	
Total Utility Cost	**$**	**1,219,702**	P
Idaho Power Indirect Overhead Expense Allocation—2.76%	$	33,664	OH
Additional State Funding		—	M

Summary of Cost-Effectiveness Results					
Test		**Benefit**		**Cost**	**Ratio**
Utility Cost Test	$	582,780	$	1,253,366	0.46
Total Resource Cost Test		658,345		1,253,366	0.53
Ratepayer Impact Measure Test		582,780		1,675,424	0.35
Participant Cost Test		N/A		N/A	N/A

Net Benefit Inputs (NPV)				Ref
Resource Savings				
2013 Annual Gross Energy (kWh)	303,116			
NPV Cumulative Energy (kWh)	4,329,615	$	529,800	
10% Credit (Northwest Power Act)			52,980	
Total Electric Savings		**$**	**582,780**	S
Participant Bill Savings				
NPV Cumulative Participant Savings		$	422,058	B
Other Benefits				
Non-Utility Rebates/Incentives		$	—	NUI
Non-Energy Benefits				
Health and Safety			65,742	
Repair			9,812	
Other			—	
Non-Energy Benefits Total		**$**	**75,565**	NEB

Benefits and Costs Included in Each Test		
Utility Cost Test	= S * NTG	= P + OH
Total Resource Cost Test	= (S + NUI + NEB) * NTG	= P + OH + M
Ratepayer Impact Measure Test	= S * NTG	= P + OH +(B * NTG)
Participant Cost Test	N/A	N/A

Assumptions for Levelized Calculations	
Discount Rate	
Nominal (WACC)	7.00%
Real ((1 + WACC) / (1 + Escalation)) – 1	3.88%
Escalation Rate	3.00%
Net-to-Gross (NTG)	100.00%
Average Customer Segment Rate/kWh	$0.086
Line Losses	10.90%

Notes: Savings based on average realized savings of 1,826 kWh per home. Savings from the billing analysis of the 2011 projects.

Program cost-effectiveness incorporated IPUC staff recommendations from Case No. GNR-E-12-01. Recommendations include:

Increased NTG to 100%; added a 10% conservation preference adder; health, safety, and repair non-energy benefits; amortized evaluation expenses over a three-year period; and allocation of indirect overhead expenses.

No customer participant costs.

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Building Efficiency

Segment: Commercial

2013 Program Results

Cost Inputs (NPV)			Ref
Program Administration	$	356,623	
Program Incentives		1,150,412	I
Total Utility Cost	**$**	**1,507,035**	P
Measure Equipment and Installation (Incremental Participant Cost)	$	2,435,845	M

Net Benefit Inputs (NPV)				Ref
Resource Savings				
2013 Annual Gross Energy (kWh)	10,988,934			
NPV Cumulative Energy (kWh)	106,839,919	$	10,318,972	
Total Electric Savings		**$**	**10,318,972**	S
Participant Bill Savings				
NPV Cumulative Participant Savings		$	6,019,806	B
Other Benefits				
Non-Utility Rebates/Incentives		$	—	NUI
Non-Energy Benefits		$	—	NEB

Summary of Cost-Effectiveness Results				
Test	**Benefit**		**Cost**	**Ratio**
Utility Cost Test	$	8,255,178	$ 1,507,035	5.48
Total Resource Cost Test		8,255,178	2,535,381	3.26
Ratepayer Impact Measure Test		8,255,178	6,322,879	1.31
Participant Cost Test		7,170,218	2,435,845	2.94

Benefits and Costs Included in Each Test		
Utility Cost Test	= S * NTG	= P
Total Resource Cost Test	= (S + NUI + NEB) * NTG	= P + ((M-I)*NTG)
Ratepayer Impact Measure Test	= S * NTG	= P + (B * NTG)
Participant Cost Test	= B + I + NUI + NEB	= M

Assumptions for Levelized Calculations	
Discount Rate	
Nominal (WACC)	7.00%
Real ((1 + WACC) / (1 + Escalation)) – 1	3.88%
Escalation Rate	3.00%
Net-to-Gross (NTG)	80.00%
Average Customer Segment Rate/kWh	$0.057
Line Losses	10.90%

Year:2013 **Program**: Building Efficiency **Market Segment**: Commercial **Program Type**: Energy Efficiency

							Benefit			Cost			Benefit/Cost Tests		
Measure Name	Measure Descriptions	Replacing	Measure Unit	End Use	Measure Life (yrs)[a]	NTG[b]	Annual Gross Energy Savings (kWh/yr)[c]	NPV Avoided Costs[d]	Non-Energy Benefit (NEB)	Gross Incremental Participant Cost[e]	Incentive/ Unit	Admin Cost ($/kWh)[f]	UC Ratio[g]	TRC Ratio[h]	Source
Lighting Controls	Interior light load reduction:10–19% below code	Code standards	ft^2	ENComm_InsLt	11	96%	0.38	$0.33	$—	$0.05	$0.05	$0.032	5.17	5.17	1
Lighting Controls	Interior light load reduction - 20% or more below code	Code standards	ft^2	ENComm_InsLt	11	96%	1.09	$0.96	$—	$0.10	$0.15	$0.032	4.98	6.73	1
Lighting Controls	Exterior light load reduction: 15% or more below code	Code standards	kW	IPC_Outdoor Lighting	11	96%	4,059.00	$2,644.99	$—	$205.00	$200.00	$0.032	7.70	7.59	2
Lighting Controls	Daylight photo controls	Code standards	Square Feet	ENComm_InsLt	8	96%	0.61	$0.40	$—	$0.25	$0.25	$0.032	1.41	1.41	3
Lighting Controls	Occupancy sensors	Code standards	Sensor	ENComm_InsLt	8	96%	289.99	$189.85	$—	$77.00	$25.00	$0.032	5.32	2.16	3
Sign Lighting	High efficiency exit signs	Code standards	Signs	IPC_8760	16	96%	333.00	$379.59	$—	$31.52	$7.50	$0.032	20.07	8.84	3
A/C & Heat Pump Units	Premium Efficiency HVAC unit	Code standards	Ton	ENComm_HVAC	15	80%	386.72	$469.49	$—	$122.22	$50.00	$0.032	6.02	3.13	1
A/C & Heat Pump Units	Additional HVAC Unit Efficiency bonus	Code standards	Ton	ENComm_HVAC	15	80%	181.78	$220.69	$—	$81.50	$25.00	$0.032	5.73	2.32	1
A/C & Heat Pump Units	Efficient Chillers	Code standards	Ton	ENComm_Cooling	15	80%	154.28	$207.42	$—	$75.00	$20.00	$0.032	6.65	2.41	2
Economizers	Air side economizers	Code standards	Ton	ENComm_Cooling	15	80%	300.00	$403.34	$—	$170.00	$75.00	$0.032	3.81	2.01	3
Reflective Roofing	Reflective roof coating	Code standards	ft^2	ENComm_Cooling	15	80%	0.41	$0.55	$—	$0.35	$0.05	$0.032	6.99	1.45	3
Efficient Windows	High-performance windows	Code standards	ft^2	ENComm_HVAC	30	80%	1.01	$1.99	$—	$0.74	$0.50	$0.032	3.00	2.20	3
Automated Control Systems	Energy management control systems	Code standards	ft^2	ENComm_HVAC	14	96%	1.24	$1.42	$—	$1.00	$0.30	$0.032	4.02	1.35	3
Automated Control Systems	Demand controlled ventilation	Code standards	Ft^3per Minute	ENComm_HVAC	10	96%	1.31	$1.12	$—	$0.60	$0.50	$0.032	1.98	1.68	3
Variable Speed Controls	Variable speed drives	Code standards	HP	ENComm_HVAC	15	96%	985.02	$1,195.84	$—	$187.00	$60.00	$0.032	12.54	5.38	3

[a] Average measure life.

[b] Net-to-Gross (NTG) percentage. *Idaho Power Demand-Side Management Potential Study* by Nexant, Inc., 2009.

[c] Estimated kWh savings measured at the customers meter, excluding line losses.

[d] Sum of NPV of avoided costs. Based on end-use load shape; measure life; and savings, including line losses and alternative costs by pricing period as provided in the *2011 Integrated Resource Plan* (IRP).

[e] Incremental participant cost prior to customer incentives.

[f] Average program administration and overhead costs to achieve each kWh of savings. Calculated from 2013 actuals.

[g] Utility Cost Ratio = (NPV Avoided Costs * NTG)/((Admin Cost/kWh * kWh Savings) + Incentives).

[h] Total Resource Cost Ratio = ((NPV Avoided Costs + NEB) * NTG) / ((Admin Cost/kWh * kWh Savings) + Incentives + ((Incremental Participant Cost - Incentives) * NTG))

[1] Savings calculated from Idaho Power engineering estimates and research. Participant costs calculated based on Potential study assumptions.

[2] Savings and costs calculated from Idaho Power engineering estimates and research.

[3] Idaho Power Demand-Side Management Potential Study by Nexant, Inc. IPC DSM Potential - Commercial Model 081209.xlsm. 2009.

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Custom Efficiency

Segment: Industrial

2013 Program Results

Cost Inputs (NPV)			Ref
Program Administration	$	1,112,064	
Program Incentives		1,354,161	I
Total Utility Cost	**$**	**2,466,225**	P
Measure Equipment and Installation (Incremental Participant Cost)	$	5,626,006	M

Net Benefit Inputs (NPV)				Ref
Resource Savings				
2013 Annual Gross Energy (kWh)	21,370,350			
NPV Cumulative Energy (kWh)	207,773,244	$	20,067,465	
Total Electric Savings		**$**	**20,067,465**	S
Participant Bill Savings				
NPV Cumulative Participant Savings		$	7,538,463	B
Other Benefits				
Non-Utility Rebates/Incentives		$	—	NUI
Non-Energy Benefits		$	—	NEB

Summary of Cost-Effectiveness Results				
Test	**Benefit**		**Cost**	**Ratio**
Utility Cost Test	$	13,846,551	$ 2,466,225	5.61
Total Resource Cost Test		13,846,551	5,413,798	2.56
Ratepayer Impact Measure Test		13,846,551	7,667,765	1.81
Participant Cost Test		8,892,624	5,656,006	1.58

Benefits and Costs Included in Each Test		
Utility Cost Test	= S * NTG	= P
Total Resource Cost Test	= (S + NUI + NEB) * NTG	= P + ((M-I)*NTG)
Ratepayer Impact Measure Test	= S * NTG	= P + (B * NTG)
Participant Cost Test	= B + I + NUI + NEB	= M

Assumptions for Levelized Calculations	
Discount Rate	
Nominal (WACC)	7.00%
Real ((1 + WACC) / (1 + Escalation)) – 1	3.88%
Escalation Rate	3.00%
Net-to-Gross (NTG)	69.00%
Average Customer Segment Rate/kWh	$0.037
Line Losses	10.90%

Notes: Energy savings are unique by project and are reviewed by Idaho Power engineering staff or third-party consultants. Each project must complete a certification inspection.
Green Rewind initiative is available to agricultural, commercial, and industrial customers. Commercial and industrial motor rewinds are paid under Custom Efficiency.
NTG of 69% from CPUC DEER NTFR Update Process for 2006-2007 Programs.

Year:2013 **Program**: Custom Efficiency—Green Motors **Market Segment**: Industrial **Program Type**: Energy Efficiency

							Benefit			Cost			Benefit/Cost Tests		
Measure Name	Measure Descriptions	Replacing	Measure Unit	End Use	Measure Life (yrs)[a]	NTG[b]	Annual Gross Energy Savings (kWh/yr)[c]	NPV Avoided Costs[d]	Non-Energy Benefit (NEB)	Gross Incremental Participant Cost[e]	Incentive/ Unit	Admin Cost ($/kWh)[f]	UC Ratio[g]	TRC Ratio[h]	Source
Green Motors Program Rewind	Green Motors Program Rewind: Motor size 15HP	Standard rewind practice	Motor	MF_Motors	8	69%	601.00	$377.80	$—	$154.35	$30.00	$0.050	4.34	1.79	1
Green Motors Program Rewind	Green Motors Program Rewind: Motor size 20HP	Standard rewind practice	Motor	MF_Motors	8	69%	804.00	$505.41	$—	$172.21	$40.00	$0.050	4.35	2.03	1
Green Motors Program Rewind	Green Motors Program Rewind: Motor size 25HP	Standard rewind practice	Motor	MF_Motors	8	69%	1,052.00	$661.31	$—	$196.76	$50.00	$0.050	4.45	2.24	1
Green Motors Program Rewind	Green Motors Program Rewind: Motor size 30HP	Standard rewind practice	Motor	MF_Motors	8	69%	1,133.00	$712.23	$—	$216.10	$60.00	$0.050	4.21	2.19	1
Green Motors Program Rewind	Green Motors Program Rewind: Motor size 40HP	Standard rewind practice	Motor	MF_Motors	8	69%	1,319.00	$829.15	$—	$264.09	$80.00	$0.050	3.92	2.10	1
Green Motors Program Rewind	Green Motors Program Rewind: Motor size 50HP	Standard rewind practice	Motor	MF_Motors	8	69%	1,418.00	$891.39	$—	$292.35	$100.00	$0.050	3.60	2.03	1
Green Motors Program Rewind	Green Motors Program Rewind: Motor size 60HP	Standard rewind practice	Motor	MF_Motors	9	69%	1,476.00	$1,037.42	$—	$344.79	$120.00	$0.050	3.69	2.05	1
Green Motors Program Rewind	Green Motors Program Rewind: Motor size 70HP	Standard rewind practice	Motor	MF_Motors	9	69%	1,519.00	$1,067.64	$—	$372.69	$150.00	$0.050	3.26	1.94	1
Green Motors Program Rewind	Green Motors Program Rewind: Motor size 100HP	Standard rewind practice	Motor	MF_Motors	9	69%	2,005.00	$1,409.23	$—	$462.33	$200.00	$0.050	3.24	2.02	1
Green Motors Program Rewind	Green Motors Program Rewind: Motor size 125HP	Standard rewind practice	Motor	MF_Motors	8	69%	2,598.00	$1,633.16	$—	$519.23	$250.00	$0.050	2.97	1.99	1
Green Motors Program Rewind	Green Motors Program Rewind: Motor size 150HP	Standard rewind practice	Motor	MF_Motors	8	69%	3,089.00	$1,941.81	$—	$578.37	$300.00	$0.050	2.95	2.07	1
Green Motors Program Rewind	Green Motors Program Rewind: Motor size 200HP	Standard rewind practice	Motor	MF_Motors	8	69%	4,088.00	$2,569.80	$—	$696.28	$400.00	$0.050	2.93	2.19	1
Green Motors Program Rewind	Green Motors Program Rewind: Motor size 250HP	Standard rewind practice	Motor	MF_Motors	9	69%	4,972.00	$3,494.60	$—	$894.90	$500.00	$0.050	3.22	2.36	1
Green Motors Program Rewind	Green Motors Program Rewind: Motor size 300HP	Standard rewind practice	Motor	MF_Motors	9	69%	5,935.00	$4,171.45	$—	$904.58	$600.00	$0.050	3.21	2.60	1

							Benefit			Cost			Benefit/Cost Tests		
Measure Name	Measure Descriptions	Replacing	Measure Unit	End Use	Measure Life (yrs)[a]	NTG[b]	Annual Gross Energy Savings (kWh/yr)[c]	NPV Avoided Costs[d]	Non-Energy Benefit (NEB)	Gross Incremental Participant Cost[e]	Incentive/ Unit	Admin Cost ($/kWh)[f]	UC Ratio[g]	TRC Ratio[h]	Source
Green Motors Program Rewind	Green Motors Program Rewind: Motor size 350HP	Standard rewind practice	Motor	MF_Motors	9	69%	6,919.00	$4,863.06	$—	$948.10	$700.00	$0.050	3.21	2.76	1
Green Motors Program Rewind	Green Motors Program Rewind: Motor size 400HP	Standard rewind practice	Motor	MF_Motors	9	69%	7,848.00	$5,516.01	$—	$1,058.93	$800.00	$0.050	3.19	2.78	1
Green Motors Program Rewind	Green Motors Program Rewind: Motor size 450HP	Standard rewind practice	Motor	MF_Motors	9	69%	8,811.00	$6,192.86	$—	$1,157.49	$900.00	$0.050	3.19	2.81	1
Green Motors Program Rewind	Green Motors Program Rewind: Motor size 500HP	Standard rewind practice	Motor	MF_Motors	9	69%	9,804.00	$6,890.80	$—	$1,250.49	$1,000.00	$0.050	3.19	2.86	1
Green Motors Program Rewind	Green Motors Program Rewind: Motor size 600HP	Standard rewind practice	Motor	MF_Motors	7	69%	14,689.00	$8,119.94	$—	$1,842.75	$1,200.00	$0.050	2.90	2.36	1

[a] Average measure life.

[b] Net-to-Gross (NTG) percentage. CPUC DEER NTFR Update Process for 2006-2007 Programs.

[c] Estimated kWh savings measured at the customers meter, excluding line losses.

[d] Sum of NPV of avoided costs. Based on end-use load shape; measure life; and savings, including line losses and alternative costs by pricing period as provided in the *2011 Integrated Resource Plan* (IRP).

[e] Incremental participant cost prior to customer incentives.

[f] Average program administration and overhead costs to achieve each kWh of savings. Calculated from 2013 actuals.

[g] Utility Cost Ratio = (NPV Avoided Costs * NTG)/((Admin Cost/kWh * kWh Savings) + Incentives).

[h] Total Resource Cost Ratio = ((NPV Avoided Costs + NEB) * NTG) / ((Admin Cost/kWh * kWh Savings) + Incentives + ((Incremental Participant Cost - Incentives) * NTG))

[1] RTF. IndGreenMotorRewind_v2_0.xlsm. 2013.

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Easy Upgrades

Segment: Commercial

2013 Program Results

Cost Inputs (NPV)			Ref
Program Administration	$	985,274	
Program Incentives		2,374,516	I
Total Utility Cost	**$**	**3,359,790**	P
Measure Equipment and Installation (Incremental Participant Cost)	$	5,753,371	M

Net Benefit Inputs (NPV)				Ref
Resource Savings				
2013 Annual Gross Energy (kWh)	21,061,946			
NPV Cumulative Energy (kWh)	204,774,786	$	19,777,864	
Total Electric Savings		**$**	**19,777,864**	S
Participant Bill Savings				
NPV Cumulative Participant Savings		$	11,537,863	B
Other Benefits				
Non-Utility Rebates/Incentives		$	—	NUI
Non-Energy Benefits		$	—	NEB

Summary of Cost-Effectiveness Results				
Test	**Benefit**		**Cost**	**Ratio**
Utility Cost Test	$ 15,822,291	$	3,359,790	4.71
Total Resource Cost Test	15,822,291		6,062,874	2.61
Ratepayer Impact Measure Test	15,822,291		12,590,081	1.26
Participant Cost Test	13,912,379		5,753,371	2.42

Benefits and Costs Included in Each Test		
Utility Cost Test	= S * NTG	= P
Total Resource Cost Test	= (S + NUI + NEB) * NTG	= P + ((M-I)*NTG)
Ratepayer Impact Measure Test	= S * NTG	= P + (B * NTG)
Participant Cost Test	= B + I + NUI + NEB	= M

Assumptions for Levelized Calculations	
Discount Rate	
Nominal (WACC)	7.00%
Real ((1 + WACC) / (1 + Escalation)) – 1	3.88%
Escalation Rate	3.00%
Net-to-Gross (NTG)	80.00%
Average Customer Segment Rate/kWh	$0.057
Line Losses	10.90%

Notes: Measure inputs from Evergreen Consulting Group or Idaho Power Demand-Side Management Potential Study by Nexant, Inc. unless otherwise noted.

Year:2013 **Program**: Easy Upgrades **Market Segment**: Commercial **Program Type**: Energy Efficiency

							Benefit			Cost			Benefit/Cost Tests		
Measure Name	Measure Descriptions	Replacing	Measure Unit	End Use	Measure Life (yrs)[a]	NTG[b]	Annual Gross Energy Savings (kWh/yr)[c]	NPV Avoided Costs[d]	Non-Energy Benefit (NEB)	Gross Incremental Participant Cost[e]	Incentive/ Unit	Admin Cost ($/kWh)[f]	UC Ratio[g]	TRC Ratio[h]	Source
Standard T8s	2-ft or 3-ft T8s and electronic ballast (one or more lamps)	2-ft or 3-ft T12 (includes U-bend)	Fixture	ENComm_InsLt	11	96%	106.40	$93.68	$—	$40.92	$8.00	$0.047	6.92	2.02	1
Standard T8s	1 lamp 4-ft T8 and electronic ballast	1 Lamp 4-ft T12	Fixture	ENComm_InsLt	11	96%	59.50	$52.39	$—	$28.40	$12.00	$0.047	3.40	1.65	1
Standard T8s	1 or 2 lamp 4-ft T8s and electronic ballasts	2 Lamp 4-ft T12	Fixture	ENComm_InsLt	11	96%	108.50	$95.53	$—	$37.60	$14.00	$0.047	4.80	2.20	1
Standard T8s	2 or 3 lamp 4-ft T8s and electronic ballast	3 Lamp 4-ft T12	Fixture	ENComm_InsLt	11	96%	176.75	$155.62	$—	$54.45	$18.00	$0.047	5.68	2.44	1
Standard T8s	2, 3, or 4 lamp 4-ft T8s and electronic ballasts	4 Lamp 4-ft T12	Fixture	ENComm_InsLt	11	96%	236.83	$208.52	$—	$59.83	$22.00	$0.047	6.04	2.88	1
Standard T8s	1 or 2 lamp 6-ft T8s and electronic ballast	1 or 2 Lamp 6-ft T12	Fixture	ENComm_InsLt	12	96%	121.33	$115.61	$—	$49.33	$14.00	$0.047	5.63	2.07	1
Standard T8s	1 or 2 lamp 6-ft T8s and electronic ballast (slimline & ho)	1 or 2 Lamp 6-ft T12HO/VHO	Fixture	ENComm_InsLt	12	96%	377.03	$359.24	$—	$81.55	$14.00	$0.047	10.87	3.57	1
Standard T8s	1 or 2 lamp 8-ft T8s and electronic ballast	1 or 2 Lamp 8-ft T12	Fixture	ENComm_InsLt	12	96%	116.67	$111.16	$—	$58.47	$12.00	$0.047	6.10	1.72	1
Standard T8s	2, 3 or 4 lamp 8-ft T8s and electronic ballast	3 or 4 Lamp 8-ft T12	Fixture	ENComm_InsLt	12	96%	262.50	$250.11	$—	$101.66	$24.00	$0.047	6.61	2.17	1
Standard T8s	1 or 2 lamp 8-ft T8s and electronic ballast (slimline & ho)	1 or 2 Lamp 8-ft T12HO/VHO	Fixture	ENComm_InsLt	12	96%	525.91	$501.09	$—	$67.57	$12.00	$0.047	13.10	5.34	1
Standard T8s	2, 3 or 4 lamp 8-ft T8s and electronic ballast (slimline & ho)	3 or 4 Lamp 8-ft T12HO/VHO	Fixture	ENComm_InsLt	12	96%	1,195.59	$1,139.17	$—	$95.00	$24.00	$0.047	13.64	7.37	1
Standard T8s	2 or 4 lamp 4-ft T8s and electronic ballast (tandem/retrofit)	1 or 2 Lamp 8-ft T12	Fixture	ENComm_InsLt	11	96%	121.33	$106.83	$—	$53.07	$22.00	$0.047	3.70	1.78	1
Standard T8s	2 or 4 lamp 4-ft T8s and electronic ballast (tandem/retrofit)	1 or 2 Lamp 8-ft T12HO/VHO	Fixture	ENComm_InsLt	11	96%	540.87	$476.20	$—	$54.81	$30.00	$0.047	8.25	5.77	1
High performance T8s	1 lamp 4-ft hp T8 and electronic ballast	1 Lamp 4-ft T12	Fixture	ENComm_InsLt	12	96%	80.50	$76.70	$—	$62.98	$22.00	$0.047	2.86	1.13	1
High performance T8s	1 or 2 lamp 4-ft hp T8s and electronic ballast	2 Lamp 4-ft T12	Fixture	ENComm_InsLt	12	96%	129.86	$123.73	$—	$60.13	$24.00	$0.047	3.95	1.83	1
High performance T8s	2 or 3 lamp 4-ft hp T8s and electronic ballast	3 Lamp 4-ft T12	Fixture	ENComm_InsLt	12	96%	203.97	$194.35	$—	$67.23	$32.00	$0.047	4.49	2.47	1

Measure Name	Measure Descriptions	Replacing	Measure Unit	End Use	Measure Life (yrs)[a]	NTG[b]	Benefit			Cost			Benefit/Cost Tests		Source
							Annual Gross Energy Savings (kWh/yr)[c]	NPV Avoided Costs[d]	Non-Energy Benefit (NEB)	Gross Incremental Participant Cost[e]	Incentive/ Unit	Admin Cost ($/kWh)[f]	UC Ratio[g]	TRC Ratio[h]	
High performance T8s	2, 3, or 4 lamp 4-ft hp T8s and electronic ballast	4 Lamp 4-ft T12	Fixture	ENComm_InsLt	12	96%	262.83	$250.43	$—	$67.32	$34.00	$0.047	5.19	3.07	1
High performance T8s	2 or 4 lamp 4-ft hp T8s and electronic ballast (tandem/retrofit)	1 or 2 Lamp 8-ft T12	Fixture	ENComm_InsLt	12	96%	171.07	$163.00	$—	$68.86	$34.00	$0.047	3.72	2.07	1
High performance T8s	2 or 4 lamp 4-ft hp T8s and electronic ballast (tandem/retrofit)	1 or 2 Lamp 8-ft T12HO/VHO	Fixture	ENComm_InsLt	12	96%	567.38	$540.61	$—	$74.54	$45.00	$0.047	7.24	5.19	1
T5 (Non-HO)	1 or 2 lamp 4-ft T5s and electronic ballast	1 or 2 Lamp 4-ft T12	Fixture	ENComm_InsLt	11	96%	102.67	$90.39	$—	$50.30	$14.00	$0.047	4.61	1.62	1
T5 (Non-HO)	2, 3, or 4 lamp 4-ft T5s and electronic ballast	3 or 4 Lamp 4-ft T12	Fixture	ENComm_InsLt	11	96%	185.50	$163.32	$—	$90.34	$24.00	$0.047	4.79	1.63	1
T5/T8 high bay (new fixture)	4 lamp 4-ft T8s and electronic ballast	Fixture (lamp & ballast) using ≥ 200 W	Fixture	ENComm_InsLt	12	96%	574.58	$547.47	$—	$153.91	$75.00	$0.047	5.15	2.96	1
T5/T8 high bay (new fixture)	6 lamp 4-ft T8s and electronic ballast or 2, 3, or 4 lamp 4-ft T5hos and electronic ballast	Fixture (lamp & ballast) using 200–399 W	Fixture	ENComm_InsLt	12	96%	400.47	$381.57	$—	$184.82	$75.00	$0.047	3.90	1.84	1
T5/T8 high bay (new fixture)	6 or 8 lamp 4-ft T8s and electronic ballast or 4 or 6 lamp 4-ft T5hos and electronic ballast	Fixture (lamp & ballast) using ≥ 400 W	Fixture	ENComm_InsLt	12	96%	966.27	$920.68	$—	$210.34	$110.00	$0.047	5.69	3.51	1
T5/T8 high bay (new fixture)	10 or 12 lamp 4-ft T8s and electronic ballast or 8 or 10 lamp 4-ft T5hos and electronic ballast	Fixture (lamp & ballast) 751–1,100 W	Fixture	ENComm_InsLt	12	96%	2,366.70	$2,255.03	$—	$386.65	$180.00	$0.047	7.43	4.42	1
T8/T5 HO–T8/T5HO relamp only	Lamp 4-ft Reduced Wattage HP T8		Fixture	ENComm_InsLt	8	96%	84.00	$54.99	$—	$15.20	$1.00	$0.047	10.67	2.84	1
T8/T5 HO–T8/T5HO relamp only	2 Lamp 4-ft Reduced Wattage HP T8		Fixture	ENComm_InsLt	8	96%	137.12	$89.77	$—	$22.83	$2.00	$0.047	10.21	3.03	1
T8/T5 HO–T8/T5HO relamp only	3 Lamp 4-ft Reduced Wattage HP T8		Fixture	ENComm_InsLt	8	96%	107.80	$70.58	$—	$31.62	$3.00	$0.047	8.40	1.91	1
T8/T5 HO–T8/T5HO relamp only	4 Lamp 4-ft Reduced Wattage HP T8		Fixture	ENComm_InsLt	8	96%	96.25	$63.01	$—	$37.83	$4.00	$0.047	7.10	1.48	1
T8/T5 HO–T8/T5HO relamp only	1 Lamp 4-ft Reduced Wattage T5	1 or 2 lamp 4-ft T5	Fixture	ENComm_InsLt	8	96%	56.00	$36.66	$—	$2.50	$1.00	$0.047	9.69	6.94	1

							Benefit			Cost			Benefit/Cost Tests		
Measure Name	Measure Descriptions	Replacing	Measure Unit	End Use	Measure Life (yrs)[a]	NTG[b]	Annual Gross Energy Savings (kWh/yr)[c]	NPV Avoided Costs[d]	Non-Energy Benefit (NEB)	Gross Incremental Participant Cost[e]	Incentive/ Unit	Admin Cost ($/kWh)[f]	UC Ratio[g]	TRC Ratio[h]	Source
T8/T5 HO–T8/T5HO relamp only	2 Lamp 4-ft Reduced Wattage T5	2 or 3 or 4 lamp 4-ft T5	Fixture	ENComm_InsLt	8	96%	119.00	$77.91	$—	$5.00	$2.00	$0.047	9.85	7.14	1
T8/T5 HO–T8/T5HO relamp only	3 Lamp 4-ft Reduced Wattage T5	3 or 4 lamp 4-ft T5	Fixture	ENComm_InsLt	8	96%	77.00	$50.41	$—	$7.50	$3.00	$0.047	7.31	4.42	1
T8/T5 HO–T8/T5HO relamp only	4 Lamp 4-ft Reduced Wattage T5	4 lamp 4-ft T5	Fixture	ENComm_InsLt	8	96%	42.00	$27.50	$—	$10.00	$4.00	$0.047	4.42	2.25	1
T8/T5 HO–T8/T5HO relamp only	1 Lamp 4-ft Reduced Wattage T5HO	1 or 2 lamp 4-ft T5HO	Fixture	ENComm_InsLt	8	96%	115.50	$75.62	$—	$2.50	$1.00	$0.047	11.29	9.23	1
T8/T5 HO–T8/T5HO relamp only	2 Lamp 4-ft Reduced Wattage T5HO	2 or 3 or 4 lamp 4-ft T5HO	Fixture	ENComm_InsLt	8	96%	243.83	$159.63	$—	$5.00	$2.00	$0.047	11.39	9.38	1
T8/T5 HO–T8/T5HO relamp only	3 Lamp 4-ft Reduced Wattage T5HO	3 or 4 lamp 4-ft T5HO	Fixture	ENComm_InsLt	8	96%	154.00	$100.82	$—	$7.50	$3.00	$0.047	9.45	6.65	1
T8/T5 HO–T8/T5HO relamp only	4 Lamp 4-ft Reduced Wattage T5HO	4 or 6 lamp 4-ft T5HO	Fixture	ENComm_InsLt	8	96%	294.00	$192.48	$—	$10.00	$4.00	$0.047	10.37	7.84	1
T8/T5 HO–T8/T5HO relamp only	6 Lamp 4-ft Reduced Wattage T5HO	6 or 8 lamp 4-ft T5HO	Fixture	ENComm_InsLt	8	96%	308.00	$201.64	$—	$15.00	$6.00	$0.047	9.45	6.65	1
T8/T5 HO–T8/T5HO relamp only	8 Lamp 4-ft Reduced Wattage T5HO	8 or 10 lamp 4-ft T5HO	Fixture	ENComm_InsLt	8	96%	379.75	$248.62	$—	$20.00	$8.00	$0.047	9.23	6.39	1
T8/T5 HO–T8/T5HO relamp only	10 Lamp 4-ft Reduced Wattage T5HO	10 lamp 4-ft T5HO	Fixture	ENComm_InsLt	8	96%	213.50	$139.78	$—	$25.00	$10.00	$0.047	6.70	3.90	1
T8/T5 HO–T8/T5HO relamp only	1 or 2 lamp 4-ft 28 watt T8	1 Lamp 4-ft 25 W T8	Fixture	ENComm_InsLt	8	96%	78.94	$51.68	$—	$15.20	$1.00	$0.047	10.53	2.71	1
T8/T5 HO–T8/T5HO relamp only	2 or 3 lamp 4-ft 28 watt T8	2 Lamp 4-ft 25 W T8	Fixture	ENComm_InsLt	8	96%	85.63	$56.06	$—	$21.42	$2.00	$0.047	8.93	2.18	1
T8/T5 HO–T8/T5HO relamp only	3 or 4 lamp 4-ft 28 watt T8	3 Lamp 4-ft 25 W T8	Fixture	ENComm_InsLt	8	96%	102.75	$67.27	$—	$31.62	$3.00	$0.047	8.25	1.83	1
T8/T5 HO–T8/T5HO relamp only	4 lamp 4-ft 28 watt T8	2 Lamp 4-ft 25 W T8	Fixture	ENComm_InsLt	8	96%	190.17	$124.50	$—	$25.42	$2.00	$0.047	10.93	3.58	1
T8/T5 HO–T8/T5HO relamp only	4 lamp 4-ft 28 watt T8	4 Lamp 4-ft 25 W T8	Fixture	ENComm_InsLt	8	96%	81.67	$53.47	$—	$34.83	$4.00	$0.047	6.55	1.37	1

							Benefit			Cost			Benefit/Cost Tests		
Measure Name	Measure Descriptions	Replacing	Measure Unit	End Use	Measure Life (yrs)[a]	NTG[b]	Annual Gross Energy Savings (kWh/yr)[c]	NPV Avoided Costs[d]	Non-Energy Benefit (NEB)	Gross Incremental Participant Cost[e]	Incentive/ Unit	Admin Cost ($/kWh)[f]	UC Ratio[g]	TRC Ratio[h]	Source
Permanent fixture removal measure (formerly HID permanent removal)	3 or 4 lamp 4 ft T12 and electronic ballast	Decommissioning	Fixture	ENComm_InsLt	8	96%	453.25	$296.74	$—	$28.33	$15.00	$0.047	7.85	5.80	1
Permanent fixture removal measure (formerly HID permanent removal)	2 lamp 8-ft T12 and magnetic or electronic ballast	Decommissioning	Fixture	ENComm_InsLt	8	96%	456.75	$299.03	$—	$38.33	$15.00	$0.047	7.87	4.88	1
Permanent fixture removal measure (formerly HID permanent removal)	3 or 4 lamp 8-ft T12 or T12HO/VHO and magnetic or electronic ballast	Decommissioning	Fixture	ENComm_InsLt	8	96%	1,531.25	$1,002.49	$—	$38.89	$25.00	$0.047	9.92	8.73	1
Permanent fixture removal measure (formerly HID permanent removal)	1 lamp 8-ft T12HO and magnetic or electronic ballast	Decommissioning	Fixture	ENComm_InsLt	8	96%	404.25	$264.66	$—	$38.33	$15.00	$0.047	7.47	4.50	1
Permanent fixture removal measure (formerly HID permanent removal)	1 lamp 8-ft T12VHO and magnetic or electronic ballast or 2 lamp 8-ft T12HO/VHO and magnetic or electronic ballast	Decommissioning	Fixture	ENComm_InsLt	8	96%	945.58	$619.06	$—	$38.33	$25.00	$0.047	8.56	7.23	1
Permanent fixture removal measure (formerly HID permanent removal)	4 lamp 2-ft T12 and magnetic ballast	Decommissioning	Fixture	ENComm_InsLt	8	96%	350.00	$229.14	$—	$28.33	$15.00	$0.047	6.99	4.97	1
Permanent fixture removal measure (formerly HID permanent removal)	3 or 4 lamp 3-ft T12 and magnetic ballast	Decommissioning	Fixture	ENComm_InsLt	8	96%	463.75	$303.61	$—	$26.67	$15.00	$0.047	7.92	6.07	1
Permanent fixture removal measure (formerly HID permanent removal)	3 lamp 4-ft T12 and magnetic ballast	Decommissioning	Fixture	ENComm_InsLt	8	96%	465.50	$304.76	$—	$28.33	$15.00	$0.047	7.93	5.89	1

Measure Name	Measure Descriptions	Replacing	Measure Unit	End Use	Measure Life (yrs)[a]	NTG[b]	Benefit			Cost			Benefit/Cost Tests		Source
							Annual Gross Energy Savings (kWh/yr)[c]	NPV Avoided Costs[d]	Non-Energy Benefit (NEB)	Gross Incremental Participant Cost[e]	Incentive/ Unit	Admin Cost ($/kWh)[f]	UC Ratio[g]	TRC Ratio[h]	
Permanent fixture removal measure (formerly HID permanent removal)	4 lamp 4-ft T12 and magnetic ballast	Decommissioning	Fixture	ENComm_InsLt	8	96%	574.00	$375.79	$—	$28.33	$25.00	$0.047	6.94	6.54	1
Permanent fixture removal measure (formerly HID permanent removal)	2 lamp 6-ft T12 and magnetic ballast	Decommissioning	Fixture	ENComm_InsLt	8	96%	416.50	$272.68	$—	$32.33	$15.00	$0.047	7.57	5.11	1
Permanent fixture removal measure (formerly HID permanent removal)	1 lamp 6-ft T12HO and magnetic ballast	Decommissioning	Fixture	ENComm_InsLt	8	96%	371.00	$242.89	$—	$32.33	$15.00	$0.047	7.19	4.75	1
Permanent fixture removal measure (formerly HID permanent removal)	1 lamp 6-ft T12VHO and magnetic ballast	Decommissioning	Fixture	ENComm_InsLt	8	96%	588.00	$384.96	$—	$32.33	$25.00	$0.047	7.02	6.19	1
Permanent fixture removal measure (formerly HID permanent removal)	2 lamp 6-ft T12HO/VHO and magnetic ballast	Decommissioning	Fixture	ENComm_InsLt	8	96%	880.25	$576.29	$—	$32.33	$25.00	$0.047	8.34	7.54	1
Permanent fixture removal measure (formerly HID permanent removal)	Mercury vapor using 119 input Watts (W)	Decommissioning	Fixture	ENComm_InsLt	8	96%	416.50	$272.68	$—	$41.67	$15.00	$0.047	7.57	4.35	1
Permanent fixture removal measure (formerly HID permanent removal)	Mercury vapor using > 120 input W	Decommissioning	Fixture	ENComm_InsLt	8	96%	1,760.50	$1,152.58	$—	$44.17	$25.00	$0.047	10.27	8.77	1
Permanent fixture removal measure (formerly HID permanent removal)	High pressure sodium using 116 input W	Decommissioning	Fixture	ENComm_InsLt	8	96%	406.00	$265.80	$—	$41.67	$15.00	$0.047	7.49	4.28	1

							Benefit			Cost			Benefit/Cost Tests		
Measure Name	Measure Descriptions	Replacing	Measure Unit	End Use	Measure Life (yrs)[a]	NTG[b]	Annual Gross Energy Savings (kWh/yr)[c]	NPV Avoided Costs[d]	Non-Energy Benefit (NEB)	Gross Incremental Participant Cost[e]	Incentive/ Unit	Admin Cost ($/kWh)[f]	UC Ratio[g]	TRC Ratio[h]	Source
Permanent fixture removal measure (formerly HID permanent removal)	High pressure sodium using > 120 input W	Decommissioning	Fixture	ENComm_InsLt	8	96%	1,591.80	$1,042.13	$—	$43.93	$25.00	$0.047	10.02	8.48	1
Permanent fixture removal measure (formerly HID permanent removal)	Metal halide using 142 input W	Decommissioning	Fixture	ENComm_InsLt	8	96%	497.00	$325.38	$—	$41.67	$15.00	$0.047	8.14	4.88	1
Permanent fixture removal measure (formerly HID permanent removal)	Metal halide using > 150 input W	Decommissioning	Fixture	ENComm_InsLt	8	96%	1,790.25	$1,172.05	$—	$44.17	$25.00	$0.047	10.31	8.82	1
Permanent fixture removal measure (formerly HID permanent removal)	Incandescent/cfl using 100–200 input W	Decommissioning	Fixture	ENComm_InsLt	8	96%	437.50	$286.43	$—	$24.33	$15.00	$0.047	7.73	6.18	1
Permanent fixture removal measure (formerly HID permanent removal)	Incandescent/cfl using ≥ 200 input W	Decommissioning	Fixture	ENComm_InsLt	8	96%	875.00	$572.85	$—	$27.67	$25.00	$0.047	8.32	8.01	1
Compact Fluorescents (CFLs)	Screw-in compact fluorescent ≤ 32 W	Fixture using ≥ 60 input w	Fixture	ENComm_InsLt	6	96%	98.00	$48.62	$—	$23.00	$2.00	$0.047	7.07	1.74	1
CFLS	Screw-in compact fluorescent 33 to 59 W	Fixture using ≥ 100 input W	Fixture	ENComm_InsLt	6	96%	143.50	$71.20	$—	$31.00	$4.00	$0.047	6.36	1.86	1
CFLS	Screw-in compact fluorescent ≥ 60 W	Fixture using ≥ 150 input W	Fixture	ENComm_InsLt	6	96%	175.00	$86.83	$—	$29.00	$20.00	$0.047	2.95	2.26	1
CFLS	Screw-in cold-cathode ≤ 32 W	Fixture using ≥ 60 input W	Fixture	ENComm_InsLt	6	96%	175.88	$87.26	$—	$35.38	$4.00	$0.047	6.83	1.98	1
CFLS	Hard-wired compact fluorescent ≤ 49 W and electronic ballasts	Fixture using ≥ 90 input W	Fixture	ENComm_InsLt	6	96%	262.78	$130.38	$—	$85.00	$30.00	$0.047	2.96	1.32	1
CFLS	Hard-wired compact fluorescent 50–99 W and electronic ballasts	Fixture using ≥ 150 input W	Fixture	ENComm_InsLt	6	96%	471.10	$233.74	$—	$104.50	$40.00	$0.047	3.61	1.81	1
Light Emitting Diodes (LEDs)	Screw-in or pin-based led ≤ 10 W	Fixture using ≥ 40 input W	Fixture	ENComm_InsLt	12	96%	105.00	$100.05	$—	$45.00	$10.00	$0.047	6.43	1.98	1

Measure Name	Measure Descriptions	Replacing	Measure Unit	End Use	Measure Life (yrs)[a]	NTG[b]	Benefit: Annual Gross Energy Savings (kWh/yr)[c]	Benefit: NPV Avoided Costs[d]	Benefit: Non-Energy Benefit (NEB)	Cost: Gross Incremental Participant Cost[e]	Cost: Incentive/ Unit	Cost: Admin Cost ($/kWh)[f]	Benefit/Cost Tests: UC Ratio[g]	Benefit/Cost Tests: TRC Ratio[h]	Source
Ceramic/pulse start/electronic metal halide	Pulse start metal halides 200–1000 w	Screw-in reduced wattage metal halide, > 125 W	Fixture	ENComm_InsLt	8	96%	476.85	$312.19	$—	$70.83	$25.00	$0.047	6.32	3.28	1
Ceramic/pulse start metal halide	150 to 250 input W metal halide	Fixture (lamp & ballast) using ≥ 295 input W	Fixture	ENComm_InsLt	12	96%	570.50	$543.58	$—	$185.00	$30.00	$0.047	9.19	2.54	1
Ceramic/pulse start metal halide	251 to 360 input W metal halide	Fixture (lamp & ballast) using ≥ 450 input W	Fixture	ENComm_InsLt	12	96%	499.63	$476.05	$—	$217.50	$55.00	$0.047	5.82	1.95	1
Ceramic/pulse start metal halide	361+ input W metal halide	Fixture (lamp & ballast) using ≥ 600 input W	Fixture	ENComm_InsLt	12	96%	2,033.50	$1,937.55	$—	$245.00	$105.00	$0.047	9.27	5.55	1
LED exits	LED exit sign or equivalent (5 W or less)	Exit sign using ≥ 18 W	Fixture	IPC_8760	16	96%	88.67	$101.07	$—	$68.69	$25.00	$0.047	3.33	1.37	1
Lighting controls	Wall switch occupancy sensor	Manual or no prior control	Fixture	ENComm_InsLt	10	96%	149.30	$120.31	$—	$90.00	$35.00	$0.047	2.75	1.22	1
Lighting controls	Wall or ceiling mount occupancy sensor	Manual or no prior control	Fixture	ENComm_InsLt	10	96%	472.17	$380.48	$—	$130.00	$50.00	$0.047	5.06	2.45	1
Lighting controls	Fixture mount occupancy sensor	Manual or no prior control	Fixture	ENComm_InsLt	10	96%	252.22	$203.24	$—	$100.00	$50.00	$0.047	3.15	1.78	1
Lighting controls	Interior photocell control (dimming, step-dimming or switching)	Manual or no prior control	Fixture	ENComm_InsLt	10	96%	379.42	$305.74	$—	$130.00	$40.00	$0.047	5.08	2.03	1
Lighting controls	Auto-off time switch or time clock control (minimum of 100 W connected to load)	Manual or no prior control	Fixture	ENComm_InsLt	10	96%	272.74	$219.78	$—	$125.00	$40.00	$0.047	3.99	1.57	1
Case/walk-in lighting	T8 fluorescent lighting	T12 fluorescent lighting	Lamp	ENComm_Refrigeration	6	96%	309.31	$147.27	$—	$44.70	$15.00	$0.047	4.79	2.44	2
Case/walk-in lighting	LED display case lighting	T12 fluorescent lighting	Linear Foot	ENComm_Refrigeration	8	96%	111.25	$70.01	$—	$42.72	$15.00	$0.047	3.32	1.43	3
T8 to LED case lighting	LED reach in and open display case lighting	T8 fluorescent lighting	Linear Foot	ENComm_Refrigeration	8	96%	77.75	$48.93	$—	$44.38	$10.00	$0.047	3.44	1.01	4
Case/Walk-in Lighting	Fluorescent walk-in light fixture	Incandescent walk-in light fixture	Fixture	ENComm_Refrigeration	6	96%	627.99	$299.00	$—	$47.49	$25.00	$0.047	5.27	3.77	2
A/C & Heat Pump Units	PTAC/PTHP unit, min 12 EER	Standard PTAC/PTHP unit	Unit	ENComm_Cooling	12	80%	562.50	$627.33	$—	$255.00	$50.00	$0.047	6.57	2.09	5
A/C & Heat Pump Units	5 ton or less 1 phase A/C unit, min 15 SEER	Standard 1–5 ton A/C unit	Ton	ENComm_Cooling	15	80%	130.29	$175.17	$—	$50.00	$25.00	$0.047	4.50	2.74	5
A/C & Heat Pump Units	5 ton or less 1 phase A/C unit, min 16 SEER	Standard 5 ton or less A/C unit	Ton	ENComm_Cooling	15	80%	183.22	$246.34	$—	$100.00	$50.00	$0.047	3.36	2.00	5

							Benefit			Cost			Benefit/Cost Tests		
Measure Name	Measure Descriptions	Replacing	Measure Unit	End Use	Measure Life (yrs)[a]	NTG[b]	Annual Gross Energy Savings (kWh/yr)[c]	NPV Avoided Costs[d]	Non-Energy Benefit (NEB)	Gross Incremental Participant Cost[e]	Incentive/ Unit	Admin Cost ($/kWh)[f]	UC Ratio[g]	TRC Ratio[h]	Source
AC & Heat Pump Units	5 ton or less 1 phase A/C unit, min 17 SEER	Standard 5 ton or less A/C unit	Ton	ENComm_Cooling	15	80%	229.93	$309.13	$—	$150.00	$75.00	$0.047	2.88	1.70	5
AC & Heat Pump Units	5 ton or less 3 phase A/C unit, min 14 SEER	Standard 1-5 ton A/C unit	Ton	ENComm_Cooling	15	80%	362.96	$487.98	$—	$75.00	$50.00	$0.047	5.82	4.48	5
AC & Heat Pump Units	5 ton or less 3 phase A/C unit, min 15 SEER	Standard 5 ton or less A/C unit	Ton	ENComm_Cooling	15	80%	423.45	$569.31	$—	$75.00	$75.00	$0.047	4.80	4.80	5
AC & Heat Pump Units	5 ton or less 3 phase A/C unit, min 16 SEER	Standard 5 ton or less A/C unit	Ton	ENComm_Cooling	15	80%	476.38	$640.47	$—	$150.00	$100.00	$0.047	4.19	3.16	5
AC & Heat Pump Units	6–10 ton ac unit, must meet CEE tier 1	Standard 6–10 ton A/C unit	Ton	ENComm_Cooling	15	80%	130.15	$174.98	$—	$100.00	$50.00	$0.047	2.49	1.46	5
AC & Heat Pump Units	11–19 ton ac unit, min 10.8 EER must meet CEE tier 1	Standard 11–19 ton A/C unit	Ton	ENComm_Cooling	15	80%	197.67	$265.76	$—	$100.00	$50.00	$0.047	3.59	2.14	5
AC & Heat Pump Units	20 ton or more A/C unit, min 10 EER must meet CEE tier 1	Standard 20 ton+ A/C unit	Ton	ENComm_Cooling	15	80%	112.72	$151.55	$—	$75.00	$50.00	$0.047	2.19	1.61	5
Economizers	Air-side economizer control addition	No prior control	Ton	ENComm_Cooling	15	80%	300.00	$403.34	$—	$170.00	$75.00	$0.047	3.62	1.95	2, 6
Economizers	Water-side economizer control addition	No prior control	Ton	ENComm_Cooling	10	80%	1,199.10	$1,138.47	$—	$463.00	$75.00	$0.047	6.93	2.06	2, 6
Economizers	Air-side economizer system repair	Non-functional Economizer	Unit	ENComm_Cooling	15	80%	4,499.29	$6,049.13	$—	$630.00	$250.00	$0.047	10.49	6.32	2, 6
Evaporative coolers/pre-coolers	Pre-cooler added to condenser	Standard air cooled A/C unit	Ton	ENComm_Cooling	10	80%	832.30	$790.22	$—	$200.00	$100.00	$0.047	4.54	2.89	2
Evaporative coolers/pre-coolers	Retrofit to direct evaporative cooler	Replacing standard A/C unit	Ton	ENComm_Cooling	15	80%	902.52	$1,213.41	$—	$400.00	$200.00	$0.047	4.00	2.41	2
Evaporative coolers/pre-coolers	Retrofit to indirect evaporative cooler	Replacing standard A/C unit	Ton	ENComm_Cooling	15	80%	676.89	$910.06	$—	$550.00	$300.00	$0.047	2.19	1.37	2
Programmable thermostats	7-day, two-stage setback thermostat	Manual thermostat	Unit	ENComm_HVAC	11	80%	4,209.94	$3,903.54	$—	$174.76	$40.00	$0.047	13.13	9.03	2, 6
Automated control systems	Energy management control systems	Manual controls	Square Feet	ENComm_HVAC	14	80%	1.20	$1.38	$—	$0.95	$0.30	$0.047	3.09	1.26	2, 6
Automated control systems	Control system reprogramming/optimization	Automated control system	Square Feet	ENComm_HVAC	4	80%	0.75	$0.26	$—	$0.15	$0.10	$0.047	1.57	1.21	5, 6
Automated control systems	Lodging room occupancy control system	Manual controls	Room	ENComm_HVAC	12	80%	900.00	$901.96	$—	$75.00	$50.00	$0.047	7.82	6.43	5, 6
Variable speed fans/pumps	Variable speed drive, fan	Single speed HVAC system fan	HP	ENComm_HVAC	15	96%	1,078.29	$1,309.08	$—	$187.00	$60.00	$0.047	11.35	5.40	2, 6

							Benefit			Cost			Benefit/Cost Tests		
Measure Name	Measure Descriptions	Replacing	Measure Unit	End Use	Measure Life (yrs)[a]	NTG[b]	Annual Gross Energy Savings (kWh/yr)[c]	NPV Avoided Costs[d]	Non-Energy Benefit (NEB)	Gross Incremental Participant Cost[e]	Incentive/ Unit	Admin Cost ($/kWh)[f]	UC Ratio[g]	TRC Ratio[h]	Source
Variable speed fans/pumps	Variable speed drive, pump	Single speed HVAC system pump	HP	ENComm_HVAC	15	96%	891.74	$1,082.60	$—	$187.00	$60.00	$0.047	10.20	4.64	2, 6
Variable speed controls	Variable speed drives	Standard motor, 5-200 hp	HP	ENComm_Misc	10	96%	3,542.00	$2,770.68	$—	$187.00	$60.00	$0.047	11.74	7.63	2
Premium windows	SHGC of .30 or less and u-factor .30 or less.	Standard window	Square Feet	ENComm_HVAC	30	80%	1.38	$2.72	$—	$1.50	$1.50	$0.047	1.39	1.39	2
Efficient windows	SHGC of .40 or less and u-factor .42 or less.	Standard window	Square Feet	ENComm_HVAC	30	80%	0.92	$1.81	$—	$0.68	$1.00	$0.047	1.39	1.84	2
Window shading	Adding window shade screen	No screen or other shading	Square Feet	ENComm_Cooling	10	80%	2.10	$1.99	$—	$1.00	$0.50	$0.047	2.66	1.60	2
Reflective roofing	Adding reflective roof treatment	Non-reflective low pitch roof	Square Feet	ENComm_Cooling	15	80%	0.40	$0.54	$—	$0.32	$0.05	$0.047	6.25	1.51	2
Roof/ceiling insulation	Increasing to R24 min insulation	Insulation level, R11 or less	Square Feet	ENComm_HVAC	40	80%	0.92	$2.09	$—	$0.83	$0.10	$0.047	11.69	2.30	2
Roof/ceiling insulation	Increasing to R38 min insulation	Insulation level, R11 or less	Square Feet	ENComm_HVAC	40	80%	1.46	$3.32	$—	$0.95	$0.20	$0.047	9.88	3.04	2
Wall insulation	Increase to R11 min insulation	Insulation level, R5 or less	Square Feet	ENComm_HVAC	40	80%	1.04	$2.38	$—	$0.62	$0.05	$0.047	19.18	3.45	2
Wall insulation	Increase to R19 min insulation	Insulation level, R5 or less	Square Feet	ENComm_HVAC	40	80%	2.44	$5.54	$—	$0.74	$0.10	$0.047	20.67	6.09	2
Refrigeration cases	Efficient, medium-temp open case	Standard medium-temp open case	Linear Foot	ENComm_Refrigeration	16	96%	148.18	$174.67	$—	$100.00	$20.00	$0.047	6.22	1.62	2
Refrigeration cases	Efficient, medium-temp reach-in	Standard medium-temp open case	Linear Foot	ENComm_Refrigeration	16	96%	564.94	$665.92	$—	$100.00	$100.00	$0.047	5.05	5.05	2
Refrigeration cases	Efficient, low-temp reach-in (reach-in)	Standard low-temp reach-in	Linear Foot	ENComm_Refrigeration	16	96%	478.36	$563.87	$—	$100.00	$150.00	$0.047	3.14	4.35	2
Refrigeration cases	Efficient, low-temp reach-in (open case)	Standard low-temp open case	Linear Foot	ENComm_Refrigeration	16	96%	1,208.00	$1,423.94	$—	$100.00	$150.00	$0.047	6.61	8.61	2
Refrigeration cases	Efficient, low-temp reach-in (coffin case)	Standard low-temp coffin case	Linear Foot	ENComm_Refrigeration	16	96%	703.42	$829.16	$—	$100.00	$55.00	$0.047	9.04	6.06	2
Refrigeration cases	Vertical night covers	No covers present	Linear Foot	ENComm_Refrigeration	5	96%	148.00	$58.87	$—	$9.00	$9.00	$0.047	3.54	3.54	2
Refrigeration cases	Horizontal night covers	No covers present	Linear Foot	ENComm_Refrigeration	5	96%	59.00	$23.47	$—	$9.00	$5.00	$0.047	2.90	1.94	2
Refrigeration cases	Refrigeration line insulation	No insulation present	Linear Foot	ENComm_Refrigeration	11	96%	17.00	$14.41	$—	$2.00	$1.00	$0.047	7.69	5.01	2
Refrigeration cases	Door gasket—walk-in	No or damaged door gasket	Linear Foot	ENComm_Refrigeration	4	96%	137.50	$43.70	$—	$4.00	$2.00	$0.047	4.96	4.04	2

Measure Name	Measure Descriptions	Replacing	Measure Unit	End Use	Measure Life (yrs)[a]	NTG[b]	Benefit: Annual Gross Energy Savings (kWh/yr)[c]	Benefit: NPV Avoided Costs[d]	Benefit: Non-Energy Benefit (NEB)	Cost: Gross Incremental Participant Cost[e]	Cost: Incentive/ Unit	Cost: Admin Cost ($/kWh)[f]	Benefit/Cost Tests: UC Ratio[g]	Benefit/Cost Tests: TRC Ratio[h]	Source
Refrigeration cases	Door gasket—reach-in	Damaged door gasket	Linear Foot	ENComm_Refrigeration	4	96%	92.50	$29.40	$—	$4.00	$1.00	$0.047	5.28	3.43	2
Refrigeration cases	Auto-closer—walk-in	No or damaged auto closer, low-temp	Unit	ENComm_Refrigeration	8	96%	2,470.00	$1,554.33	$—	$433.00	$50.00	$0.047	8.98	2.80	2
Refrigeration cases	Auto-closer—reach-in	Damaged auto closer, low-temp	Unit	ENComm_Refrigeration	8	96%	1,297.00	$816.18	$—	$300.00	$50.00	$0.047	7.06	2.23	2
Refrigeration cases	Auto-closer—walk-in	No or damaged auto closer, med-temp	Unit	ENComm_Refrigeration	8	96%	1,067.00	$671.45	$—	$433.00	$40.00	$0.047	7.15	1.38	2
Refrigeration cases	Auto-closer—reach-in	Damaged auto closer, med-temp	Unit	ENComm_Refrigeration	8	96%	243.00	$152.92	$—	$125.00	$40.00	$0.047	2.85	1.10	2
Refrigeration cases	No-heat glass doors	Standard low-temp reach-in	Unit	ENComm_Refrigeration	12	96%	749.00	$687.45	$—	$200.00	$50.00	$0.047	7.75	2.88	2
Refrigeration cases	Anti-sweat heat (ASH) controls	Low or med-temp case w/out controls	Linear Foot	ENComm_Refrigeration	8	96%	299.50	$188.47	$—	$48.75	$40.00	$0.047	3.35	2.90	7
Vending machines	ENERGY STAR vending machine	Standard vending machine	Unit	ENComm_Misc	14	96%	1,472.00	$1,563.31	$—	$350.00	$75.00	$0.047	10.41	3.68	2
Vending machines	Beverage machine control	Vending machine with no sensor	Unit	ENComm_Misc	14	96%	546.50	$580.40	$—	$170.00	$75.00	$0.047	5.53	2.90	2
Vending machines	Other cold product control	Vending machine with no sensor	Unit	ENComm_Misc	14	96%	546.50	$580.40	$—	$170.00	$50.00	$0.047	7.36	2.92	2
Vending machines	Non-cooled snack control	Vending machine with no sensor	Unit	ENComm_Misc	14	96%	382.55	$406.28	$—	$170.00	$25.00	$0.047	9.07	2.14	2
Commercial kitchen equipment	ENERGY STAR dishwasher	Standard dishwasher	Unit	ENComm_Misc	11	96%	231.00	$197.54	$—	$55.00	$15.00	$0.047	7.33	2.95	2
Commercial kitchen equipment	Low-temperature dish machine	Dish machine w/electric booster	kW	ENComm_Misc	13	96%	657.86	$654.56	$—	$127.00	$75.00	$0.047	5.93	4.03	2
Commercial kitchen equipment	ENERGY STAR refrigerator	Standard refrigerator	Refrigerator	ENComm_Misc	13	96%	85.71	$85.28	$—	$30.00	$30.00	$0.047	2.41	2.41	2
Commercial kitchen equipment	ENERGY STAR 2.0 solid or glass door refrigerator - less than 30 cu.ft.	Solid or glass door refrigerator: less than 30 ft^3.	Refrigerator	ENComm_Refrigeration	12	96%	4.25	$3.90	$—	$73.62	$75.00	$0.047	0.05	0.05	8, 9
Commercial kitchen equipment	Ice maker, up to 200 lbs/day	Standard ice maker of the same size	Unit	ENComm_Misc	10	96%	161.20	$126.10	$—	$-	$100.00	$0.047	1.13	1.13	10
Commercial kitchen equipment	Ice maker, more than 200 lbs/day	Standard ice maker of the same size	Unit	ENComm_Misc	10	96%	596.33	$466.47	$—	$-	$200.00	$0.047	1.96	1.96	11

Measure Name	Measure Descriptions	Replacing	Measure Unit	End Use	Measure Life (yrs)[a]	NTG[b]	Benefit			Cost			Benefit/Cost Tests		Source
							Annual Gross Energy Savings (kWh/yr)[c]	NPV Avoided Costs[d]	Non-Energy Benefit (NEB)	Gross Incremental Participant Cost[e]	Incentive/ Unit	Admin Cost ($/kWh)[f]	UC Ratio[g]	TRC Ratio[h]	
Evaporator fans	Evaporator fan controls	Med-temp walk-in with no controls	Unit	ENComm_Refrigeration	5	96%	361.00	$143.59	$—	$85.00	$25.00	$0.047	3.28	1.38	2
Evaporator fans	Efficient evaporator fan motors	Med- or low-temp walk-in	Motor	ENComm_Refrigeration	10	96%	478.30	$370.92	$—	$161.00	$100.00	$0.047	2.91	1.97	2
Evaporator fans	ECM case fan motors	Standard, shaded-pole fan motors	Motor	ENComm_Refrigeration	15	96%	477.00	$532.59	$—	$96.63	$60.00	$0.047	6.20	4.35	12
Compressors/condensers	Efficient, low-temp compressor	Standard low-temp compressor	Ton	ENComm_Refrigeration	15	96%	1,051.00	$1,173.49	$—	$132.00	$45.00	$0.047	11.93	6.33	2
Compressors/condensers	Efficient, air-cooled condenser	Standard air cooled condenser	Ton	ENComm_Refrigeration	15	96%	410.01	$457.80	$—	$140.30	$100.00	$0.047	3.68	2.78	2
Compressors/condensers	Efficient, water-cooled condenser	Standard air cooled condenser	Ton	ENComm_Refrigeration	15	96%	559.03	$624.18	$—	$209.00	$100.00	$0.047	4.75	2.59	2
Compressors/condensers	Efficient, evaporative, condenser	Standard air cooled condenser	Ton	ENComm_Refrigeration	15	96%	678.74	$757.84	$—	$278.00	$200.00	$0.047	3.14	2.37	2
Head/suction pressure	Floating head pressure controller	Standard head pressure control	HP	ENComm_Refrigeration	15	96%	692.50	$773.21	$—	$271.20	$60.00	$0.047	8.02	2.51	13
Head/suction pressure	Floating suction pressure	Standard suction pressure control	HP	ENComm_Refrigeration	16	96%	272.91	$321.69	$—	$52.48	$10.00	$0.047	13.53	4.86	2
Office equipment	PC network power management	No central control	Unit	ENComm_Office	4	96%	99.00	$31.21	$—	$13.80	$10.00	$0.047	2.05	1.64	14
Laundry machines	High-efficiency washer	Standard washer, electric hot water	Washer	ENComm_Misc	14	96%	287.00	$304.80	$—	$195.00	$25.00	$0.047	7.60	1.45	2
Laundry machines	High-efficiency, coin-op washer	Coin-op washer, electric hot water	Washer	ENComm_Misc	8	96%	828.00	$525.63	$—	$230.07	$200.00	$0.047	2.11	1.88	2

[a] Average measure life.

[b] Net-to-Gross (NTG) percentage. *Idaho Power Demand-Side Management Potential Study* by Nexant, Inc., 2009.

[c] Estimated kWh savings measured at the customers meter, excluding line losses.

[d] Sum of NPV of avoided costs. Based on end-use load shape; measure life; and savings, including line losses and alternative costs by pricing period as provided in the *2011 Integrated Resource Plan* (IRP).

[e] Incremental participant cost prior to customer incentives.

[f] Average program administration and overhead costs to achieve each kWh of savings. Calculated from 2013 actuals.

[9] Utility Cost Ratio = (NPV Avoided Costs * NTG)/((Admin Cost/kWh * kWh Savings) + Incentives).

[h] Total Resource Cost Ratio = ((NPV Avoided Costs + NEB) * NTG) / ((Admin Cost/kWh * kWh Savings) + Incentives + ((Incremental Participant Cost - Incentives) * NTG))

[1] Evergreen Consulting Group, LLC. Idaho Power Lighting Tool. 2013.

[2] Idaho Power Demand-Side Management Potential Study by Nexant, Inc. IPC DSM Potential - Commercial Model 081209.xlsm. 2009.

[3] RTF. ComGroceryDisplayCaseLEDs_v2_2 and ComGroceryCaseLEDs_v1.1.xls. 2013. T12 to LED. Averaged the measures for less than 4 W/In. ft. and 4-8.5 W/In. ft.

[4] RTF. ComGroceryDisplayCaseLEDs_v2_2 and ComGroceryCaseLEDs_v1.1.xls. 2013. T8 to LED. Averaged the measures for less than 4 W/In. ft. and 4-8.5 W/In. ft.

[5] Savings and participant costs calculated from Idaho Power engineering estimates and research. Participant costs include total install cost of the measure.

[6] Saving values identified by ADM Associates as needing further review in impact evaluation. Will be reviewed and updated in 2014.

[7] RTF. ComGroceryAntiSweatHeaters_v2_0.xlsm. 2013.

[8] RTF. ComRefrigerator_v3.xlsm. Average solid and glass door. 2012.

[9] Measure not cost-effective. Will be removed in 2014.

[10] RTF. ComIceMaker_v1_1.xlsx. Average of all ENERGY STAR air-cooled models producing less than 200 lbs/day. Measure deactivated by RTF in 2013. Will review for 2014.

[11] RTF. ComIceMaker_v1_1.xlsx. Average of all Energy Star ® air cooled models producing between 200-1000 lbs/day. Measure deactivated by RTF in 2013. Will review for 2014.

[12] RTF. ComGroceryDisplayECMs_v2_2.xlsm. 2012.

[13] RTF. ComGroceryFHPCSingleCompressor_v1_1.xls. 2012. Averaged the measures for condensing unit and remote condenser low and medium temperature.
[14] RTF. NonResNetCompPwrMgt_v3_0.xlsm. 2011. RTF reviewed for 2013 and made savings applicable for schools only. Company will review in 2014.

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Irrigation Efficiency Rewards

Segment: Irrigation

2013 Program Results

Cost Inputs (NPV)				Ref
Program Administration			$ 464,746	
	Menu	$ 965,139		
Program Incentives	Custom	1,011,501	1,976,640	I
Total Utility Cost			**$ 2,441,386**	P
Measure Equipment and Installation		Menu	$ 2,702,680	
(Incremental Participant Cost)		Custom	12,056,502	
			14,759,181	M

Summary of Cost-Effectiveness Results			
Test	**Benefit**	**Cost**	**Ratio**
Utility Cost Test	$ 15,492,895	$ 2,441,386	6.35
Total Resource Cost Test	21,412,767	12,462,677	1.72
Ratepayer Impact Measure Test	15,492,895	9,486,348	1.63
Participant Cost Test	17,339,299	14,759,181	1.17

Net Benefit Inputs (NPV)				Ref
Resource Savings				
2013 Annual Gross Energy (kWh)—Menu		14,302,824		
NPV Cumulative Energy (kWh)		104,701,908	$ 12,692,056	
2013 Annual Gross Energy (kWh)—Custom		4,208,397		
NPV Cumulative Energy (kWh)		30,807,007	3,734,452	
Total Electric Savings			**$ 16,426,508**	S
Participant Bill Savings				
NPV Cumulative Participant Savings		Menu	$ 5,771,358	
		Custom	1,698,138	
			$ 7,469,496	B
Other Benefits				
Non-Energy Benefits		Menu	$ 3,151,599	
		Custom	4,741,563	
Total Non-Energy Benefits			**$ 7,893,163**	NEB

Assumptions for Levelized Calculations	
Discount Rate	
Nominal (WACC)	7.00%
Real ((1 + WACC) / (1 + Escalation)) – 1	3.88%
Escalation Rate	3.00%
Net-to-Gross—Custom Option Only & NEB	75.00%
Average Customer Segment Rate/kWh	$0.059
Line Losses	10.90%

Benefits and Costs Included in Each Test		
Utility Cost Test	= Menu S + (Custom S * NTG)	= P
Total Resource Cost Test	= Menu S + (Custom S * NTG) + (NEB * NTG)	= P + (Menu M - I) +((Custom M - I) * NTG)
Ratepayer Impact Measure Test	= Menu S +(Custom S * NTG)	= P + Menu B + (Custom B * NTG)
Participant Cost Test	= B + I + NEB	= M

Notes: Energy savings are combined for projects under the Custom and Menu program. Savings under each Custom project is unique and individually calculated and assessed.
Green Rewind initiative is available to agricultural, commercial, and industrial customers. Agricultural motor rewinds are paid under Irrigation Efficiency.
No NTG. Deemed savings from the Regional Technical Forum (RTF) already accounts for net realized energy savings.
Non-energy benefits based on Idaho Power engineering estimates of annual yield benefit and labor, maintenance, and water savings for Custom and Menu projects.

Year:2013 **Program**: Irrigation Efficiency Rewards **Market Segment**: Irrigation **Program Type**: Energy Efficiency

							Benefit			Cost			Benefit/Cost Tests		
Measure Name[a]	Measure Descriptions	Replacing	Measure Unit	End Use	Measure Life (yrs)[b]	NTG[c]	Annual Gross Energy Savings (kWh/yr)[d]	NPV Avoided Costs[e]	Non-Energy Benefit (NEB)	Gross Incremental Participant Cost[f]	Incentive/ Unit	Admin Cost ($/kWh)[g]	UC Ratio[h]	TRC Ratio[i]	Source
Nozzle Replacement	New flow-control-type nozzles replacing existing brass nozzles or worn out flow control nozzles of same flow rate or less.	Brass nozzles or worn out flow control nozzles of same flow rate or less	Unit	IPC_Irrigation	4	100%	40.56	$17.48	$—	$6.52	$1.50	$0.025	6.93	2.32	1
Nozzle Replacement	New nozzles replacing existing worn nozzles of same flow rate or less	Worn nozzle of same flow rate or less	Unit	IPC_Irrigation	4	100%	40.56	$17.48	$—	$2.44	$0.25	$0.025	13.74	5.05	1
Sprinklers	Rebuilt or new brass impact sprinklers		Unit	IPC_Irrigation	5	100%	28.22	$15.12	$—	$14.18	$2.75	$0.025	4.37	1.02	1
Levelers	Rebuilt wheel line levelers		Unit	IPC_Irrigation	5	100%	41.68	$22.34	$—	$0.93	$0.75	$0.025	12.41	11.28	1, 2
Sprinklers	New rotating-type sprinklers or low-pressure pivot sprinkler heads with the same flow rate or less	Worn sprinkler with the same flow rate or less	Unit	IPC_Irrigation	5	100%	28.00	$15.01	$—	$13.66	$2.75	$0.025	4.34	1.04	3
Regulator Replacement	New low pressure regulators		Unit	IPC_Irrigation	5	100%	38.00	$20.36	$—	$7.05	$5.00	$0.025	3.41	2.54	3
Gasket Replacement	New gaskets for hand lines, wheel lines or portable mainline		Unit	IPC_Irrigation	5	100%	169.68	$90.93	$—	$4.54	$1.00	$0.025	17.24	10.32	1
Hub Replacement	New wheel line hubs		Unit	IPC_Irrigation	10	100%	72.90	$74.04	$—	$57.52	$12.00	$0.025	5.35	1.25	1
New Goose Necks	New goose neck with drop tube or boomback		Outlet	IPC_Irrigation	15	100%	14.50	$20.69	$—	$4.80	$1.00	$0.025	15.16	4.01	1
Pipe Repair	Cut and pipe press or weld repair of leaking hand lines, wheel lines, and portable mainline		Joint	IPC_Irrigation	8	100%	84.31	$70.22	$—	$20.71	$8.00	$0.025	6.94	3.08	1
Gasket Replacement	New center pivot base boot gasket		Unit	IPC_Irrigation	8	100%	1,453.84	$1,210.89	$—	$287.59	$125.00	$0.025	7.49	3.73	1

[a] Available measures in the Irrigation Efficiency Menu Incentive Option. For the Custom Incentive Option, projects are thoroughly reviewed by Idaho Power staff.

[b] Average measure life.

[c] No NTG percentage. Deemed savings from RTF includes realization rate.

[d] Estimated kWh savings measured at the customer's meter, excluding line losses.

[e] Sum of NPV of avoided costs. Based on end-use load shape; measure life; and savings, including line losses and alternative costs by pricing period as provided in the *2011 Integrated Resource Plan* (IRP).

[f] Incremental participant cost prior to customer incentives.

[g] Average program administration and overhead costs to achieve each kWh of savings. Calculated from 2013 actuals.

[h] Utility Cost Ratio = (NPV Avoided Costs * NTG)/((Admin Cost/kWh * kWh Savings) + Incentives).

[i] Total Resource Cost Ratio = ((NPV Avoided Costs + NEB) * NTG) / ((Admin Cost/kWh * kWh Savings) + Incentives + ((Incremental Participant Cost - Incentives) * NTG))

[1] RTF. AgIrrigationHardware_v3.xlsm. 2013. Three year weighted average customer participation. Applied percentages to RTF measures in Western Idaho (13%), Eastern Washington & Oregon (4%), and Eastern & Southern Idaho (83%).

[2] Average costs from customer applications.

[3] RTF. IrrgAgSprinklerNozzleFY10v2_1.xls. Western Idaho. 2010.

Year:2013 **Program**: Irrigation Efficiency Rewards—Green Motors **Market Segment**: Irrigation **Program Type**: Energy Efficiency

							Benefit			Cost			Benefit/Cost Tests		
Measure Name	Measure Descriptions	Replacing	Measure Unit	End Use	Measure Life (yrs)[a]	NTG[b]	Annual Gross Energy Savings (kWh/yr)[c]	NPV Avoided Costs[d]	Non-Energy Benefit (NEB)	Gross Incremental Participant Cost[e]	Incentive/ Unit	Admin Cost ($/kWh)[f]	UC Ratio[g]	TRC Ratio[h]	Source
Green Motors Program Rewind	Green Motors Program Rewind: Motor size 15HP	Standard rewind practice	Motor	IPC_Irrigation	18	75%	317.00	$519.87	$—	$154.35	$30.00	$0.050	9.07	2.86	1
Green Motors Program Rewind	Green Motors Program Rewind: Motor size 20HP	Standard rewind practice	Motor	IPC_Irrigation	18	75%	425.00	$696.98	$—	$172.21	$40.00	$0.050	9.10	3.34	1
Green Motors Program Rewind	Green Motors Program Rewind: Motor size 25HP	Standard rewind practice	Motor	IPC_Irrigation	17	75%	595.00	$935.11	$—	$196.76	$50.00	$0.050	9.38	3.79	1
Green Motors Program Rewind	Green Motors Program Rewind: Motor size 30HP	Standard rewind practice	Motor	IPC_Irrigation	17	75%	640.00	$1,005.84	$—	$216.10	$60.00	$0.050	8.75	3.71	1
Green Motors Program Rewind	Green Motors Program Rewind: Motor size 40HP	Standard rewind practice	Motor	IPC_Irrigation	17	75%	746.00	$1,172.43	$—	$264.09	$80.00	$0.050	8.00	3.55	1
Green Motors Program Rewind	Green Motors Program Rewind: Motor size 50HP	Standard rewind practice	Motor	IPC_Irrigation	17	75%	802.00	$1,260.44	$—	$292.35	$100.00	$0.050	7.20	3.43	1
Green Motors Program Rewind	Green Motors Program Rewind: Motor size 60HP	Standard rewind practice	Motor	IPC_Irrigation	20	75%	765.00	$1,351.84	$—	$344.79	$120.00	$0.050	6.83	3.20	1
Green Motors Program Rewind	Green Motors Program Rewind: Motor size 70HP	Standard rewind practice	Motor	IPC_Irrigation	20	75%	788.00	$1,392.48	$—	$372.69	$150.00	$0.050	5.88	3.03	1
Green Motors Program Rewind	Green Motors Program Rewind: Motor size 100HP	Standard rewind practice	Motor	IPC_Irrigation	20	75%	1,040.00	$1,837.79	$—	$462.33	$200.00	$0.050	5.83	3.18	1
Green Motors Program Rewind	Green Motors Program Rewind: Motor size 125HP	Standard rewind practice	Motor	IPC_Irrigation	20	75%	1,157.00	$2,044.54	$—	$519.23	$250.00	$0.050	5.31	3.13	1
Green Motors Program Rewind	Green Motors Program Rewind: Motor size 150HP	Standard rewind practice	Motor	IPC_Irrigation	20	75%	1,376.00	$2,431.54	$—	$578.37	$300.00	$0.050	5.27	3.29	1
Green Motors Program Rewind	Green Motors Program Rewind: Motor size 200HP	Standard rewind practice	Motor	IPC_Irrigation	20	75%	1,821.00	$3,217.90	$—	$696.28	$400.00	$0.050	5.24	3.54	1
Green Motors Program Rewind	Green Motors Program Rewind: Motor size 250HP	Standard rewind practice	Motor	IPC_Irrigation	20	75%	2,823.00	$4,988.54	$—	$894.90	$500.00	$0.050	6.22	4.17	1
Green Motors Program Rewind	Green Motors Program Rewind: Motor size 300HP	Standard rewind practice	Motor	IPC_Irrigation	20	75%	3,370.00	$5,955.15	$—	$904.58	$600.00	$0.050	6.20	4.71	1

Measure Name	Measure Descriptions	Replacing	Measure Unit	End Use	Measure Life (yrs)[a]	NTG[b]	Benefit			Cost			Benefit/Cost Tests		Source
							Annual Gross Energy Savings (kWh/yr)[c]	NPV Avoided Costs[d]	Non-Energy Benefit (NEB)	Gross Incremental Participant Cost[e]	Incentive/ Unit	Admin Cost ($/kWh)[f]	UC Ratio[g]	TRC Ratio[h]	
Green Motors Program Rewind	Green Motors Program Rewind: Motor size 350HP	Standard rewind practice	Motor	IPC_Irrigation	20	75%	3,929.00	$6,942.96	$—	$948.10	$700.00	$0.050	6.20	5.07	1
Green Motors Program Rewind	Green Motors Program Rewind: Motor size 400HP	Standard rewind practice	Motor	IPC_Irrigation	20	75%	4,456.00	$7,874.23	$—	$1,058.93	$800.00	$0.050	6.16	5.12	1
Green Motors Program Rewind	Green Motors Program Rewind: Motor size 450HP	Standard rewind practice	Motor	IPC_Irrigation	20	75%	5,003.00	$8,840.83	$—	$1,157.49	$900.00	$0.050	6.15	5.22	1
Green Motors Program Rewind	Green Motors Program Rewind: Motor size 500HP	Standard rewind practice	Motor	IPC_Irrigation	20	75%	5,567.00	$9,837.48	$—	$1,250.49	$1,000.00	$0.050	6.16	5.32	1
Green Motors Program Rewind	Green Motors Program Rewind: Motor size 600HP	Standard rewind practice	Motor	IPC_Irrigation	20	75%	6,193.00	$10,943.69	$—	$1,842.75	$1,200.00	$0.050	5.80	4.33	1

[a] Average measure life.

[b] Net-to-Gross (NTG) percentage.

[c] Estimated kWh savings measured at the customer's meter, excluding line losses.

[d] Sum of NPV of avoided costs. Based on end-use load shape; measure life; and savings, including line losses and alternative costs by pricing period as provided in the *2011 Integrated Resource Plan* (IRP).

[e] Incremental participant cost prior to customer incentives.

[f] Average program administration and overhead costs to achieve each kWh of savings. Calculated from 2013 actuals.

[g] Utility Cost Ratio = (NPV Avoided Costs * NTG)/((Admin Cost/kWh * kWh Savings) + Incentives).

[h] Total Resource Cost Ratio = ((NPV Avoided Costs + NEB) * NTG) / ((Admin Cost/kWh * kWh Savings) + Incentives + ((Incremental Participant Cost - Incentives) * NTG))

[1] Regional Technical Forum (RTF). AgGreenMotorRewind_v2_0.xlsm. 2013.