Xcel Energy®

2016

Status Report & Associated Compliance Filings

Minnesota Electric and Natural Gas
Conservation Improvement Program

Docket No. E,G002/CIP-12-447

414 Nicollet Mall
Minneapolis, MN 55401

April 3, 2017

—Via Electronic Filing—

William Grant
Deputy Commissioner
Minnesota Department of Commerce
85 7th Place East, Suite 500
St. Paul, MN 55101-2198

RE: 2016 Status Report & Associated Compliance Filings
Minnesota Electric and Natural Gas Conservation Improvement Program
Docket No. E,G002/CIP-12-447.09

Dear Deputy Commissioner Grant:

Pursuant to Minnesota R.7690.0550, Northern States Power Company doing business as Xcel Energy electronically submits to the Minnesota Department of Commerce – Division of Energy Resources this 2016 Status Report and Associated Compliance Filings for its Minnesota Electric and Natural Gas Conservation Improvement Program.

We have electronically filed this document through the eDockets system maintained by the Minnesota Department of Commerce and the Minnesota Public Utilities Commission. By copy of this transmittal letter, Xcel Energy is notifying persons on the attached service list of this filing.

Parties wishing to access our 2016 CIP Status Report can access the eDockets system through the websites of the Department of Commerce or the Public Utilities Commission, or by going to the eDockets homepage and searching for docket E,G002/CIP-12-447.09. We provide a direct link to the eDockets website: https://www.edockets.state.mn.us/EFiling/home.jsp.

We request parties to address any questions regarding the report to Howard Hoffman at (612) 330-5940 or howard.s.hoffman@xcelenergy.com.

SINCERELY,

/s/

SHAWN WHITE
MANAGER
DSM REGULATORY STRATEGY & PLANNING

Enclosures
c: Service Lists

CERTIFICATE OF SERVICE

I, Jim Erickson, hereby certify that I have this day served copies of the foregoing document on the attached list of persons.

xx by depositing a true and correct copy thereof, properly enveloped with postage paid in the United States mail at Minneapolis, Minnesota; or

xx by electronic filing.

Docket No.: E,G002/CIP-12-447.09 & CIP Special Service List

Dated this 3rd day of April 2017.

/s/

_____

Jim Erickson
Regulatory Administrator

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First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
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Northern States Power Company,
a Minnesota corporation
2016 Conservation Improvement Program Status Report
Executive Summary

Northern States Power Company, doing business as Xcel Energy, respectfully submits the following comprehensive report of its electric and natural gas Conservation Improvement Program (CIP) achievements for 2016. This report addresses:

- Overall CIP achievements including participation, expenditures, energy conserved and demand reduced by each segment and program;
- CIP Trackers, including 2016 expenditures and cost recovery by month;
- Calculation of the CIP Adjustment Factors for the period from October 2017 through September 2018, including estimated expenditures, cost recovery, and financial incentives;
- Calculation of the 2016 CIP Financial Incentives;
- Benefit-cost analyses by program, as well as explanations of deviations from goal and changes during 2016; and
- Other compliance reports, as required by the CIP Unit of the Minnesota Department of Commerce, Division of Energy Resources (DER) and the Minnesota Public Utilities Commission (Commission).

Achievements

In 2016, the electric portfolio met and surpassed the state's 1.5% energy savings target for the fifth year in a row, achieving over 552 GWh of electric savings or 1.91% of sales and approximately 136 MW of demand savings. This level of performance is a result of efforts to continue to evolve and refine the existing portfolio of electric programs amid increasing pressure from codes and standards along with organic conservation, both of which occur outside our robust portfolio. We have achieved this significant savings by identifying and targeting new market segments, finding solutions to programs' participation challenges, and refreshing our program offerings and materials. We continue to engage our customers in energy efficiency and find ways to make it easier for them to participate in and learn about energy efficiency opportunities. Further, we aggressively pursued home lighting projects since Compact Fluorescent Lights (CFLs) and LED lighting costs have fallen dramatically over the last several years.

In the electric Business Segment, the success is primarily attributed to the Business New Construction, Lighting Efficiency, Commercial Efficiency, and Process Efficiency programs; which, contributed more than 184 GWh of achievement in 2016, 67% of the business portfolio.

In the electric Residential Segment, the top contributors to energy savings were Home Lighting, Residential Cooling, Heating System Rebates, and Energy Feedback. These four programs achieved over 189 GWh which accounts for 94% of the total residential segment's achievement. This performance was due to continued strong customer interest and response to Company promotions and event marketing.

The natural gas portfolio surpassed its filed energy savings goal of 712,004 Dth. In 2016, the portfolio achieved 908,472 Dth of natural gas energy savings, which is 128% of the approved regulatory goal or 1.31% of sales. In the Business Segment, programs that offer both electric and

natural gas savings opportunities were quite successful in 2016, with the Business New Construction and Commercial Efficiency programs all achieving or exceeding their natural gas savings goals. The Residential Segment gas programs continue to be strong despite increasing codes which limit natural gas savings. The success can be attributed to annual trainings and frequent trade partner communications.

The Company spent a total of $114.95 million to achieve these results, including $101.15 million spent on electric programs and $13.81 million spent on gas programs. Electric spending was 102% of the approved regulatory budget and natural gas spending was 95% of the approved regulatory budget.

The electric programs will provide over $312 million in net benefits to our customers. Net benefits are a measure of the generation, transmission, distribution and energy costs avoided as a result of our conservation programs less the costs to run the programs. The gas programs will provide over $42 million in net benefits to our customers.

Our 2016 CIP achievements are summarized in Table 1.

Table 1: Xcel Energy's 2016 CIP Expenditures and Energy Savings

2016	Expenditures ($)	Energy Savings (kWh or Dth)	Demand Savings (kW)
Total Electric Conservation	$80,982,730	550,175,754	103,073
Total Load Management	$6,537,433	525,469	30,853
Total Electric Indirect-Impact	$1,732,271	0	0
Total Other	$11,893,871	2,081,552	1,638
Total Electric CIP	**$101,146,305**	**552,782,775 kWh**	**135,564 kW**
Total Gas Conservation	$11,107,480	901,880	
Total Gas Indirect-Impact	$779,166		
Total Other	$1,919,160	6,591	
Total Gas CIP	**$13,805,804**	**908,472 Dth**	
Total MN CIP	**$114,952,109**		

As shown in Figure 1, our electric achievements improved over 2015. The Company's cumulative achievements since 1992 exceed 8,200 GWh of electric energy saved, 15.2 million Dth and over $5.8 billion in net benefits achieved, with total spending of $1.5 billion. The following graphs highlight achievements and spending between 2003 and 2016.

Figure 1: Xcel Energy's 2002-2016 Electric CIP Achievements

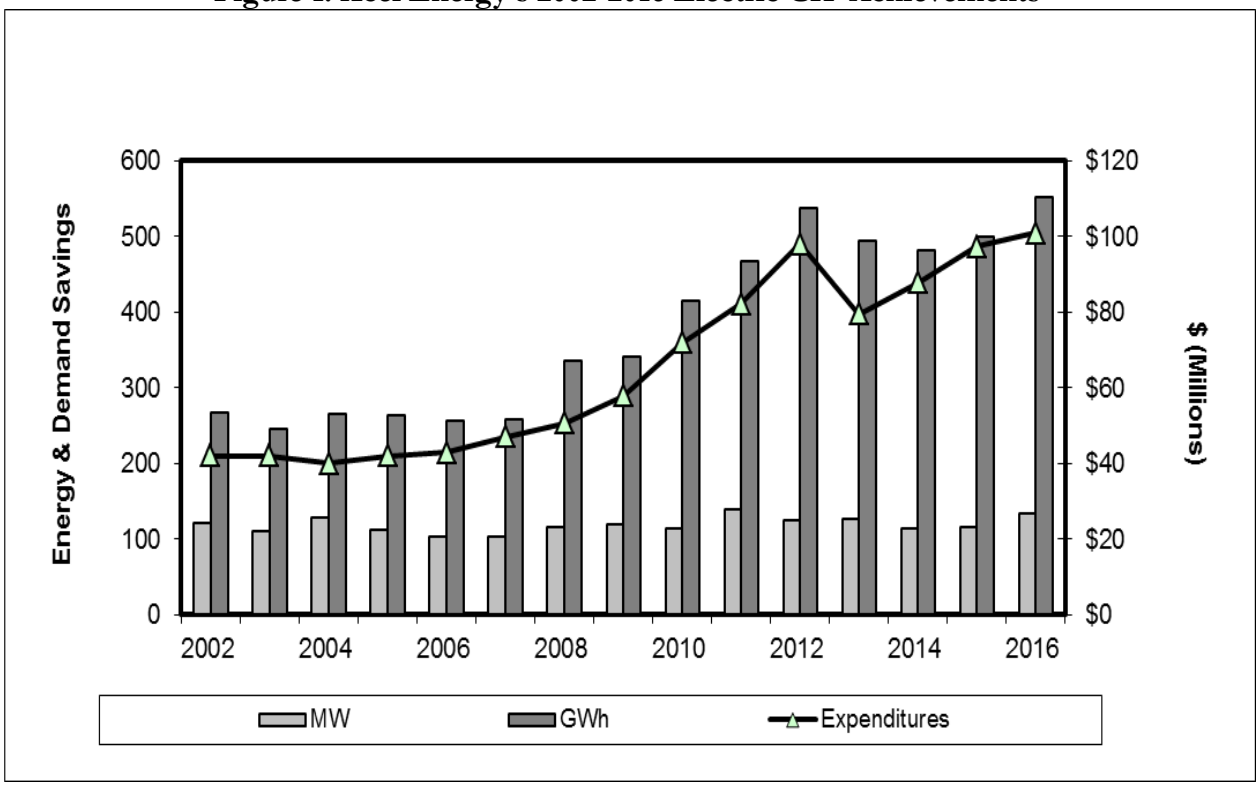
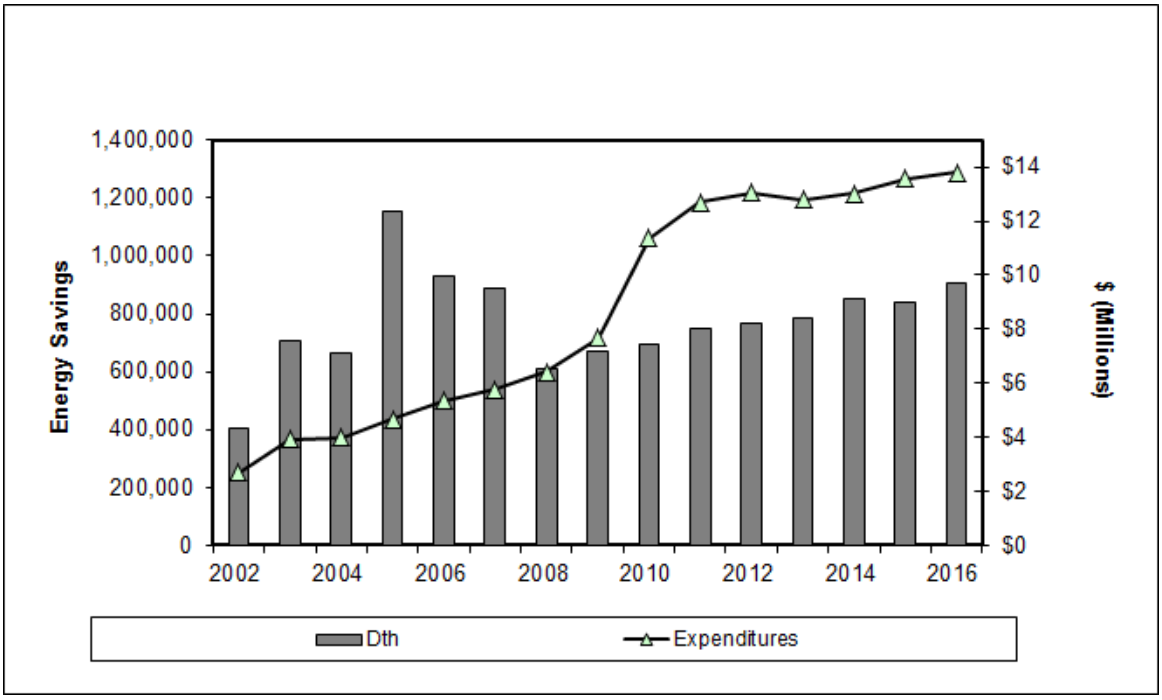


Figure 2: Xcel Energy's 2002-2016 Natural Gas CIP Achievements



The following sections explain in detail the accomplishments of Xcel Energy's 2016 electric and natural gas CIP.

- ***Compliance Reporting*** – This section provides information to satisfy provisions in Minnesota Statutes sections 216B.2401, 216B.241, and 216B.2411, including spending requirements and caps. This section also includes all other ordered compliance requirements, including those required by the Commissioner's October 1, 2012 Decision in this docket.

- ***Conservation Cost Recovery Report*** (Docket No. E002/GR-92-1185) – Provides the 2016 CIP Trackers. Xcel Energy seeks approval to record $101,146,305 in electric spending and $13,805,804 in gas spending in its CIP Tracker accounts.

- ***CIP Adjustment Rate Report*** (Docket No. E002/M-94-1016) – Calculates the electric and gas CIP Adjustment Factors to be applied to customer usage for recovery of 2016 conservation expenditures, effective for the period October 2017 through September 2018. Xcel Energy is proposing new electric and gas CIP Adjustment Factors of $0.001271/kWh and $0.026624/therm, respectively.

- ***Cost-Effectiveness and Performance Mechanism Report*** (Docket No. E,G999/CI-08-133 and Docket No. E002/M-11-1101) Details the mechanisms and calculations of Xcel Energy's DSM Financial Incentives. The Company requests approval to record and recover from customers $48,368,493 in electric and $6,245,743 in natural gas DSM performance incentives in its CIP Trackers.

- ***2016 CIP Status Report*** – Minn. R. 7690.0550 states the information that a utility must include in its annual program status report. This report shows budgets and goals, expenditures, actual energy savings, and participation.

- ***Cost-Effectiveness*** – Minn. R. 7690.0550, subd. E requires a utility to provide information on the cost-effectiveness of its programs, as calculated from the utility, participant, ratepayer, and societal perspectives. This section includes all cost-effectiveness analyses, detailed technical assumptions by program and by segment, and project information sheets.

Executive Summary Table - Electric and Gas CIP Goals - 2016

2016	Electric Participants	Electric Budget	Customer kW	Generator kW	Generator kWh	Gas Participants	Gas Budget	Dth Savings
Business Segment								
Business New Construction	43	$5,337,135	5,094	4,988	21,048,986	12	$419,412	20,739
Commercial Efficiency	37	$3,171,977	2,865	2,094	16,132,446	13	$482,239	25,591
Computer Efficiency	2,911	$1,490,993	1,588	1,707	12,426,585	0	$0	0
Cooling Efficiency	1,109	$1,963,169	1,982	1,645	7,134,438	0	$0	0
Custom Efficiency	128	$3,172,659	3,816	1,840	17,787,022	53	$719,247	39,984
Data Center Efficiency	18	$1,010,286	1,183	796	10,380,517	0	$0	0
Efficiency Controls	92	$1,490,726	2,213	358	17,662,728	33	$238,902	25,014
Fluid Systems Optimization	551	$1,860,934	2,646	2,573	16,634,440	0	$0	0
Foodservice Equipment	72	$58,727	147	108	729,965	82	$107,430	7,207
Heating Efficiency	0	$0	0	0	0	691	$1,578,199	195,006
Lighting Efficiency	449	$4,917,319	5,694	5,041	30,027,945	0	$0	0
Motor Efficiency	877	$4,354,982	7,217	6,057	36,021,638	0	$0	0
Multi-Family Building Efficiency	100	$468,097	641	104	1,070,130	34	156,812	2,727
Process Efficiency	91	$6,609,504	11,586	8,565	71,224,992	23	$862,029	137,395
Recommissioning	124	$1,151,320	1,838	587	11,938,416	30	$127,259	14,071
Self-Direct	20	$3,616,137	6,441	4,344	19,835,182	4	$165,145	19,735
Turn Key Services	421	$1,605,351	2,271	717	8,259,652	58	$72,425	11,342
Business Segment Energy Efficiency Total	**7,042**	**$42,279,315**	**57,222**	**41,523**	**298,315,082**	**1,034**	**$4,929,099**	**498,811**
Electric Rate Savings	80	$492,822	16,000	8,165	302,531	0	$0	0
Saver's Switch for Business	1,151	$2,106,903	12,620	3,256	21,090	0	$0	0
Business Segment Load Management Total	**1,231**	**$2,599,725**	**28,620**	**11,421**	**323,621**	**0**	**$0**	**0**
Business Education	14,000	$247,498	0	0	0	1,900	$37,412	0
Energy Benchmarking	0	$55,000	0	0	0	0	$20,000	0
Small Business Lamp Recycling	60,000	$39,600	0	0	0	0	$0	0
Business Segment Indirect Total	**74,000**	**$342,098**	**0**	**0**	**0**	**1,900**	**$57,412**	**0**
Business Segment Total	**82,273**	**$45,221,138**	**85,842**	**52,944**	**298,638,703**	**2,934**	**$4,986,511**	**498,811**
Residential Segment								
Energy Efficient Showerheads	1,050	$15,747	175	0	360,781	13,950	$191,126	22,852
Energy Feedback	190,375	$1,530,056	1,297	967	12,406,647	135,375	$399,534	24,566
ENERGY STAR Homes	860	$199,145	281	105	885,775	500	$775,123	35,485
Heating System Rebates	7,000	$759,470	1,750	1,343	4,745,263	5,777	$1,200,159	17,736
Home Energy Squad	5,499	$1,239,558	2,925	537	2,384,706	3,000	$808,680	28,328
Home Lighting	675,611	$4,857,433	55,664	8,520	64,376,286	0	$0	0
Home Performance with ENERGY STAR®	225	$99,995	200	138	156,325	225	$277,193	7,259
Insulation Rebate	311	$93,156	493	250	361,265	1,133	$344,870	15,615
Refrigerator Recycling	6,500	$920,950	1,398	843	7,352,594	0	$0	0
Residential Cooling	10,114	$4,768,217	9,254	9,121	5,479,306	0	$0	0
School Education Kits	20,000	$618,350	1,624	131	1,714,351	20,000	$484,023	21,597
Water Heater Rebate	0	$0	0	0	0	1,380	$194,914	3,677
Residential Segment Energy Efficiency Total	**917,545**	**$15,102,077**	**75,061**	**21,957**	**100,223,299**	**181,340**	**$4,675,622**	**177,115**
Residential Segment Load Management - Saver's Switch	**20,000**	**$5,083,549**	**60,413**	**17,690**	**177,738**	**0**	**$0**	**0**
Consumer Education	433,854	$765,640	0	0	0	382,912	$540,806	0
Home Energy Audit	3,300	$596,640	0	0	0	2,500	$416,500	0
Residential Lamp Recycling	325,000	$214,500	0	0	0	0	$0	0
Residential Segment Indirect Total	**762,154**	**$1,576,780**	**0**	**0**	**0**	**385,412**	**$957,306**	**0**
Residential Segment Total	**1,699,699**	**$21,762,406**	**135,474**	**39,647**	**100,401,037**	**566,752**	**$5,632,928**	**177,115**
Low-Income Segment								
Home Energy Savings Program	2,000	$1,307,042	505	174	842,035	400	$1,167,851	9,001
Low-Income Home Energy Squad	1,650	$394,569	1,142	177	925,303	1,650	$468,370	14,274
Multi-Family Energy Savings Program	596	$818,976	430	124	677,988	0	$0	0
Low-Income Segment Total	**4,246**	**$2,520,587**	**2,076**	**476**	**2,445,325**	**2,050**	**$1,636,221**	**23,275**
Planning Segment								
Application Development and Maintenance	0	$1,101,600	0	0	0	0	$267,246	0
Advertising & Promotion	0	$2,628,000	0	0	0	0	$610,000	0
CIP Training	0	$124,999	0	0	0	0	$40,000	0
Regulatory Affairs	0	$435,669	0	0	0	0	$140,687	0
Planning Segment Total	**0**	**$4,290,268**	**0**	**0**	**0**	**0**	**$1,057,933**	**0**
Research, Evaluations & Pilots Segment								
Market Research	0	$998,988	0	0	0	0	$189,070	0
Product Development	0	$807,000	0	0	0	0	$227,972	0
Energy Information Systems Pilot	10	$126,994	0	55	870,767	10	$137,145	8,754
Business Energy Feedback	0	$0	0	315	0	0	$0	0
Smart Thermostat Pilot	1,484	$486,521	0	1,059	857,268	1,484	$118,979	4,049
Energy Star Retail Products Platform	8,788	$473,544	0	324	922,994	8,788	$26,551	134
Research, Evaluations & Pilots Segment Total	**10,282**	**$2,893,047**	**0**	**1,753**	**2,651,029**	**10,282**	**$699,717**	**12,937**
PORTFOLIO SUBTOTAL	**1,796,501**	**$76,687,446**	**222,750**	**94,819**	**404,136,094**	**582,018**	**$14,013,310**	**712,138**
Alternative Filings Segment								
CEE One-Stop Efficiency Shop*	2,349	$17,024,668	10,230	11,493	67,460,080	0	$0	0
EnerChange	0	$418,500	0	0	0	0	$46,500	0
Energy Smart	0	$356,250	0	0	0	0	$18,750	0
Trillion BTU	0	$174,600	0	0	0	0	$19,400	0
Energy Intelligence	36	$379,478	0	0	0	23	$42,164	0
Alternative Filings Total	**2,385**	**$18,353,496**	**10,230**	**11,493**	**67,460,080**	**23**	**$126,814**	**0**
Assessments Segment	**0**	**$1,736,000**	**0**	**0**	**0**	**0**	**$345,600**	**0**
Electric Utility Infrastructure Segment	**0**	**$0**	**0**	**0**	**0**	**0**	**$0**	**0**
Made in Minnesota	**0**	**$2,636,309**	**0**	**0**	**0**	**0**	**$0**	**0**
PORTFOLIO TOTAL	**1,798,886**	**$99,413,251**	**232,980**	**106,312**	**471,596,174**	**582,041**	**$14,485,724**	**712,138**

*Includes CEE's May 27, 2016 Budget Request

Executive Summary Table - Electric and Gas CIP Achievements - 2016

2016	Electric Participants	Electric Spend	Customer kW	Generator kW	Generator kWh	Electric Societal	Electric Utility	Gas Participants	Gas Spend	Dth Savings	Gas Societal	Gas Utility
Business Segment												
Business New Construction	123	$9,769,138	11,851	11,526	43,072,983	2.05	4.74	54	$1,016,092	122,208	3.72	11.06
Commercial Efficiency	238	$4,196,014	6,980	6,210	27,488,445	2.01	5.78	24	$210,156	53,133	7.59	14.87
Computer Efficiency	3,964	$513,480	1,331	1,378	10,385,822	2.00	5.50		$0	0		
Cooling Efficiency	829	$3,248,008	3,864	3,541	6,256,875	1.82	3.03	9	$15,716	2,549	7.63	14.92
Custom Efficiency	45	$1,350,306	1,798	706	7,986,175	1.90	4.16	22	$403,753	55,132	2.47	11.92
Data Center Efficiency	19	$630,129	628	563	6,298,092	1.85	4.80	-	$0	0		
Efficiency Controls	85	$725,631	1,149	271	8,340,535	2.38	5.80	32	$91,509	14,979	2.76	12.00
Fluid Systems Optimization	167	$1,506,376	2,173	1,945	14,208,874	2.44	7.19	-	$0	0		
Foodservice Equipment	25	$33,099	73	47	320,054	1.93	7.16	29	$65,553	6,548	2.45	6.25
Heating Efficiency	5	$403	0	-	2,746	4.33	4.19	402	$753,153	124,387	1.96	4.96
Lighting Efficiency	1,822	$8,596,825	16,491	12,851	72,046,017	1.81	6.03	-	$0	0		
Motor Efficiency	368	$2,305,604	3,911	3,075	19,255,082	2.20	6.38	-	$0	0		
Multi-Family Building Efficiency	96	$254,499	1,002	121	862,618	1.93	2.18	40	$148,526	2,418	1.58	0.48
Process Efficiency	309	$4,883,291	6,609	5,562	41,804,982	2.96	6.26	27	$462,464	197,536.30	5.95	19.23
Recommissioning	74	$859,384	1,215	517	6,984,339	2.34	2.78	22	$154,554	12,543	3.14	3.07
Self-Direct	1	$143,399	175	-	1,360,532	1.09	5.41	-	$916	0	-	-
Turn Key Services	364	$1,328,088	1,817	1,556	9,312,668	1.97	4.89	68	$188,953	5,328	1.04	1.45
Business Segment Energy Efficiency Total	**8,534**	**$40,343,675**	**61,068**	**49,868**	**275,986,839**	**2.17**	**5.32**	**729**	**$3,511,346**	**596,761**	**3.32**	**9.79**
Electric Rate Savings	58	$456,970	17,237	8,992	333,614	8.58	8.57	-	$0	0		
Saver's Switch for Business	1,400	$2,301,771	19,788	5,447	28,789	2.41	2.41	-	$0	0		
Business Segment Load Management Total	**1,458**	**$2,758,741**	**37,025**	**14,439**	**362,403**	**3.43**	**3.43**	**-**	**$0**	**0**		
Business Education	14,592	$218,330	-	-	-	-	-	2,069	$28,602	0	-	-
Energy Benchmarking	-	$28,000	-	-	-	-	-	-	$7,000	0	-	-
Small Business Lamp Recycling	108,205	$85,752	-	-	-	-	-	-	$0	0		
Business Segment Indirect Total	**122,797**	**$332,082**	**-**	**-**	**-**	**-**	**-**	**2,069**	**$35,602**	**0**	**-**	**-**
Business Segment Total	**132,789**	**$43,434,498**	**98,093**	**64,307**	**276,349,242**	**2.19**	**5.16**	**2,798**	**$3,546,948**	**596,761**	**3.32**	**9.69**
Residential Segment												
Energy Efficient Showerheads	1,458	$25,706	-	-	910,849	13.79	7.97	11,853	$141,580	31,906	22.63	7.04
Energy Feedback	187,770	$1,285,641	3,634	3,711	16,297,309	2.74	2.67	137,215	$553,267	27,717	0.93	0.88
ENERGY STAR Homes	2,612	$610,848	1,156	1,046	971,419	3.70	3.81	1,503	$1,528,934	42,053	1.14	2.53
Heating System Rebates	11,231	$1,179,993	2,108	1,857	8,627,228	1.86	7.46	7,617	$2,174,319	127,284	1.74	4.98
Home Energy Squad	4,680	$1,266,570	6,205	2,047	4,095,121	2.72	3.22	2,313	$568,235	25,409	3.31	1.98
Home Lighting	1,990,497	$7,717,907	131,167	18,045	144,171,363	1.83	8.99	-	$0	0		
Home Performance with ENERGY STAR®	121	$52,407	110	57	88,146	1.23	2.59	121	$156,737	4,209	1.09	2.24
Insulation Rebate	330	$36,554	189	104	137,534	1.25	7.38	421	$138,233	6,867	1.06	4.36
Refrigerator Recycling	3,389	$505,902	734	443	3,863,980	3.47	3.08	-	$0	0		
Residential Cooling	13,404	$4,918,054	10,958	10,814	8,620,111	1.31	2.69	-	$0	0		
School Education Kits	13,485	$272,363	1,753	86	1,151,075	1.85	1.85	13,485	$290,095	16,340	5.51	1.73
Water Heater Rebate	-	$0	-	-	-			3,618	$396,253	8,454	0.68	1.45
Residential Segment Energy Efficiency Total	**2,228,977**	**$17,871,944**	**158,014**	**38,209**	**188,934,135**	**1.80**	**5.81**	**178,146**	**$5,947,652**	**290,238**	**1.70**	**3.25**
Residential Segment Load Management - Saver's Switch	**18,354**	**$3,778,692**	**55,828**	**16,413**	**163,066**	**4.44**	**4.43**	**-**	$0	**0**		
Consumer Education	594,379	$736,453	-	-	-	-	-	442,914	$503,863	0	-	-
Home Energy Audit	1,766	$331,340	-	-	-	-	-	-	$239,701	0	-	-
Residential Lamp Recycling	613,162	$332,395	-	-	-	-	-	-	$0	0		
Total	**1,209,307**	**$1,400,189**	**-**	**-**	**-**	**-**	**-**	**442,914**	**$743,564**	**0**	**-**	**-**
Residential Segment Total	**3,456,638**	**$23,050,826**	**213,842**	**54,622**	**189,097,201**	**1.91**	**5.23**	**621,060**	**$6,691,216**	**290,238**	**1.64**	**2.89**
Low-Income Segment												
Home Energy Savings Program	2,548	$1,299,207	620	193	949,145	0.73	0.51	412	$1,394,506	7,712	0.83	0.50
Low-Income Home Energy Squad	777	$202,448	757	297	496,063	2.45	2.66	774	$253,976	7,170	2.03	1.19
Multi-Family Energy Savings Program	1,783	$811,166	390	137	744,224	0.75	0.59	-	$0	0		
Low-Income Segment Total	**5,108**	**$2,312,820**	**1,767**	**627**	**2,189,433**	**0.84**	**0.73**	**1,186**	**$1,648,482**	**14,882**	**1.05**	**0.60**
Planning Segment												
Application Development and Maintenance	0	$602,241	-	-	-			-	$181,422	-		
Advertising & Promotion	0	$2,823,870	-	-	-			-	$663,542	-		
CIP Training	0	$89,289	-	-	-			-	$25,618	-		
Regulatory Affairs	0	$317,291	-	-	-	-	-	-	$78,445	-	-	-
Planning Segment Total	**0**	**$3,832,691**	**-**	**-**	**-**	**-**	**-**	**-**	**$949,028**	**-**	**-**	**-**
Research, Evaluations & Pilots Segment												
Market Research	0	$756,788	-	-	-	-	-	-	$163,032	-		
Product Development	0	$361,926	-	-	-	-	-	-	$102,383	-		
Energy Information Systems Pilot	0	$225,768	-	-	-	-	-	-	$10,222	-		
ESRPP	6,140	$321,510	118	94	845,398	0.57	1.30	1,256	$70,936	758	0.19	0.65
Business Energy Feedback Pilot	0	$307,542	-	-	-	-	-	4,016	$8,931	-	-	-
Smart Thermostat Pilot	7,203	$299,592	1,873	1,193	1,234,981	8.88	8.10	2,138	$151,817	5,833	4.25	1.61
Smart Thermostat DR	1,089	$162,421	327	352	1,173	3.35	3.03		$0	-		
Research, Evaluations & Pilots Segment Total	**0**	**$2,435,548**	**2,318**	**1,638**	**2,081,552**		**-**	**$7,410**	**$507,322**	**6,591**	**-**	**-**
PORTFOLIO SUBTOTAL	**3,594,535**	**$75,066,383**	**316,019**	**121,194**	**469,717,428**	**2.03**	**4.66**	**632,454**	**$13,342,996**	**908,472**	**2.29**	**4.26**
Renewable Energy Segment - SolarRewards	0	$0	-	-	-			-	$0	0		
Alternative Filings		$0										
CEE One-Stop Efficiency Shop	2,618	$20,454,290	14,648	14,370	83,065,347	1.23	2.82	-	$0	0		
EnerChange	0	$402,530	-	-	-	-	-	-	$44,736	0		
Energy Smart	0	$345,096	-	-	-	-	-	-	$17,812	0		
Trillion BTU	0	$130,013	-	-	-	-	-	-	$12,676	0		
Energy Intelligence	0	$322,854	-	-	-	-	-		$32,634	0		
Alternative Filings Total	**2,618**	**21,654,782**	**14,648**	**14,370**	**83,065,347**	**1.19**	**2.67**	**-**	**$107,858**	**0**		
Assessments Segment	0	$1,797,520	-	-	-	-	-	-	$354,952	0		
Electric Utility Infrastructure Segment	**0**	**$0**	**-**	**-**	**-**			**-**	**$0**	**0**		
Made in Minnesota*	**0**	**$2,627,620**	**-**	**-**	**1,144,881**	**-**	**-**	**-**	**$0**	**0**		
PORTFOLIO TOTAL	**3,597,153**	**$101,146,305**	**330,667**	**135,564**	**552,782,775**	**1.85**	**4.03**	**632,454**	**$13,805,804**	**908,472**	**2.23**	**3.98**

***Made in Minnesota spend is included in portfolio total but the kWh savings are not**

Compliance Reporting

Minnesota Rules ch. 7690 contains the requirements and procedures for CIP filings. Minnesota Statutes sections § 216B.2401, 216B.241, and 216B.2411 contain provisions the Company must meet in its CIP. All compliance points are addressed in this section.

Statutory Requirements

Minimum Spending Requirement

Minn. Stat. § 216B.241 subd. 1a requires that 2.0% of the Company's electric Gross Operating Revenues (GOR) be spent on electric CIP and 0.5% of gas GOR be spent on gas CIP. Table 4 shows our spending in relation to our approved minimum spending requirement.

Table 4: Minimum Spending Requirement

	Minimum Spending Requirement	Approved Spend*	Actual Spend	Variance of Actual to Minimum Spend
Electric	$52,726,173	$99,413,251	$101,146,305	$48,420,132
Gas	$2,633,778	$14,485,724	$13,805,804	$11,172,026
Total	$55,359,951	$113,898,975	$114,952,109	$59,592,158

*Approved Spend matches the total approved budgets in the October 12, 2015 Decision filed under this docket plus additional modifications and CEE One Stop Shop 2016 budget modification requtest. Difference of $1 due to rounding.

2016 Achievements as a Percentage of Sales

Table 5 shows our achievements as a percent of our 2009-2011 weather-normalized retail sales, excluding exempt customers.

Table 5: Achievements as Percent of Sales

	Electric			Gas		
Year	**Energy Savings Achieved (MWh)**	**Total Adjusted Sales (MWh)**	**Savings as % of Retail Sales**	**Energy Savings Achieved (Mcf)**	**Total Adjusted Sales (Mcf)**	**Savings as % of Retail Sales**
2016	552,783	28,987,234	1.91%	908,472	69,458,419	1.31%

2016 Low-Income Spending Requirement

The table below compares our 2016 actual spend to the updated requirement. Both the approved low-income spend and actual spend is representative of only programs found in the low-income segment and does not include spending associated with alternative programs, specifically Enerchange and EnergyWise, even though they also target low-income and non-profit customers. The Low-Income segment section explains in detail the low-income achievements.

Table 6: Low-Income Spending Requirement

	Minimum Spending Requirement	Approved Low Income Spend*	Actual Spend	Variance of Actual to Minimum Spend
Electric	$1,902,024	$2,520,587	$2,312,820	$410,796
Gas	$1,220,202	$1,636,221	$1,648,482	$514,714
Total	$3,122,226	$4,156,808	$3,961,303	$925,511

*Approved Spend matches the total approved budgets in the October 12, 2015 Decision filed under this docket. Difference of $1 due to rounding.

2016 Research & Development 10% Spending Cap

The Company complied with Minn. Stat. § 216B.241, subd. 2(c), which limits spending on Research & Development to 10% of the minimum spending requirement. As discussed on page 105 of the 2016 Extension Plan, all Product Development spend will be subject to this cap. Spending details are shown below.

Table 7: Research & Development Spending Cap

	Annual Spending Cap	Approved Spend	Actual Spend	Variance of Actual to Cap
Electric	$5,272,617	$807,000	$361,926	-$4,910,691
Gas	$263,378	$227,972	$102,383	-$160,995
Total	$5,535,995	$1,034,972	$464,309	-$5,071,686

Distributed Energy Resources Spending Cap

Minn. Stat. § 216B.2411, subd. 1(a) allows utilities to spend up to five percent of the utility's minimum spending requirement on distributed generation projects. The Solar*Rewards Generation 1 ended in 2014 and is no longer included within CIP. ORDER APPROVING TARIFFS AS MODIFIED, Docket No. E002/M-13-1015 (July 23, 2014).

Lighting Use and Recycling Programs

Minn. Stat. § 216B.241, subd. 5 requires utilities to invest in projects that encourage the use of energy efficient lighting and reclamation or recycling of spent fluorescent and high intensity discharge lamps. Xcel Energy met this requirement through its business and residential lighting and lamp recycling programs.

Carry-forward Provision

Minn. Stat. §216B.241, subd. 1c. allows utilities to carry forward energy savings in excess of 1.5% for a year to the succeeding three calendar years for customer program savings and five years for electric utility infrastructure projects. Because we surpassed the 1.5% electric savings goal, we meet the eligibility guidelines for use of the carry-forward provision.

Until further definition of how to apply the Carry-Forward Provision is given, the Company requests the ability to retroactively apply the interpretation to energy savings achieved in 2016. The Company understands that one area of interpretation is not in question – that carry-forward energy savings can only be applied to one year's incentive calculation. We confirm that we are applying all

2016 energy savings to the calculation of the 2016 incentive and will therefore not apply any 2016 savings that are deemed eligible for carry-forward to any subsequent years' incentive calculation.

The following tables confirm our eligibility for the carry-forward provision for the 2016 program year and provide an update of the previously approved carry forward savings.

Table 8: Total Savings and Percent of Sales for Customer Program and Electric Utility Infrastructure Savings

2016	kWh	% of Sales
Customer Program Achievements	552,782,775	1.91%
EUI Achievements	0	0.00%
Total	552,782,775	1.91%

Made in Minnesota

Minn. Statute §216C.412 Subd. 2, established in 2013, requires public utilities to pay a portion of their minimum spend amount towards the Made in Minnesota solar energy production incentive account beginning January 1, 2014, and each January 1 thereafter, through 2023, for a total of ten years. Each electric public utility subject to section 216B.241 must annually pay to the commissioner of commerce five percent of the minimum amount it is required to spend on energy conservation improvements under section 216B.24. The Department invoices the Company for these fees on a yearly basis. The following table details our compliance towards this statute[1].

On March 28, 2017 the Department of Commerce issued 2016 Energy Savings Credit for the Made in Minnesota program. We were allocated 1,144,881 kWh in energy savings. This savings is not included in the portfolio total for the year and is not used towards calculating our 2016 incentive.

Table 9: Made in Minnesota Spend

	5% of Minimum Spend	2016 MiM Assessment
Made In Minnesota (CIP Funds)	$2,636,309	$2,627,620

Triennial Decision Requirements

The following requirements were established in the Commissioner's October 12, 2015 Decision approving our 2016 CIP Extension Plan in Docket No. E,G002/CIP-12-447.

Budget Flexibility

The Company was granted flexibility to exceed the approved budgets for cost-effective, direct impact segments and indirect segments by 25 percent. To go beyond 125 percent, the Company is required to submit either a letter or formal modification, depending on the segment, requesting permission to do so. The Low Income Electric and Renewable Energy segments are not to exceed their approved budget. Below is a table showing flexibility by segment. In 2016, all segments remained within allowed flexibility.

[1] The Company was only invoiced by the Department for $2,627,620 in 2016.

Table 10: Budget Flexibility by Segment 2016

Segment	Electric CIP	Gas CIP
Business	25%, ltr req above 25%	25%, ltr req above 25%
Residential	25%, ltr req above 25%	25%, ltr req above 25%
Low-Income	no flexibility	25%, ltr req above 25%
Renewable Energy	no flexibility	NA
Planning	25%, formal mod above 25%	25%, formal mod above 25%
Research, Evaluations & Pilots	25%, formal mod above 25%	25%, formal mod above 25%

Program Modifications

Minn. R. 7690.1400 requires utilities to file formal program modifications when:

- Proposing a new project;
- Discontinuing an existing project;
- Reducing the minimum qualifying efficiency level of a measure or technology;
- Decreasing project budgets, savings and participation goals;
- Increasing the Planning segment annual budget by more than 25%; and
- Increasing the Research, Evaluations, and Pilots segment by more than 25%.

In addition, the Decision approved the continuation of the informal modification process implemented and agreed to back in October 2011. The requirements of the informal process are:

1. Approval of new energy conservation measures;
2. Change to an existing measure that would impact savings or cost-effectiveness; and
3. Courtesy notifications for program structure, rebate structure, or program policy changes.

In 2016, the Company did not submit any formal program modification filings.

Customer Incentive Flexibility

The Company has the flexibility to change rebate amounts provided changes do not result in the rebate exceeding the incremental cost of the efficiency improvement and are not made in an effort to take a customer away from a competitor. The Company complied with this requirement.

Tankless Water Heaters

In the Triennial Decision, the Commissioner required the Company to report any adverse impacts of tankless water heaters on gas distribution systems identified through the Company's ongoing gas distribution system monitoring activities in its annual status reports. Specifically, the status report should address:

1. The effect of tankless units rebated by the Company on peak day gas consumed on the Company's distribution system; and
2. The type and cost of any infrastructure paid for by the Company as a result of tankless water heaters.

Effect of Tankless Water Heaters on Peak Day Consumption

The Company does not have a system in place to isolate the impact from tankless water heaters on peak day consumption. Instead, the Company's gas utility representatives routinely check for irregular dips in pressure due to increased demand during both regular and peak times. The gas representatives did not find any non-standard pressure drops in 2016.

Type and Cost of Infrastructure to Serve Tankless Gas Water Heaters
No increased incremental costs were incurred by the gas utility as a result of the installation of tankless water heaters rebated in 2016. Gas utility representatives reported only routine meter changes and pressure adjustments in 2016.

*Solar*Rewards Program*
The Solar*Rewards Generation 1 ended in 2014 and is no longer included within CIP. ORDER APPROVING TARIFFS AS MODIFIED, Docket No. E002/M-13-1015 (July 23, 2014).

Other Regulatory Requirements

Compliance with Measurement and Verification ("M&V") Protocols for Large Custom CIP Projects
On July 23, 2008, the Deputy Commissioner approved the M&V Protocols for Large Custom CIP Projects, as part of Docket No. E,G999/CIP-06-1591. The Protocols apply to custom projects that have savings greater than 1 GWh or 20,000 Dth and are initiated after April 1, 2008. As required by the protocols, we submitted 3 projects that met these criteria and required monitoring. We submitted monitoring reports for all of these qualifying projects to the DER which required approval.

2016 Employee Expenses
In the Department's August 13, 2010 Comments in Docket No. E002/M-10-296, the Department proposed employee expense guidelines, including a recommended cap on employee expenses of 0.5 percent of total annual budgets or expenses. In 2016, the Company had a total of $259,536 in employee expenses related to CIP. These expenses comprise 0.2% of our total CIP spending for 2016, which is below the Department's proposed cap of 0.5% of total annual budget or expenses. The following table summarizes our employee expenses for 2016.

Table 11: Summary of 2016 Employee Expenses

Employee Expense Category	Electric Amount	Gas Amount	Total
Airfare	$20,069	$3,155	$23,225
Hotel	$28,829	$5,409	$34,238
Car Rental	$834	$109	$943
Taxi/bus	$1,587	$356	$1,943
Mileage	$43,060	$6,720	$49,780
Parking	$5,382	$851	$6,233
Business Meals- Employees Only	$14,064	$1,535	$15,599
Business Meals- Including Non-Employees	$52,523	$15,960	$68,484

Conferences/Seminars/Training	$52,514	$6,577	$59,091
Total Employee Expenses	**$218,862**	**$40,672**	**$259,536**

These expenses were incurred consistent with our employee expense policies, which provide guidance on the types of charges that are recoverable and non-recoverable through CIP. We report these expenses at the level of detail available from a query of our accounting system.

CIP Projects at Utility Facilities

On July 16, 2013, the Commission ordered the MN utilities to work with the Department to develop a scoping plan for the recommissioning and/or auditing of their facilities located in Minnesota. On June 16, 2014, we submitted our scoping plan, which the Department approved on August 5, 2014. As detailed in the scoping plan, the Company had one facility that fell under the qualifications set forth by the Department. In 2014, the audit was completed for that facility.

2016 Influenced Savings Projects

There are three influenced savings projects to report for 2016. The term "Influenced Savings" refers to projects for which Xcel Energy played a significant role in the customer's decision to implement an energy efficiency measure and for which the customer participated in the normal Custom Efficiency project submission process, yet whose cost-effective analysis or payback period failed. For such projects, Xcel Energy denies the customer any rebate for their efficiency measure, but claims Influenced Savings in order to appropriately account for the Company's energy and demand savings for the implementation of the higher energy efficiency technology and to recognize the often significant labor and/or study costs invested in the project.

To qualify as an influenced savings project, the project must satisfy the following guidelines:

1. Project Pre-approval – Must occur prior to purchase and installation.
2. Cost-Effectiveness Tests – Projects must pass the Participant and Societal Tests.
3. Payback – Projects with a payback period of less than nine months may be considered only if they meet all the other Influenced Savings guidelines herein.
4. Large Projects – Projects with savings of 2 GWh and greater require separate DER pre-review. All other projects will be reviewed as part of the Status Report.
5. Savings Cap – Influenced Savings claims cannot exceed 4% of the Company's annual CIP achievements.
6. Documentation – Documentation must be provided to show Xcel Energy's involvement was an important factor in implementing the energy saving project.

Xcel Energy submits the following supplemental information for its three influenced savings projects in 2016. Table 12 summarizes the programs affected by these projects and the associated savings. To maintain customer anonymity, the projects will be referred using their OID number. As required for Influenced Savings, these projects received Xcel Energy preapproval and passed the societal and participant tests, but did not receive a rebate. Influenced savings projects are included in the programs they fall under. Savings from Influenced Savings projects account for less than 0.1% of total electric savings.

Table 12: Summary of Influence Savings Projects

Project OID	Program	Customer KW	Customer kWh	Dth
2064052	Fluid Systems Optimization	5.802	50,826	0
2269210	Cooling Efficiency	71.885	167,028	0
2411433	Lighting Efficiency	9.216	80,732	0
	Totals	**86.903**	**298,586**	**0**

Project Descriptions

The 2016 Influenced Savings Project summary trackers comprise the following three pages.

2016 Influenced Savings
Supplementary Information Worksheet

Project Number OID2064052

Program Name Fluid Systems Optimization

Project Type Electric

Project Information		
Pre-approval Date	**Equipment Installed**	**Payback (years)**
July 7, 2015	Orifice plates	0.74

Electric Cost-Benefit Test Results			
Participant Test	**Utility Test**	**Rate Impact Test**	**Societal Test**
81.81	N/A	N/A	20.54

Gas Cost-Benefit Test Results			
Participant Test	**Utility Test**	**Rate Impact Test**	**Societal Test**
N/A	N/A	N/A	N/A

Project Description
Customer added orifice plates to supply hose to vacuum generators, new measurements with same flow meter were taken and the new flow use was 12 SCFM per vacuum generator. Also air knives were removed completely from service.

Estimated Energy Savings			
Customer kW	**Customer kWh**	**Dth Natural Gas**	**Reason for Rebate Denial**
5.80	50,826	0	Payback less than 9 months

Project History	
Note: Please make sure there is no customer-identifying info in history	
Date	**Description**
6/23/2015	Customer applied for pre-approval
7/7/2015	Project pre-approved
3/31/2016	Project Completed

2016 Influenced Savings
Supplementary Information Worksheet

Project Number OID2269210

Program Name Cooling Efficiency

Project Type Electric

Project Information		
Pre-approval Date	**Equipment Installed**	**Payback (years)**
July 14, 2015	Chiller removed	0.06

Electric Cost-Benefit Test Results			
Participant Test	**Utility Test**	**Rate Impact Test**	**Societal Test**
198.24	N/A	N/A	9.96

Gas Cost-Benefit Test Results			
Participant Test	**Utility Test**	**Rate Impact Test**	**Societal Test**
N/A	N/A	N/A	N/A

Project Description
A chiller was removed from system.

Estimated Energy Savings			
Customer kW	**Customer kWh**	**Dth Natural Gas**	**Reason for Rebate Denial**
71.885	167,028	0	Payback Requirements

Project History	
Note: Please make sure there is no customer-identifying info in history	
Date	**Description**
6/17/2015	Customer applied for pre-approval
7/14/2015	Project pre-approved
1/20/2016	Project Completed

2016 Influenced Savings
Supplementary Information Worksheet

Project Number OID2411433

Program Name Lighting Efficiency

Project Type Electric

Project Information		
Pre-approval Date	**Equipment Installed**	**Payback (years)**
November 20, 2015	LED highbay fixtures	0.42

Electric Cost-Benefit Test Results			
Participant Test	**Utility Test**	**Rate Impact Test**	**Societal Test**
29.88	N/A	N/A	14.53

Gas Cost-Benefit Test Results			
Participant Test	**Utility Test**	**Rate Impact Test**	**Societal Test**
N/A	N/A	N/A	N/A

Project Description
Installed LED highbay fixtures in newly-built area, where HIDs would be the baseline.

Estimated Energy Savings			
Customer kW	**Customer kWh**	**Dth Natural Gas**	**Reason for Rebate Denial**
9.22	80,732	0	Payback Requirements

Project History	
Note: Please make sure there is no customer-identifying info in history	
Date	**Description**
11/20/2015	Customer applied for pre-approval
11/20/2015	Project pre-approved
8/25/2016	Project Completed

Northern States Power Company,
a Minnesota corporation
Summary of the Evaluations of Product Impact Measurement Methods
Reference Docket No. E002/M-90-1159

Background

In a January 3, 1992 Order in Docket No. E002/M-90-1159, the Commission required a performance measurement evaluation to accompany Northern States Power Company, a Minnesota corporation's, financial incentive mechanism filing. This information, suggested by the Department of Public Service (now the Division of Energy Resources), was required in order to provide a sound basis for Xcel Energy's DSM Financial Incentive. In 1999, 2010 and again in 2012, the Commission significantly modified Xcel Energy's financial incentive, but retained the basic performance-based philosophy that requires ongoing efforts to ensure that impacts are reasonably well measured[2].

Xcel Energy considers the following factors in determining what impact measurement methods are appropriate**:**

- The uncertainties associated with existing impact estimates;
- The relative importance of the individual product;
- The cost of impact measurement relative to the overall cost and cost-effectiveness of its various products;
- Informal ongoing product management evaluation efforts to identify issues requiring a more formal evaluation;
- The extent to which previous evaluation work remains pertinent;
- Cost-effective developments in measurement and evaluation methods; and
- Effects of free-ridership, free-drivership, and spillover.

The Company's process and/or impact analysis efforts since 2007 are shown in the table below.

Table 13: Xcel Energy's Process and/or Impact Analysis Efforts Since 2007

Product	Type	Status
Motors Efficiency	Process and Impact Evaluation	Completed in 2007
Home Performance	Qualitative Market Assessment	Completed in 2007
Custom Efficiency	Site-Specific Impact Review	*Annual Evaluation*
Energy Design Assistance	Site-Specific Impact Review	*Annual Evaluation*
Residential Saver's Switch®	Impact Evaluation	*Annual Evaluation*
Saver's Switch® for Business	Impact Evaluation	*Annual Evaluation*
Low Income Program	Customer Satisfaction Study	*Annual Evaluation until 2010*
Home Energy Audits	Customer Satisfaction Study	*Ongoing Study*
Energy Efficient Showerhead	Customer Satisfaction Study	Completed in 2008
Recommissioning Program	Customer Satisfaction Study	Completed in 2008

[2] In 2016 the Minnesota Public Utilities Commission modified the incentive mechanism again. These changes took effect January 1, 2017 and will be reported in the 2017 CIP Annual Status Report.

Residential Heating System Rebates	Process and Impact Evaluation	Completed in 2008
Gas Market Potential Study	Potential Study	Completed in 2009
Energy Design Assistance Program	Process & Impact Evaluation	Completed in 2009
Saver's Switch® Program	Process Evaluation	Completed in 2009
Energy Rate Savings	Process Evaluation	Completed in 2010
Energy Management Systems	Process and Impact Evaluation	Completed in 2010
Recommissioning	Process and Impact Evaluation	Completed in 2010
CEE One Stop Efficiency Shop	Process Evaluation	Completed in 2010
ENERGY STAR Homes	Process and Impact Evaluation	Completed in 2010
Low Income Home Energy Services Program	Process and Impact Evaluation	Completed in 2011
Residential Cooling Quality Installation Verification	Process and Impact Evaluation	Completed in 2011
Commercial Heating Efficiency	Process and Impact Evaluation	Completed in 2011
Efficiency Motors/Drives	Process and Impact Evaluation	Completed in 2011
Trillion BTU Program	Process Evaluation	Completed in 2011
Energy Efficient Showerhead	Customer Satisfaction Study	Completed in 2011
Residential Lighting	Process and Impact Evaluation	Completed in 2012
MN Electric Potential Study - Xcel Energy Service Area	Potential Study	Completed in 2012 Updated in 2014
Solar*Rewards	Process Evaluation	Completed in 2012
Business Cooling Efficiency	Process and Impact Evaluation	Completed in 2012
Business Process Efficiency	Process and Impact Evaluation	Completed in 2012
Business Custom Efficiency	Process and Impact Evaluation	Completed in 2013
Residential Consumer Education	Process Evaluation	Completed in 2013
Residential Home Performance	Process and Impact Evaluation	Completed in 2013
Residential Home Energy Squad	Process and Impact Evaluation	Completed in 2014
Residential Heating Systems Rebates	Process and Impact Evaluation	Completed in 2014
Fluid System Optimization	Process and Impact Evaluation	Completed in 2015
Recommissioning	Process and Impact Evaluation	Completed in 2015
School Education Kits	Process and Impact Evaluation	Completed in 2015
Computer Efficiency	Process and Impact Evaluation	Completed in 2016
Lighting Efficiency	Process and Impact Evaluation	Completed in 2016
Efficiency Controls	Process and Impact Evaluation	Completed in 2016
Refrigerator Recycling	Process and Impact Evaluation	Completed in 2016

Following is a summary of current energy savings calculation methods and M&V practices. For products where technical assumptions have changed due to evaluation or impact analysis results, the specific changes have been documented in the text of this status report and incorporated into the respective CIP cost-benefit analyses.

Current Analysis Methods

Product impact estimates are typically developed for demand savings, energy savings, coincidence, loss factors, and the lifetime of DSM measures. These parameters are needed for product economic analyses and for direct tracking of product impacts as required for the Company's CIP and Resource Plans.

Energy Efficiency Programs

Developing a good baseline from which to estimate the savings for more efficient technologies is an important part of impact estimation. We regularly update our DSM products and impact estimates to keep pace with changing governmental energy efficiency standards. In addition, we have conducted broad-based market assessments to track technology market saturation and use patterns, and make appropriate changes to products' impact estimates. Finally, we maintain regular contacts with various researchers, equipment manufacturers, distributors, and retailers to keep abreast of current efficiency market trends in order to make any needed changes to DSM products or their impact estimates.

As an outcome of Docket No. E,G999/CIP-08-272, utilities were provided deemed savings technical assumptions to be used in calculating savings for their CIP plans. We relied heavily on the Deemed Savings Database (DSD) when developing technical assumptions for our 2010-2012 CIP Triennial Plan. Up through 2013, these assumptions were also reviewed in the Impact evaluations.

For custom projects, energy savings and coincidence factor estimates are usually based on Xcel Energy-specific market- and/or load-research regarding annual hours of use and times of operation.

Load Management Programs

Load management programs either require interval data collection to calculate customer bills, or they involve behavioral changes on the part of customers. We base the impacts on our analysis of metering data, as the effects are more difficult to estimate through engineering methods. The extensive metering data gathered, covering both interrupt and non-interrupt periods, allows more accurate estimation of customers' baseline electricity use and net product impacts than is readily achievable with energy efficiency programs.

Current Measurement and Verification Practices

In 2016, our M&V efforts mirrored those filed on pages 121-126 of our 2013-2015 Triennial Plan. Each program has an M&V plan to provide assurance that rebated measures were implemented as reported and that our reported savings are as accurate as possible. For prescriptive business and residential programs, we hire third party contractors to perform random audits on a statistically valid number of rebated projects in order to determine an appropriate realization rate for each program. This realization rate is then applied to the total gross savings for each program for that given year. Some prescriptive residential programs have M&V plans tailored to their program design and delivery method. For Custom business programs, the Company follows the M&V Protocols for Large Custom CIP Projects approved by the Director in Docket No. E,G999/CIP-06-1591.

Low-Income and Renter Participants

On June 24, 2016, the Company filed a letter to supplement the 2017-2019 CIP Triennial Plan. In that letter the Company mentioned that it would provide the following information:

> For each project targeted at residential consumers, an estimate of the anticipated percentage of use of each project among:
> a. Low-income participants; and
> b. Renters;

Tables 14 and 15 provide the following information.

Table 14: Low-Income Participation by Project, 2016

Project	Low Income - Electric			Low Income - Gas		
	Participation Goal	Low-Income Participation	Percent of Participation	Participation Goal	Low Income Participation	Percent of Participation
Residential Segment						
ENERGY STAR Homes	2,612	17	0.6%	1,503	10	0.65%
Energy Efficient Showerhead	1,458	104	7.2%	11,853	753	6.35%
Energy Feedback Residential	187,770	7,326	3.9%	137,215	6,419	4.68%
Home Energy Squad	4,680	158	3.4%	2,313	47	2.03%
Home Lighting	1,990,497	11,848	0.6%	N/A	N/A	N/A
Insulation Rebate	330	25	7.5%	421	31	7.37%
Refrigerator Recycling	3,389	108	3.2%	N/A	N/A	N/A
Residential Cooling	13,404	168	1.3%	N/A	N/A	N/A
Residential Heating	11,231	302	2.7%	7,617	271	3.55%
School Education Kits	13,485	5,165	38.3%	13,485	5,165	38.30%
Home Performance with ENERGY STAR	121	3	2.5%	121	3	2.48%
Residential Saver's Switch	18,354	458	2.5%	N/A	N/A	N/A
Consumer Education	594,379	65,382	11.0%	442,914	48,720	11.00%
Home Energy Audit	1,766	53	3.0%	1,486	45	3.03%
Lamp Recycling - Residential	613,162	3,650	0.6%	N/A	N/A	N/A
Water Heater Rebate	N/A	N/A	N/A	3,618	149	4.11%
Residential Total	3,456,638	94,764	3%	618,928	16,968	2.74%
Low-Income Segment						
Home Energy Savings Program	2,548	2,548	100%	412	412	100%
LI Home Energy Squad	777	777	100%	774	774	100%
Multi-Family Energy Savings Program	1,783	1,783	100%	N/A	N/A	N/A
Low-Income Total	5,108	5,108	100%	1,186	1,186	100%

Table 15: Renter Participation by Project, 2016

Project	Renters - Electric			Renters - Gas		
	Participation Goal	Renter Participation	Percent of Participation	Participation Goal	Renter Participation	Percent of Participation
Residential Segment						
ENERGY STAR Homes	2,612	7	0.3%	1,503	2	0.13%
Energy Efficient Showerhead	1,458	180	12.3%	11,853	1,262	10.65%
Energy Feedback Residential	187,770	85,710	45.6%	137,215	63,152	46.02%
Home Energy Squad	4,680	250	5.3%	2,313	157	6.80%
Home Lighting	1,990,497	431,938	21.7%	N/A	N/A	N/A
Insulation Rebate	330	9	2.7%	421	11	2.53%
Refrigerator Recycling	3,389	87	2.6%	N/A	N/A	N/A
Residential Cooling	13,404	366	2.7%	N/A	N/A	N/A
Residential Heating	11,231	242	2.2%	7,617	210	2.76%
School Education Kits	13,485	2,926	21.7%	13,485	2,926	21.70%
Home Performance with ENERGY STAR	121	3	2.5%	121	3	2.48%
Residential Saver's Switch	18,354	569	3.1%	N/A	N/A	N/A
Consumer Education	594,379	65,382	11.0%	442,914	48,720	11.00%
Home Energy Audit	1,766	80	4.5%	1,486	65	4.37%
Lamp Recycling - Residential	613,162	133,056	21.7%	N/A	N/A	N/A
Water Heater Rebate	N/A	N/A	N/A	3,618	104	2.87%
Residential Total	3,456,638	720,803	21%	618,928	129,063	21%
Low-Income Segment						
Home Energy Savings Program	2,548	611	24.0%	412	7	1.8%
LI Home Energy Squad	777	136	17.5%	774	104	13.4%
Multi-Family Energy Savings Program	1,783	1,639	91.9%	N/A	N/A	N/A
Low-Income Total	5,108	2,386	47%	1,186	554	47%

Northern States Power Company
a Minnesota corporation
2016 Conservation Cost Recovery Report
Reference Docket No. E002/GR-92-1185

Cost-effective conservation benefits all of our customers by reducing the need to build new power plants or other generation facilities to meet our customers' electricity needs. Conservation also has environmental benefits, including a reduction in air pollution and greenhouse gas emissions associated with using fossil fuels. This section reports the actual 2016 spending and cost recovery, as well as the electric tax and rate base factors and calculation of the cost of capital.

Electric Achievements

In 2016, Xcel Energy spent $101,146,305 on its electric CIP efforts. These expenditures provided an overall reduction of over 552 GWh. Xcel Energy is requesting recovery of $101,146,305 in 2016 electric CIP expenses. We are also requesting recovery of $48,368,493 in financial incentives earned for our 2016 electric CIP performance for total electric recovery of $149,514,798.

Gas Achievements

Xcel Energy conserved 908,472 Dth through its 2016 natural gas CIP at a cost of $13,805,804. The Company requests recovery of $13,805,804 in CIP expenditures, as well as $6,245,743 in financial incentive earned for our 2016 gas CIP performance for total natural gas recovery of $20,051,547.

The tables on the following pages include:

- Xcel Energy's 2016 electric (Table 16) and gas (Table 17) CIP Trackers, which document monthly CIP expenditures and recovered costs.
- Summary of the electric tax and rate base factors (Table 18) used in the electric CIP Tracker.
- Calculation of the Cost of Capital (Table 19) provides the tax factors and capital structure used to determine cost recovery and return on rate base in the electric CIP Trackers.

Effective January 1, 2015, NSPM changed the FERC accounting on the CIP Carrying Charges from FERC Accounts 419.1 and 432 to FERC Account 421

Northern States Power Company, a Minnesota corporation
State of Minnesota- Electric Utility
DSM Cost Recovery & Incentive Mechanism - Total
2016 Actual

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
EXPENSES	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	
1. Balance	9,164,617	7,396,575	4,210,277	4,423,911	2,283,089	(1,821,092)	(1,699,031)	(7,935,905)	(13,729,383)	-14,657,873	26,347,943	23,014,667	
2. CIP Program Expenditures	9,124,556	6,665,594	10,273,871	6,934,798	6,010,748	11,482,846	6,688,580	7,169,833	9,773,541	9,765,135	7,818,534	9,438,269	101,146,305
3. 2015 Performance Incentive										43,277,219			43,277,219
4. Total Expenses + Incentive (Line 1 + 2 + 3)	18,289,173	14,062,170	14,484,148	11,358,708	8,293,837	9,661,754	4,989,549	(766,073)	(3,955,842)	38,384,481	34,166,477	32,452,937	
RECOVERY													
5. CCRC Rate ($/MWh)	3.130	3.130	3.130	3.130	3.130	3.130	3.130	3.130	3.130	3.130	3.130	3.130	
6. CCRC Cost Recovery (CCRC times Sales)	7,551,261	6,829,227	6,973,678	6,290,756	7,010,151	7,873,670	8,956,698	8,981,605	7,414,120	7,121,585	6,597,850	7,578,986	89,179,588
7. CIP Adjustment Factor Rate ($/MWh)	1.386	1.386	1.386	1.386	1.386	1.386	1.386	1.386	1.386	2.164	2.164	2.164	
8. CIP Adjustment Factor Recovery (Factor times Sales)	3,343,785	3,024,060	3,088,025	2,785,619	3,104,175	3,486,552	3,966,129	3,977,158	3,283,058	4,923,678	4,561,581	5,239,912	44,783,732
9. Sub-Balance (Line 4 - 6 - 8)	7,394,126	4,208,882	4,422,446	2,282,332	(1,820,489)	(1,698,468)	(7,933,278)	(13,724,836)	(14,653,019)	26,339,218	23,007,046	19,634,038	
10. Accum Deferred Tax (Line 9 * 41.37%)	3,058,950	1,741,215	1,829,566	944,201	(753,136)	(702,656)	(3,281,997)	(5,677,965)	(6,061,954)	10,896,534	9,518,015	8,122,602	
11. Net Investment (Line 9 - 10)	4,335,176	2,467,668	2,592,880	1,338,132	(1,067,353)	(995,812)	(4,651,281)	(8,046,871)	(8,591,065)	15,442,683	13,489,031	11,511,437	
12. Carrying Charge (Line 11 * Carrying Charge Rate)	2,449	1,394	1,465	756	(603)	(563)	(2,628)	(4,546)	(4,854)	8,725	7,621	6,504	15,721
13. End of Month Balance (Line 9 + 12)	7,396,575	4,210,277	4,423,911	2,283,089	(1,821,092)	(1,699,031)	(7,935,905)	(13,729,383)	(14,657,873)	26,347,943	23,014,667	19,640,542	

Northern States Power Company, a Minnesota corporation
State of Minnesota - Gas Utility
DSM Cost Recovery and Incentive Mechanism
Tracker and Balance ($)
2016 Forecast

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Total
EXPENSES	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	
1. Balance	$488,314	($1,842,556)	($3,238,572)	($3,883,060)	($4,212,076)	($4,016,046)	($3,243,932)	($2,713,414)	($2,347,307)	($1,656,019)	$4,009,845	$3,388,668	
2. CIP Program Expenditures	873,857	1,340,409	1,329,005	909,844	918,774	1,273,073	1,006,486	864,877	1,225,416	1,069,603	1,203,788	1,790,674	13,805,805
3. 2015 Performance Incentive										5,763,443			5,763,443
4. **Total Expenses** (Line 1 + 2 + 3)	**1,362,171**	**(502,147)**	**(1,909,568)**	**(2,973,216)**	**(3,293,302)**	**(2,742,972)**	**(2,237,446)**	**(1,848,538)**	**(1,121,891)**	**5,177,027**	**5,213,633**	**5,179,343**	
RECOVERY													
5. CCRC Rate ($/Dth)	0.0524	0.0524	0.0524	0.0524	0.0524	0.0524	0.0524	0.0524	0.0524	0.0524	0.0524	0.0524	
6. CCRC Cost Recovery	636,355	543,147	391,511	245,539	143,041	99,087	94,192	98,769	105,884	199,586	311,742	585,814	3,454,668
7. CIP Adjustment Factor Rate ($/Dth)	0.21139	0.21139	0.21139	0.21139	0.21139	0.21139	0.21139	0.21139	0.21139	0.25473	0.25473	0.25473	
8. CIP Adjustment Factor Recovery	2,567,156	2,191,142	1,579,420	990,543	577,052	399,732	379,986	398,452	427,152	970,240	1,515,458	2,847,796	14,844,129
9. **Total Recovery** (Line 6 + 8)	**3,203,511**	**2,734,288**	**1,970,931**	**1,236,082**	**720,094**	**498,819**	**474,178**	**497,221**	**533,035**	**1,169,827**	**1,827,200**	**3,433,610**	
10. Rate Refund	0	0	0	0	0	0	0	0	0	0	0	0	0
11. Sub-Balance (Line 4-9)	(1,841,340)	(3,236,436)	(3,880,498)	(4,209,298)	(4,013,396)	(3,241,791)	(2,711,624)	(2,345,759)	(1,654,927)	4,007,200	3,386,433	1,745,733	
12. Accum Deferred Tax (Line 11 * 41.37%)	(761,763)	(1,338,913)	(1,605,362)	(1,741,386)	(1,660,342)	(1,341,129)	(1,121,799)	(970,440)	(684,643)	1,657,779	1,400,967	722,210	(7,444,823)
13. Net Investment (Line 11-12)	(1,079,578)	(1,897,522)	(2,275,136)	(2,467,911)	(2,353,054)	(1,900,662)	(1,589,825)	(1,375,318)	(970,283)	2,349,421	1,985,466	1,023,523	(10,550,881)
14. Carrying Charge (a) (Line 13 * Carrying Charge Rate)	(1,216)	(2,137)	(2,562)	(2,779)	(2,650)	(2,140)	(1,790)	(1,549)	(1,093)	2,645	2,236	1,152	(11,880)
15. **End of Month Balance** (Line 11+14)	**(1,842,556)**	**(3,238,572)**	**(3,883,060)**	**(4,212,076)**	**(4,016,046)**	**(3,243,932)**	**(2,713,414)**	**(2,347,307)**	**(1,656,019)**	**4,009,845**	**3,388,668**	**1,746,885**	

Table 17: 2016 Gas CIP Tracker Forecast, With Cost Recovery in 2016

Table 18: Summary of Electric Tax and Rate Base Factors

The following variables are used in the electric CIP Tracker. These values were established in rate cases. Xcel Energy used the rates approved in its 2012 rate case, which was based off of the 2013 test year, (E002/GR-12-961) beginning December 1, 2013.

Variables	2011	2013	Tax Rates	2011	2013
Number of Months =	12	12	Tax Factor =	3.85%	3.65%
Monthly Carrying Charge =	0.9614%	0.8809%			
Annual Amortization Fctr =	20.00%	20.00%	Accumulated Deferred Tax =	41.37%	41.37%
			Tax Rate =	41.37%	41.37%
Common Equity % =	52.56%	52.56%			
Preferred Equity % =	0.00%	0.00%	Rate Base Factor =	12.17%	11.10%
Total Debt % =	47.44%	47.44%			
Weighted Cost Common Equity =	5.45%	5.17%			
Weighted Cost Pref Equity =	0.00%	0.00%			
Weighted Cost Total Debt =	2.87%	2.28%			
Normal ROI =	8.32%	7.45%			
CCRC ($/MWh)	$2.647	$3.051			

Table 19: Calculation of the Cost of Capital

This table shows the tax factors and capital structure used for the electric cost recovery and return on rate base calculations in Tables 16 (2016 Electric CIP Tracker) and 18 (Summary of Electric Tax and Rate Base Factors).

Capital Structure	Capitalization		Cost of Capital		Weighted Average	
	2011 Test Yr	2013 Test Yr	2011 Test Yr	2013 Test Yr	2011 Test Yr	2013 Test Yr
Long-Term Debt	46.88%	45.30%	6.09%	5.02%	2.86%	2.27%
Short-Term Debt	0.56%	2.14%	2.43%	0.68%	0.01%	0.01%
TOTAL DEBT	47.44%	47.44%	8.53%	5.70%	2.87%	2.28%
Preferred Equity	0.00%	0.00%	N/A	N/A	N/A	N/A
Common Equity	52.56%	52.56%	10.37%	9.83%	5.45%	5.17%
TOTAL EQUITY	52.56%	52.56%			5.45%	5.17%
TOTAL CAPITAL	100.00%	100.00%			8.32%	7.45%
MN Tax Rate =					41.37%	41.37%
Normal Return =					8.32%	7.45%
Rate Base Factor =	{ROI - (WTD Cost Debt x Tax Rate)} / (1-Tax Rate)				12.17%	11.10%
Tax Factor =	Rate Base Factor - ROI				3.85%	3.65%
Monthly Carrying Charge Rate Calculation						
Annual Revenue Requirements Factor =	{ROI - (WTD Cost Debt x Tax Rate)} / (1-Tax Rate)				12.17%	11.10%
Monthly Revenue Requirements Factor =	{(1 + short term debt) to the 1/12 Power} -1				0.9614%	0.0565%
						0.000565
CCRC Tracker Rate ($/MWh)					$ 2.647	$ 3.130*

*CCRC Rate = $3.051 per MWh through Oct 2015. $3.130 per MWh starting Nov 1st 2015

Northern States Power Company
a Minnesota corporation
2016 Electric and Natural Gas CIP Adjustment Rate Report

On March 20, 1995, the Commission approved Xcel Energy's request to implement a CIP Adjustment Factor (Docket No. E002/M-94-1016). This bill rider, adjusted annually, provides the Company with a secondary cost recovery method above the amounts included in base rates (Conservation Cost Recovery Charge or CCRC). The CIP Adjustment Factor is normally approved by the Commission for a 12-month period beginning in the month following the Commission's approval, and is calculated by dividing the forecasted CIP tracker balance by the forecasted sales (kWh or therms) for the period over which the adjustment will be in place. Xcel Energy is required to file a recalculation of its CIP Adjustment Factors each April in conjunction with its financial incentive and CIP status report filings.

The current electric CIP Adjustment Factor of $0.002164 per customer kWh was approved by the Commission on August 30, 2016 in Docket No. E002/M-16-282. This rate was implemented on October 1, 2016 and is designed to reduce the electric CIP Tracker balance to $0 by September 30, 2017. The current natural gas CIP Adjustment Factor of $0.025473 per therm was approved by the Commission on July 19, 2016 in Docket No. G002/M-16-283 and implemented on October 1, 2016. It was also designed to reduce the natural gas CIP Tracker to $0 by September 30, 2017.

Xcel Energy submits this compliance filing and report to support our request of the following:

- Recovery of $48,368,493 for our 2016 electric DSM financial incentives;
- Recovery of $6,245,743 for our 2016 natural gas DSM financial incentive;
- A change in the electric CIP Adjustment Factor from $0.002164 to $0.001271 per kWh effective the first billing cycle beginning in October 2017 through September 2018; and
- A change in the natural gas CIP Adjustment Factor from $0.025473 per therm to $0.026624 per therm effective the first billing cycle beginning in October 2017 through September 2018.

Proposed Electric CIP Adjustment Factor for Period October 2017 Through September 2018

Xcel Energy requests a new electric CIP Adjustment Factor of $0.001271 per customer kWh to be effective with the first billing cycle of October 2017 and to remain in effect through the September 2018 billing period. This proposed factor is calculated to reduce the electric CIP Tracker balance to $0 by the end of September 2018. It is based on the forecasted September 2018 unrecovered balance in the Company's electric CIP Tracker account. This forecasted balance is $36.91 million, based on the forecasted October 1 beginning balance, October 2017 through September 2018 approved and projected expenditures, forecasted 2017 incentives and forecasted CCRC recovery at the current CCRC rate. The inputs and calculation are shown below.

Forecasted beginning balance (Oct 2017)	$18,051,481
Approved expenditures (Oct 2017 - Sept 18)	$94,806,132
Forecasted 2017 incentive	$14,950,560
Less forecasted CCRC recovery (Oct 2017 - Sept 18)	$90,894,020
Forecasted Sept 2018 balance	$36,914,154

As in the past, Xcel Energy will include a message referencing the change in the CIP Adjustment Factor in customers' bills. In the event that Commission approval of the proposed adjustment is delayed beyond September 20, 2017 (in order to implement the rate change by October 1), the Company will continue to apply the current CIP Adjustment of $0.002164 per kWh up to the first cycle of the first full billing period following Commission approval of a revised factor.

Calculation of Revised Electric CIP Adjustment Factor

(1) Forecasted Oct 2018 Electric CIP Tracker Balance	$36,914,154
(2) Forecasted Electric Sales (MWh)– Oct 2017 through Sept 2018[1]	29,039,623
(3) Recalculated Electric CIP Adjustment Rate = (1)/(2)	$1.271/MWh
	$0.001271/kWh

Our above forecasted balance does not include carrying charges. To get as close as possible to a $0 balance by Sept 30, 2018, the calculated rate of $0.001271 per kWh was incrementally decreased to incorporate the effect of carrying charges. We determined the final rate by decreasing the calculated rate until the September 2018 forecasted CIP Tracker balance approached zero ($0) without going negative. The resulting rate is **$0.001271 per kWh**. As shown in Table 20, this rate results in a forecasted September 30, 2018 Tracker balance of $18,542.

Proposed Natural Gas CIP Adjustment Factor for Period October 2017 Through September 2018

Xcel Energy requests a new natural gas CIP Adjustment Factor of $0.026624 per therm to be effective with the first billing cycle of October 2017 and remaining in effect through the September 2018 billing period. The proposed factor is based on the forecasted October 1, 2017 unrecovered balance in the Company's gas CIP Tracker account. This forecasted balance is $19.09 million, based on the forecasted October 1 beginning balance, October 2017 through September 2018 approved and projected expenditures, forecasted 2017 incentive and forecasted CCRC recovery at the current CCRC rate. The inputs and calculation are shown below.

Forecasted beginning balance (Oct 2017)	$4,015,291
Approved expenditures (Oct 2017 - Sept 18)	$16,717,976
Forecasted 2017 incentive	$2,115,511
Less forecasted CCRC recovery (Oct 2017 - Sept 18)	$3,755,392
Forecasted Oct 2017 balance	$19,093,386

As done in the past, Xcel Energy will include in customers' bills a message referencing the change in the CIP Adjustment Factor. In the event that Commission approval of the proposed factor is delayed beyond September 20, 2017 (in order to implement the rate change by October 1), the Company will continue to apply the current CIP Adjustment Factor of $0.025473 per therm up to the first cycle of the first full billing period following Commission approval of a revised factor.

[1] Forecasted sales exclude the customers exempted from electric CIP charges.

Calculation of Revised Gas CIP Adjustment Rate

(1) Forecasted Oct 2018 Natural Gas CIP Tracker Balance	$19,093,386
(2) Forecasted Gas Sales[2] – October 2017 through September 2018	71,667,794
(3) Recalculated Gas CIP Adjustment Rate = (1)/(2)	$0.26624/ dth
	$0.026624/therm

Our above forecasted balance does not include carrying charges. To get as close as possible to a $0 balance by Sept 30, 2018, the calculated rate of $0.026624 per therm was incrementally decreased to incorporate the effect of carrying charges, which are projected to be negative for several months. We determined the final rate by decreasing the calculated rate until the September 2018 forecasted CIP Tracker balance approached zero ($0) without going negative. The resulting rate is **$0.026624 per therm**. As shown in Table 21, this rate results in a forecasted September 30, 2018 Tracker balance of $650.

[2] Forecasted sales exclude the exempt customers and gas sales to qualifying large energy facilities.

Northern States Power Company, a Minnesota corporation
State of Minnesota- Electric Utility
DSM Cost Recovery & Incentive Mechanism - Total
2017 Forecast

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
	EXPENSES	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	
1.	Balance	19,640,542	11,184,651	5,873,208	283,178	(4,076,275)	(9,036,032)	(12,130,818)	(20,292,365)	(26,923,009)	18,051,481	15,677,615	15,087,961	
2.	CIP Program Expenditures	4,560,446	6,263,820	6,903,705	7,042,002	6,877,795	10,158,346	6,892,499	7,972,349	9,354,696	8,086,645	9,498,807	12,558,235	96,169,344
3.	2016 Performance Incentive									48,368,493				48,368,493
4.	Total Expenses + Incentive (Line 1 + 2 + 3)	24,200,988	17,448,471	12,776,913	7,325,179	2,801,520	1,122,314	(5,238,319)	(12,320,016)	30,800,180	26,138,126	25,176,421	27,646,196	
	RECOVERY													
5.	CCRC Rate ($/MWh)	3.130	3.130	3.130	3.130	3.130	3.130	3.130	3.130	3.130	3.130	3.130	3.130	
6.	CCRC Cost Recovery (CCRC times Sales)	7,697,909	6,844,855	7,386,794	6,740,145	6,997,010	7,833,345	8,896,511	8,628,535	7,541,016	7,443,229	7,178,486	7,559,858	90,747,692
7.	CIP Adjustment Factor Rate ($/MWh)	2.164	2.164	2.164	2.164	2.164	2.164	2.164	2.164	2.164	1.271	1.271	1.271	
8.	CIP Adjustment Factor Recovery (Factor times Sales)	5,322,132	4,732,353	5,107,036	4,659,960	4,837,550	5,415,770	6,150,815	5,965,543	5,213,661	3,022,474	2,914,970	3,069,834	56,412,096
9.	Sub-Balance (Line 4 - 6 - 8)	11,180,947	5,871,263	283,084	(4,074,925)	(9,033,040)	(12,126,801)	(20,285,645)	(26,914,093)	18,045,503	15,672,423	15,082,965	17,016,504	
10.	Accum Deferred Tax (Line 9 * 41.37%)	4,625,558	2,428,941	117,112	(1,685,796)	(3,736,969)	(5,016,857)	(8,392,171)	(11,134,360)	7,465,425	6,483,681	6,239,823	7,039,728	
11.	Net Investment (Line 9 - 10)	6,555,389	3,442,321	165,972	(2,389,129)	(5,296,071)	(7,109,943)	(11,893,474)	(15,779,733)	10,580,079	9,188,742	8,843,142	9,976,777	
12.	Carrying Charge (Line 11 * Carrying Charge Rate)	3,704	1,945	94	(1,350)	(2,992)	(4,017)	(6,720)	(8,916)	5,978	5,192	4,996	5,637	3,551
13.	End of Month Balance (Line 9 + 12)	11,184,651	5,873,208	283,178	(4,076,275)	(9,036,032)	(12,130,818)	(20,292,365)	(26,923,009)	18,051,481	15,677,615	15,087,961	17,022,141	

Table 20: 2017 Electric CIP Tracker Forecast, With Cost Recovery in 2017

Northern States Power Company, a Minnesota corporation
State of Minnesota- Electric Utility
DSM Cost Recovery & Incentive Mechanism - Total
2018 Forecast

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
	EXPENSES	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast
1.	Balance	17,022,141	10,579,328	7,077,281	3,442,712	843,785	(2,272,002)	(3,352,142)	(9,132,950)	(13,472,897)
2.	CIP Program Expenditures	4,466,288	6,134,493	6,761,167	6,896,608	6,735,791	9,948,610	6,750,192	7,807,746	9,161,552
3.	2017 Performance Incentive									14,950,560
4.	Total Expenses + Incentive (Line 1 + 2 + 3)	21,488,429	16,713,820	13,838,447	10,339,319	7,579,576	7,676,608	3,398,050	(1,325,204)	10,639,215
	RECOVERY									
5.	CCRC Rate ($/MWh)	3.130	3.130	3.130	3.130	3.130	3.130	3.130	3.130	3.130
6.	CCRC Cost Recovery (CCRC times Sales)	7,761,066	6,855,193	7,394,279	6,753,442	7,005,927	7,842,880	8,909,921	8,636,291	7,553,448
7.	CIP Adjustment Factor Rate ($/MWh)	1.271	1.271	1.271	1.271	1.271	1.271	1.271	1.271	1.271
8.	CIP Adjustment Factor Recovery (Factor times Sales)	3,151,538	2,783,690	3,002,597	2,742,372	2,844,899	3,184,760	3,618,054	3,506,941	3,067,231
9.	Sub-Balance (Line 4 - 6 - 8)	10,575,824	7,074,937	3,441,572	843,505	(2,271,250)	(3,351,032)	(9,129,926)	(13,468,435)	18,536
10.	Accum Deferred Tax (Line 9 * 41.37%)	4,375,218	2,926,902	1,423,778	348,958	(939,616)	(1,386,322)	(3,777,050)	(5,571,892)	7,668
11.	Net Investment (Line 9 - 10)	6,200,606	4,148,036	2,017,793	494,547	(1,331,634)	(1,964,710)	(5,352,875)	(7,896,544)	10,868
12.	Carrying Charge (Line 11 * Carrying Charge Rate)	3,503	2,344	1,140	279	(752)	(1,110)	(3,024)	(4,462)	6
13.	End of Month Balance (Line 9 + 12)	10,579,328	7,077,281	3,442,712	843,785	(2,272,002)	(3,352,142)	(9,132,950)	(13,472,897)	18,542

Table 20: 2018 Electric CIP Tracker Forecast, With Cost Recovery in 2018

Northern States Power Company, a Minnesota corporation
State of Minnesota - Gas Utility
DSM Cost Recovery and Incentive Mechanism
Tracker and Balance ($)
2017 Forecast

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Total
EXPENSES	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	
1. Balance	$1,746,885	($1,449,469)	($3,218,245)	($4,475,133)	($4,695,819)	($4,731,122)	($4,046,276)	($3,388,589)	($2,880,033)	$4,015,291	$4,198,068	$3,197,557	
2. CIP Program Expenditures	734,968	1,537,244	1,389,458	1,501,665	956,241	1,251,088	1,260,935	1,090,621	1,304,779	1,464,532	1,379,242	2,676,665	16,547,438
3. 2016 Performance Incentive									6,245,743				6,245,743
4. **Total Expenses** (Line 1 + 2 + 3)	**2,481,853**	**87,775**	**(1,828,787)**	**(2,973,468)**	**(3,739,579)**	**(3,480,035)**	**(2,785,342)**	**(2,297,968)**	**4,670,489**	**5,479,824**	**5,577,311**	**5,874,222**	
RECOVERY													
5. CCRC Rate ($/Dth)	0.0524	0.0524	0.0524	0.0524	0.0524	0.0524	0.0524	0.0524	0.0524	0.0524	0.0524	0.0524	
6. CCRC Cost Recovery	670,567	563,684	450,994	293,325	168,637	96,152	102,540	98,983	112,236	211,239	391,695	601,993	3,762,044
7. CIP Adjustment Factor Rate ($/Dth)	0.25473	0.25473	0.25473	0.25473	0.25473	0.25473	0.25473	0.25473	0.25473	0.26624	0.26624	0.26624	
8. CIP Adjustment Factor Recovery	3,259,798	2,740,214	2,192,399	1,425,928	819,786	467,420	498,472	481,182	545,610	1,073,286	1,990,169	3,058,678	18,552,943
9. **Total Recovery** (Line 6 + 8)	**3,930,365**	**3,303,897**	**2,643,393**	**1,719,253**	**988,423**	**563,572**	**601,012**	**580,165**	**657,846**	**1,284,525**	**2,381,864**	**3,660,672**	
10. Rate Refund	0	0	0	0	0	0	0	0	0	0	0	0	0
11. Sub-Balance (Line 4-9)	(1,448,512)	(3,216,122)	(4,472,181)	(4,692,721)	(4,728,001)	(4,043,607)	(3,386,354)	(2,878,133)	4,012,642	4,195,299	3,195,447	2,213,550	
12. Accum Deferred Tax (Line 11 * 41.37%)	(599,250)	(1,330,510)	(1,850,141)	(1,941,379)	(1,955,974)	(1,672,840)	(1,400,935)	(1,190,684)	1,660,030	1,735,595	1,321,956	915,746	(6,308,384)
13. Net Investment (Line 11-12)	(849,263)	(1,885,612)	(2,622,040)	(2,751,343)	(2,772,027)	(2,370,767)	(1,985,419)	(1,687,449)	2,352,612	2,459,704	1,873,491	1,297,805	(8,940,309)
14. Carrying Charge (a) (Line 13 * Carrying Charge Rate)	(956)	(2,123)	(2,952)	(3,098)	(3,121)	(2,669)	(2,236)	(1,900)	2,649	2,770	2,110	1,461	(10,067)
15. **End of Month Balance** (Line 11+14)	**(1,449,469)**	**(3,218,245)**	**(4,475,133)**	**(4,695,819)**	**(4,731,122)**	**(4,046,276)**	**(3,388,589)**	**(2,880,033)**	**4,015,291**	**4,198,068**	**3,197,557**	**2,215,012**	

Table 21: 2017 Gas CIP Tracker Forecast, With Cost Recovery in 2017

Northern States Power Company, a Minnesota corporation
State of Minnesota - Gas Utility

DSM Cost Recovery and Incentive Mechanism
Tracker and Balance ($)
2018 Forecast

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept
EXPENSES	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast
1. Balance	$2,215,012	($1,110,486)	($2,982,517)	($4,356,416)	($4,566,703)	($4,635,726)	($3,960,171)	($3,256,597)	($2,784,264)
2. CIP Program Expenditures	746,334	1,561,018	1,410,947	1,524,889	971,030	1,270,436	1,280,436	1,107,488	1,324,958
3. 2017 Performance Incentive									2,115,511
4. **Total Expenses** (Line 1 + 2 + 3)	**2,961,346**	**450,532**	**(1,571,570)**	**(2,831,527)**	**(3,595,674)**	**(3,365,290)**	**(2,679,735)**	**(2,149,109)**	**656,205**
RECOVERY									
5. CCRC Rate ($/Dth)	0.0524	0.0524	0.0524	0.0524	0.0524	0.0524	0.0524	0.0524	0.0524
6. CCRC Cost Recovery	669,488	564,238	457,492	284,852	170,533	97,398	94,511	104,148	107,805
7. CIP Adjustment Factor Rate ($/Dth)	0.26624	0.26624	0.26624	0.26624	0.26624	0.26624	0.26624	0.26624	0.26624
8. CIP Adjustment Factor Recovery	3,401,611	2,866,844	2,324,480	1,447,311	866,462	494,870	480,203	529,169	547,750
9. **Total Recovery** (Line 6 + 8)	**4,071,099**	**3,431,082**	**2,781,972**	**1,732,163**	**1,036,994**	**592,268**	**574,714**	**633,318**	**655,556**
10. Rate Refund	0	0	0	0	0	0	0	0	0
11. Sub-Balance (Line 4-9)	(1,109,753)	(2,980,549)	(4,353,542)	(4,563,690)	(4,632,668)	(3,957,558)	(3,254,449)	(2,782,427)	649
12. Accum Deferred Tax (Line 11 * 41.37%)	(459,105)	(1,233,053)	(1,801,060)	(1,887,999)	(1,916,535)	(1,637,242)	(1,346,366)	(1,151,090)	269
13. Net Investment (Line 11-12)	(650,648)	(1,747,496)	(2,552,482)	(2,675,692)	(2,716,133)	(2,320,316)	(1,908,083)	(1,631,337)	381
14. Carrying Charge (a) (Line 13 * Carrying Charge Rate)	(733)	(1,968)	(2,874)	(3,013)	(3,058)	(2,613)	(2,149)	(1,837)	0
15. **End of Month Balance** (Line 11+14)	**(1,110,486)**	**(2,982,517)**	**(4,356,416)**	**(4,566,703)**	**(4,635,726)**	**(3,960,171)**	**(3,256,597)**	**(2,784,264)**	**650**

Table 21: 2018 Gas CIP Tracker Forecast, With Cost Recovery in 2018

Northern States Power Company
a Minnesota corporation
2016 CIP Financial Incentive Calculations
Cost-Effectiveness & Performance Mechanism Report
Reference Docket Nos. E,G999/CI-08-133 & E002/M-11-1101

In 2010, the Commission approved a new Shared Savings Incentive Mechanism (Docket No. E,G999/CI-08-133). The shared savings incentive mechanism awards a percentage of the net benefits created by a utility's energy conservation program, beginning once a utility surpasses its earnings threshold. This incentive mechanism ties the incentive to the pursuit of the 1.5% of sales savings target. The model sets a specific dollar award per unit of energy saved at the 1.5% savings level, which is referred to as the incentive calibration. The per unit incentive increases as achievements increase, up to a cap. In its March 30, 2012 ORDER REMOVING NON-LINEAR ADJUSTMENT FROM THE SHARED SAVINGS DSM FINANCIAL INCENTIVE in the same docket listed above, the Commission revised the incentive mechanism with the removal of the non-linear adjustment. Soon after, on December 20, 2012, the Commission approved additional modifications to the incentive mechanism based on the Department's July 9, 2012 REPORT ON THE IMPACTS OF THE 2011 NEW SHARED SAVINGS DSM FINANCIAL INCENTIVE ON INVESTOR-OWNED UTILITY CONSERVATION ACHIEVEMENTS AND CUSTOMER COSTS. This modified incentive mechanism is effective for the length of each utility's current triennial plan. For Xcel Energy, it applies to the 2013-2015 CIP triennial and 2016 Extension. Lastly, during the 2013 Legislature, a provision was added to MN Statute 216B.241, subdivision 7, which allows utilities the option to exclude the net benefits of low-income programs, if negative, from the calculation of the DSM financial incentive.

Xcel Energy's 2016 CIP portfolio achieved electric energy savings of over 552 GWh which will provide net benefits of over $312 million to Xcel Energy electric customers. The Company also achieved gas savings of 908,472 Dth, which will provide Xcel Energy customers with net benefits of more than $42 million. As a result of these achievements, we request approval of a 2016 CIP electric financial incentive of $48,368,493 and a 2016 natural gas financial incentive of $6,245,743.

The performance measurements of Xcel Energy's individual electric and natural gas CIP programs, including indirect impact programs, are reported in Tables 2 and 3, respectively. The cost-effectiveness of individual programs is reported in the Cost-Effectiveness Report included in this filing.

Northern States Power Company
a Minnesota corporation
2016 Financial Incentive Calculations

In accordance with the Minnesota PUC Orders dated January 27, 2010, March 30, 2012 and December 20,2012 (Docket No. E,G999/CI-08-133), and the Minnesota PUC Order dated March 12, 2012 (Docket No. E-002/M-11-1101), Xcel Energy respectfully submits these financial incentive calculations.

In 2016, the Company achieved electric energy savings of 552,782,775 kWh at the generator (126% of goal) at a cost of $101,146,305 (102% of budget). As a result, we respectfully request approval of our CIP electric financial incentive in the amount of $48,368,493.

CIP Electric Financial Incentive Calculation

In the October 12, 2015 Decision and subsequently via several approvals of program modifications and a budget modification request from CEE One Stop Shop, all in Docket No. E,G002/CIP-12-447, Xcel Energy was approved to spend a total of $99,413,252 in 2016. According to the Order in Docket No. E,G999/CI-08-133, certain expenses and savings are excluded from the incentive calculation, including regulatory assessments, electric utility infrastructure projects, qualifying solar projects, and third party projects not selected for inclusion in the annual incentive compliance filing. As stated in our January 30, 2013 incentive compliance filing, we elected to include the One Stop Shop program administered by the Center for Energy and the Environment (CEE).[1] The indirect impact third party programs—Enerchange, Energy Intelligence, Energy Smart, and Trillion Btu—are not included in the calculation of the incentive. In addition, during the 2013 Legislature, a provision was added to MN Statute 216B.241, subdivision 7, which allows utilities to exclude the net benefits of low-income programs from the calculation of net benefits for the incentive if the net benefits are negative. The net benefits from our low-income segment are included in both our pre-year inputs and 2016 achievement. The calculation of the Pre-Year Inputs is shown below.

Calculation of Pre-Year Inputs

	Spending	Energy Goal (kWh)	Net Benefits
2016 Portfolio Subtotal[2]	$81,860,040	403,213,100	$208,821,977
CEE One Stop Shop	$11,036,563	35,046,403	$27,364,082
Total Pre-Year Inputs	$92,896,603	438,259,503	$236,186,059

Model Year Inputs

Earnings Threshold (% of Sales)	0.4%
Earnings Threshold (kWh Savings)	115,948,937
Award Zero Point (% of Sales)	0.3%
Award Zero Point (kWh Savings)	86,961,703
Steps From Zero Point to 1.5%	12
Size of Steps in Energy Savings	28,987,234

[1] Docket No. E,G999/CI-08-133 and Docket No. E,G002/CI-10-81.
[2] Excludes NGEA assessments, Enerchange, Energy Intelligence, Energy Smart, and Trillion Btu.

Incentive Calibration

Average Incentive per Unit at 1.5%	$0.07
Incentive Cap	$0.0875
Energy Savings at 1.5%	434,808,513
Targeted Incentive at 1.5%	$30,436,596
Multiplier (Percent of Net Benefits Received for Every 0.1% of Sales)	0.01082

Pre-Year Inputs

Approved CIP Budget for Incentive	$92,896,603
Goal Energy Savings (kWh)	438,259,503
Goal Utility Test Net Benefits (Based On Approved Triennial Plan)	$236,186,059

Summary of 2016 Achievements

Actual Spending for Incentive[3]	$101,162,849
Actual Energy Savings (kWh)[4]	552,782,775
Net Benefits Achieved[5]	$312,424,228

2016 Financial Incentive Mechanism

In order to calculate the CIP financial incentive, it is necessary to calculate the percent of net benefits awarded. The following calculations and incentive table detail Xcel Energy's financial incentive.

Steps Above Zero Point =

$$\frac{\text{Energy Saved - Award Zero Point (kWh Savings)}}{\text{Size of Steps in Energy Savings}} = \frac{552{,}782{,}775 - 86{,}961{,}703}{28{,}987{,}234}$$

= 16.06987 Steps

Percent of Net Benefits Awarded =

Steps Above Zero Point x Multiplier = 16.06987 x 0.01082

= 17.3943%[6]

Incentive Awarded =

Net Benefits Achieved x Percent of Net Benefits Awarded = $312,424,228 x 17.3943% =

$54,344,007

Incentive capped at $0.0875/kWh = $0.0875 * 552,782,775 kWh

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[3] Portfolio Subtotal spend plus CEE One-Stop Shop spend.
[4] Portfolio Subtotal energy savings plus CEE One-Stop Shop energy savings.
[5] The net benefits are equal to the utility test net benefits shown on Electric CIP Total cost-benefit analysis plus the utility test net benefits shown on the CEE One Stop Shop cost-benefit analysis, included in the Cost-Effectiveness Section. Includes low-income net benefits.
[6] From 2016 incentive model approved by Department in Docket No. E002/M-16-108. Difference due to rounding.

= **$48,368,493**

2016 Electric Incentive Request

Based on the above calculation, Xcel Energy respectfully requests approval of a CIP financial incentive of $48,368,493.

Table 22: Xcel Energy's 2016 Electric Financial Incentive Mechanism

Achievement Level (% of sales)	Energy Saved	Percent of Benefits Awarded	Estimated Benefits Achieved	Incentive Award	Average Incentive per unit Saved
0.0%	0	0.00%	$0	$0	$0.000
0.1%	28,987,234	0.00%	$15,621,750	$0	$0.000
0.2%	57,974,468	0.00%	$31,243,501	$0	$0.000
0.3%	86,961,703	0.00%	$46,865,251	$0	$0.000
0.4%	115,948,937	0.00%	$62,487,002	$0	$0.000
0.5%	144,936,171	2.16%	$78,108,752	$1,690,922	$0.012
0.6%	173,923,405	3.25%	$93,730,503	$3,043,660	$0.018
0.7%	202,910,639	4.33%	$109,352,253	$4,734,582	$0.023
0.8%	231,897,873	5.41%	$124,974,004	$6,763,688	$0.029
0.9%	260,885,108	6.49%	$140,595,754	$9,130,979	$0.035
1.0%	289,872,342	7.58%	$156,217,505	$11,836,454	$0.041
1.1%	318,859,576	8.66%	$171,839,255	$14,880,114	$0.047
1.2%	347,846,810	9.74%	$187,461,006	$18,261,958	$0.053
1.3%	376,834,044	10.82%	$203,082,756	$21,981,986	$0.058
1.4%	405,821,279	11.91%	$218,704,507	$26,040,199	$0.064
1.5%	434,808,513	12.99%	$234,326,257	$30,436,596	$0.070
Approved Goal	**438,259,503**	**13.12%**	**$236,186,059**	**$30,982,523**	**$0.071**
1.6%	463,795,747	14.07%	$249,948,008	$35,171,177	$0.076
1.7%	492,782,981	15.15%	$265,569,758	$40,243,943	$0.082
1.8%	521,770,215	16.24%	$281,191,509	$45,654,894	$0.088
1.9%	550,757,449	17.32%	$296,813,259	$48,191,277	$0.088
2.0%	579,744,684	18.40%	$312,435,010	$50,727,660	$0.088

Northern States Power Company
a Minnesota corporation
2016 Natural Gas Incentive Calculation

In accordance with the Minnesota PUC Orders dated January 27, 2010 and March 30, 2012 (Docket No. E,G999/CI-08-133), Xcel Energy respectfully submits this CIP Financial Incentive calculation.

In 2016, Xcel Energy achieved energy savings of 908,472 Dth (128% of goal) at a cost of $13,805,804 (95% of budget). As a result, we respectfully request approval of our financial incentive in the amount of $6,245,743.

In the October 12, 2015 Decision and subsequently via several approvals of program modifications, both in Docket No. E,G002/CIP-12-447, Xcel Energy was approved to spend a total of $14,485,724 in 2016. According to the Order in Docket No. E,G999/CI-08-133, certain expenses and savings are excluded from the natural gas incentive calculation, including regulatory assessments and third party projects not selected for inclusion in the annual incentive compliance filing. As stated in our January 30, 2013 incentive compliance filing, we elected not to include any of the natural gas third party programs in the calculation of the incentive.[7]

Calculation of Pre-Year Inputs

	Spending	Energy Goal (Dth)	Net Benefits
2016 Portfolio Subtotal[8]	$14,439,173	712,004	$21,663,497
Total Pre-Year Inputs	**$14,439,173**	**712,004**	**$21,663,497**

Model Year Inputs

Earnings Threshold (% of Sales)	0.4%
Earnings Threshold (Dth Savings)	277,834
Award Zero Point (% of Sales)	0.3%
Award Zero Point (Dth Savings)	208,375
Steps From Zero Point to 1.5%	12
Size of Steps in Energy Savings	69,458

Incentive Calibration

Average Incentive per Unit at 1.5%	$9.00
Incentive Cap	$6.875
Energy Savings at 1.5%	1,041,876
Targeted Incentive at 1.5%	$9,376,887
Multiplier (Percent of Net Benefits Received for Every 0.1% of Sales)	0.02465

Pre-Year Inputs

Approved CIP Budget for Incentive	$14,439,173
Goal Energy Savings (Dth)	712,004
Goal Utility Test Net Benefits (Based On Approved Triennial Plan)	$21,663,497

[7] Docket No. E,G999/CI-08-133 and Docket No. G002/M-16-108.
[8] Excludes NGEA assessments, Enerchange, Energy Intelligence, Energy Smart, and Trillion Btu.

Summary of 2016 Achievements

Actual Spending for Incentive	$13,805,804
Actual Energy Savings (Dth)	908,472
Net Benefits Achieved[9]	$42,565,945

2016 Financial Incentive Mechanism

In order to calculate the financial incentive achieved, it is necessary to calculate the percent of net benefits awarded. The following calculations and incentive table detail Xcel Energy's financial incentive.

Steps Above Zero Point =

$$\frac{\text{Energy Saved - Award Zero Point (Dth Savings)}}{\text{Size of Steps in Energy Savings}} = \frac{908{,}472 - 208{,}375}{69{,}458}$$

= **10.07936 Steps**

Percent of Net Benefits Awarded =

Steps Above Zero Point x Multiplier = 10.07936 x 0.02465

=24.84552%[10] (max of 20%)

Incentive Awarded =

Net Benefits Achieved x Percent of Net Benefits Awarded = $42,565,945 x 20.0000%

= **$8,513,189**

Incentive capped at $6.875/Dth = $6.875 * 908,472 Dth

= $6,245,743

2016 Gas Incentive Request

Based on the above calculation, Xcel Energy respectfully requests approval of a financial incentive of $6,245,743

[9] The net benefits are equal to the utility test net benefits shown on the Total Gas CIP with Indirect Participants BENCOST sheet included in the Cost-Effectiveness section.

[10] From 2016 incentive model approved by Department in Docket No. E002/M-16-108. Small difference due to rounding.

Table 23: Xcel Energy's 2016 Natural Gas Financial Incentive Mechanism

Achievement Level (% of sales)	Energy Saved	Percent of Benefits Awarded	Estimated Benefits Achieved	Incentive Award	Average Incentive per unit Saved
0.0%	0	0.00000%	$0	$0	$0.000
0.1%	69,458	0.00000%	$2,113,348	$0	$0.000
0.2%	138,917	0.00000%	$4,226,696	$0	$0.000
0.3%	208,375	0.00000%	$6,340,044	$0	$0.000
0.4%	277,834	0.00000%	$8,453,392	$0	$0.000
0.5%	347,292	4.92998%	$10,566,740	$520,938	$1.500
0.6%	416,751	7.39497%	$12,680,088	$937,689	$2.250
0.7%	486,209	9.85996%	$14,793,436	$1,458,627	$3.000
0.8%	555,667	12.32495%	$16,906,784	$2,083,753	$3.750
0.9%	625,126	14.78994%	$19,020,132	$2,813,066	$4.500
1.0%	694,584	17.25493%	$21,133,480	$3,646,567	$5.250
Approved Goal	**712,004**	**17.87314%**	**$21,663,497**	**$3,871,946**	**$5.438**
1.1%	764,043	19.71992%	$23,246,828	$4,584,256	$6.000
1.2%	833,501	20.00000%	$25,360,176	$5,072,035	$6.085
1.3%	902,959	20.00000%	$27,473,524	$5,494,705	$6.085
1.4%	972,418	20.00000%	$29,586,872	$5,917,374	$6.085
1.5%	1,041,876	20.00000%	$31,700,220	$6,340,044	$6.085
1.6%	1,111,335	20.00000%	$33,813,568	$6,762,714	$6.085
1.7%	1,180,793	20.00000%	$35,926,917	$7,185,383	$6.085
1.8%	1,250,252	20.00000%	$38,040,265	$7,608,053	$6.085
1.9%	1,319,710	20.00000%	$40,153,613	$8,030,723	$6.085
2.0%	1,389,168	20.00000%	$42,266,961	$8,453,392	$6.085

Northern States Power Company
a Minnesota corporation
2016 CIP Status Report
Docket No. E,G002/CIP-12-447

Summary

The 2016 CIP Status Report compares the actual achievements accomplished by Xcel Energy in 2016 to the goals that were approved in the 2013-2015 CIP Triennial Plan and 2016 Extension Plan. These comparisons focus on generator kWh and kW reduced, Dth saved, participation, and dollars spent compared to goal. The report discusses program accomplishments by segment, including:

- Business
- Residential
- Low-Income
- Planning
- Research, Evaluations, & Pilots
- Renewable Energy
- Alternative Filings
- Assessments

Xcel Energy's CIP program continues to encourage energy savings and build awareness of the benefits of energy efficiency. In 2016, the electric portfolio and gas portfolio successfully exceeded their savings goals. The Company achieved over 552 GWh of electric savings, 135 MW of demand reduction, and 908,472 Dth of gas savings, while spending $101.1 million on its electric programs and $13.8 million on its gas programs.

Summary of Achievements

2016	Electric Goal	Electric Actual	% of Electric Goal	Gas Goal	Gas Actual	% of Gas Goal
Budget	$99,413,251	$101,146,305	102%	$14,485,724	$13,805,804	95%
Generator kW	106,312	135,564	128%	n/a	n/a	n/a
kWh/Dth Saved	471,596,174	552,782,775	117%	712,138	908,472	128%
Participation	1,798,886	3,597,153	200%	582,041	599,137	103%

In compliance with Minn. R. 7690.0550, this 2016 CIP Status Report includes the cost-effectiveness of the overall Xcel Energy CIP Plan based on 2016 actual performance, as calculated from the utility, participant, ratepayer, and societal perspectives. The results are listed by segment and by program. The cost-benefit analyses can be found in a separate section after the "Cost-Effectiveness" tab.

Business Segment

Xcel Energy's Business Segment serves electric and natural gas commercial and industrial customers throughout the service territory. There are a variety of program designs used to encourage these customers to save energy, lower their energy bills and/or peak demand, and minimize environmental impacts. These include:

- Equipment rebate programs that lower the upfront cost for customers to purchase and install energy efficient equipment or process improvements;
- Studies and audits that help customers identify, plan, prioritize, and implement energy efficiency projects;
- Holistic programs that encourage long-term energy planning to help customers identify, analyze, prioritize, and implement efficiency plans rather than ad-hoc efficiency projects;
- Demand response programs that help lower customers' electricity demand during peak periods in exchange for lower rates or energy bill discounts; and
- Business education, advertising, and promotional efforts that work to increase customer and trade awareness of energy use and conservation options, which drives behavioral changes and leads to future participation in our programs.

Summary of Achievements

Segment	Electric Goal	Electric Actual	% of Electric Goal	Gas Goal	Gas Actual	% of Gas Goal
Budget	$45,221,139	$43,434,498	96%	$4,986,511	$3,546,948	71%
Generator kW	52,944	64,307	121%	n/a	n/a	n/a
kWh/Dth Saved	298,638,703	276,349,242	93%	498,811	596,761	120%
Participation	82,273	132,789	161%	2,934	2,798	95%

The Business Segment achieved its electric participation, electric demand reduction and natural gas savings goals. An overview of the products that contributed significantly to the portfolio's results, as well as those that did not achieve goal is provided below.

- The Business New Construction program continues to see solid participation and achievement due to the continued strength of the new construction market. The program significantly exceeded its electric and gas savings goals and budgets.

- The Commercial Efficiency (CE) program also had strong performance. Due to a strong pipeline of projects identified in previous years the program surpassed its electric and gas goals. Electric spend exceeded budget but is in line with increased achievement. Gas spend did not exceed budget due to fewer gas studies than forecasted.

- The Lighting Efficiency program exceeded its participation, savings, and spending goals in 2016 due to strong performance in LED and high-efficient fluorescent measures in the prescriptive and custom components of the program.

- The Process Efficiency (PE) program continues to provide significant achievement for both electric and gas. The program did not meet its electric goal but significantly surpassed its gas goal. Much of its success on the gas side can be attributed to a strong pipeline of projects that were identified in previous years and setting long-term, energy saving goals with our largest industrial customers.

- The Turn Key Services program exceeded its electric goal and achieved the highest savings since the program launched in 2012. This can be attributed to solid pipeline building in the previous years, performing ongoing follow up with customers who have completed audits, and offering a bonus to customers who implemented measures within one year of their audit.

Programs that did not achieve their filed goals include:

- The Efficiency Controls program did not achieve its 2016 gas or electric goal but spending aligned with achievements. Reports from the market indicate the conversions of old pneumatic control systems to newer direct digital control systems are approaching market saturation.

- The Motor Efficiency program did not meet its goals in 2016 due to lower participation than forecasted. The program employed various tactics including email campaigns, newsletters, customer events, trainings and social media to promote program changes and increase awareness.

- In 2016 the Multi-Family Building Efficiency program completed its first full year in market and did not meet achievement goals for electric or gas. The results are attributed to the notably long project lifecycle and are not unexpected for the first full year. Strong interest in the program is expected to continue to drive activity to strengthen the future project pipeline.

Business Direct Impact Programs

Business New Construction

The Business New Construction program offers electric and gas rebates and consulting services to customers that incorporate energy efficiency into their new construction project, building addition, or major renovation. The Business New Construction program includes two offerings. Energy Design Assistance (EDA) is an integrated design approach that utilizes energy modeling to identify whole building energy savings opportunities and provides customized rebates. The Energy Efficient Building (EEB) program is for smaller, less complicated projects and is more appropriate for customers not suited for an integrated development approach. EEB projects utilize our existing prescriptive and custom rebates to develop a project-specific rebate offering for the customer.

The Business New Construction program is marketed primarily through the design community. The program has been in the market, in some form, since the mid-90s and has an established trade network of design team professionals who regularly participate. The Xcel Energy Account Managers and Business Solutions Center representatives also promote the program to customers.

Deviation from Goal or Budget

As expected, due to the continued strength of the new construction market, the Business New Construction program significantly exceeded its electric and gas savings goals and budgets. Due to the anticipated program changes for 2016, we had a surge of applications in December 2015; as a result, while enrollments were very strong, it did not set a new record as it had the last seven years. However, we expect the high participation levels will continue through 2017 and potentially beyond.

Changes in 2016

In 2016, the baseline for all new EDA projects and specific EEB measures (Custom, Envelope and Lighting Power Density (LPD)) was changed to ASHRAE 90.1 2010.

Commercial Efficiency

The Commercial Efficiency program offers large commercial customers customized resources to develop a holistic, sustainable energy management plan. The program also provides funding for studies to identify and scope energy efficiency opportunities. Rebates are available to customers who implement qualifying energy efficiency recommendations. This program is primarily marketed to large commercial customers through our account managers.

Deviation from Goal or Budget

Due to a strong pipeline of projects identified in previous years the program surpassed its electric and gas goals. Electric spend exceeded budget but is in line with increased achievement. Gas spend did not exceed budget due to fewer gas studies than forecasted and completion of a large project.

Changes in 2016

None.

Computer Efficiency

The Computer Efficiency program offers rebates for two different market segments. The first segment is upstream, and incentives are paid to personal computer (PC) and server manufacturers that design, install and deliver units with energy efficient PC and server power supplies for business customers in Xcel Energy's electric service territories. Manufacturers meeting the program requirements and signing a participation agreement can receive rebates. The program is executed through a third party that developed and promotes the 80 PLUS program on behalf of utilities across North America. As units are shipped to qualified zip codes, the third party company will pay rebates to manufacturers.

The program also offers a downstream or prescriptive component to Xcel Energy's electric business customers. Virtual Desktop Infrastructure (VDI) is a desktop computing architecture that centralizes the desktop operating system and applications environment from a physical machine to create a client-server computing model. PC Power Management implementation is another offering that customers may utilize. The incentives offset the cost of power management packages that override the individual power management settings of desktop PC's that operate during a typical single shift operation.

The program is primarily marketed to business customers, healthcare facilities, and universities.

Deviation from Goal or Budget

The Computer Efficiency program achieved 86% of the filed goal and used 34% of the filed budget. The biggest contributor to this was in terms of rebates and we also spent less on labor and other admin costs.

Changes in 2016

None.

Cooling Efficiency

The Cooling Efficiency program offers prescriptive and custom rebates, as well as study funding, to business customers who purchase and install high efficiency cooling equipment. Rebates help offset the incremental cost of the efficient equipment and help minimize the associated payback period. Marketing efforts focused on developing strong relationships with trade partners and educating them on the role our rebates can play in encouraging high efficiency equipment sales to customers. This program is marketed to business customers of all sizes.

Deviation from Goal or Budget

The Cooling Efficiency program was close to reaching its savings goals and exceeded its filed budget in 2016. Upcoming changes to baselines and rebate structure impacted the mix of measures implemented.

Changes in 2016

Added prescriptive rebates for close the case doors.

Custom Efficiency

The Custom Efficiency program offers rebates to electric and natural gas business customers who implement energy saving projects that are not available through our prescriptive programs. The program is marketed using direct contact with customers via our sales representatives, the internet, and trade channels. Because projects vary by customer type and complexity, we use various promotional efforts to highlight energy savings opportunities to build program awareness.

Deviation from Goal or Budget
The Custom Efficiency program did not meet its electric goal but exceeded its gas goal. The program's traditional market base continues to contract, as larger customers avail themselves of holistic programs and as technologies migrate from Custom Efficiency to prescriptive programs. Historically, both gas and electric products have experienced a steady decline in participation and savings since 2012. To increase participation, promotional efforts continue to focus on market segments not targeted by our holistic programs and segments that do not have a corresponding prescriptive end-use rebate (fluid systems, cooling, heating, lighting and motors).

Changes in 2016
None.

Data Center Efficiency
The Data Center Efficiency program offers study, prescriptive and custom electric rebates to customers who implement energy saving measures in their data centers. This is a unique segment focused program tailored to the specialized needs of data centers. The program is primarily marketed to enterprise and colocation data centers through our account managers, energy efficiency specialists and trade partners. Data centers of any size may participate in the program.

Deviation from Goal or Budget
The Data Center Efficiency program did not meet it savings goal. This is mainly due disallowing server virtualization in the program. When the goals were created for the program, server virtualization was a large percentage.

Various tactics were used to try to increase achievement and build pipeline such as offering free walkthroughs of customer data center space to identify energy saving opportunities and meeting with targeted data center trade partners to increase participation.

Changes in 2016
We filed an informal modification to add a measure for new data centers/major renovations. This modification was approved in January 2016.

Efficiency Controls
The Efficiency Controls program offers custom electric and gas rebates to customers who install energy saving controls and building automation systems. Rebates can apply to new systems for HVAC and lighting that can be centrally controlled either locally or via web interface. Customers receive customized energy saving estimates when they apply for rebates under the program.

The program is marketed directly to all sizes of commercial businesses through our active trade partner relationships as well as our account management and energy efficiency specialist staff.

Deviation from Goal or Budget
The program did not achieve its 2016 gas or electric goal but spending was in alignment with achievements. A program evaluation that took place in 2016 supported the fact that Efficiency Controls is a mature program and we have seen a decline over recent years.

Reports from the market indicate the conversions of old pneumatic control systems to newer direct digital control systems are approaching saturation. It is expected that there will be few customers to target with the current offering. There were several projects completed via customer participation through our holistic-type programs. This too, is a decline over previous years.

Changes in 2016
A program evaluation was completed.

Fluid Systems Optimization
The Fluid Systems Optimization program offers study funding and custom/prescriptive electric rebates to customers making energy saving improvements to their fluid systems. Fluid systems included in the program are: compressed air, blower, fan, vacuum, pump, and hydraulic systems. Prescriptive rebates are offered for compressed air equipment. The program aims to support business customers in evaluating systems to identify and implement energy efficient improvements.

The program is primarily marketed to small, mid-sized, and large industrial customers through our strong trade partner relations, as well as our account management and energy efficiency specialist teams. Many large customers also participate via our Process Efficiency program offering.

Deviation from Goal or Budget
The program did not reach its goal in 2016. Marketing efforts continue to promote the variety of fluid systems studies and have realized some increased trade interest in conducting system studies. Customer and trade communications include in-person meetings and events, email, direct mail and newsletters. An additional amount of incremental savings is also realized and tracked within the Process Efficiency program.

Changes in 2016
No changes. A program evaluation was completed in 2016.

Foodservice Equipment
The Foodservice Equipment program offers prescriptive gas and electric rebates to business customers who purchase and install qualifying energy efficient foodservice equipment. The goal of the program is to encourage customers to install equipment that is more efficient than the standard equipment. This program is primarily marketed through our account managers and trade partners.

Deviation from Goal or Budget

The program did not reach its savings goals due to lower participation than forecasted. Spending was in line with achievements. The program targeted the trade and customers to increase awareness. We advertised in Foodservice News and participated with the Minnesota Blue Flame Gas Association. The program also has a trade incentive to stimulate awareness and increase trade participation.

Changes in 2016
None.

Heating Efficiency
The Heating Efficiency program offers prescriptive and custom natural gas rebates to customers who install energy efficient boilers, furnaces, water heaters, and other heating system improvements. The program also encourages customers to critically examine the operations of their heating and distribution systems by funding audits, repairs, and tune-ups on an ongoing basis.

The program is primarily marketed to large customers through our Account Managers and to mid-size customers through our Energy Efficiency Specialists. We also work closely with trade partners, including manufacturer representatives, contractors, and distributors, to market the program. Additionally, we participate in community energy organizations, primarily the Minnesota Blue Flame Association, to assess engagement, program strengths and weaknesses, and gather feedback from the market.

Deviation from Goal or Budget
The program did not meet its participation and savings goals in 2016. Ongoing low natural gas prices have prolonged paybacks and diminished demand for investment in natural gas equipment upgrades.

Changes in 2016
In 2015 we filed and received approval to add Unit Heaters the program. This measure became available for rebates beginning January 2016.

Lighting Efficiency
The Lighting Efficiency program offers study funding, as well as prescriptive and custom rebates, to customers who purchase and install high efficiency lighting equipment. Marketing efforts are heavily focused on developing relationships with trade partners and educating them on the role our rebates can play in encouraging high efficiency equipment sales to the customer.

Deviation from Goal or Budget
Lighting Efficiency exceeded its participation, savings, and spending goals in 2016 due to strong performance in LED and high-efficient fluorescent measures in the prescriptive and custom components of the program. The additional spending was in line with the increased achievement.

Changes in 2016
Prescriptive rebates for LED Type B linear tubes were added to the program offerings in 2016.

Motor Efficiency

The Motor Efficiency program offers custom and prescriptive rebates for constant speed motor controllers, induction and permanent magnet alternating current (PMAC) motors, variable frequency drives (VFDs) or adjustable speed drives for HVAC, non-HVAC and water well pump VFDs to qualifying electric business customers. Rebates help offset the incremental first cost of high efficiency equipment and help minimize the associated payback period. This program is primarily marketed through Xcel Energy account managers and energy efficiency specialists. The program also leverages trade partners as a secondary marketing outlet.

Deviation from Goal or Budget

The Motors Efficiency program did not meet its savings or spending goals in 2016 due to lower participation then forecasted. Program spending was proportionate with overall achievement. To increase awareness, the program leveraged various electronic channels such as email campaigns, E-newsletters and social media outlets to promote program changes while controlling program costs.

Changes in 2016

An informal modification was filed in December 2015 and approved in January 2016. This modification included two changes for the program. The first change was to add four combinations of facility type and use of motors to the deemed hours tables for energy savings calculations for the prescriptive motor and variable frequency drive (VFD) rebates under the Motor Efficiency program. These additions allowed the program to prescriptively claim savings for motors and VFDs that are installed in certain conditioned spaces. The conditioned space applications included are data center fans, data center pumps, freezer case fans and refrigeration fans. This modification allowed us to streamline our process and prescriptively claim savings for motors and VFDs in these conditioned spaces.

The second modification allowed the motor efficiency program to move permanent magnet alternating current (PMAC) motors from custom to prescriptive under the enhanced motors rebate.

Multi-Family Building Efficiency

The Multi-Family Building Efficiency (MFBE) program is designed to reach the challenging multi-family housing market segment. Developed and filed in partnership with CenterPoint Energy, the program provides a one-stop approach for our joint customers and provides rebates and free direct installation services and audits to qualifying buildings. Unlike other CIP programs, it is focused on the entire multi-family building – resident spaces and common areas – removing the barriers that once kept building owners from participating in CIP.

The program is primarily marketed by activities through the MN Multi Housing Association including event participation and advertising. There also continues to be a high level of interest driven through various stakeholder groups and the Minneapolis Clean Energy Partnership.

Deviation from Goal or Budget

This was the first full year the MFBE program has been in the market. Electric participation was only slightly under goal, with the electric savings and budget having a larger shortfall from goal. Xcel Energy gas participation exceeded goal while savings and budget were slightly under. These

results are driven by the fact that for Xcel Energy, only the audit and direct install activities of the program occurred in this initial year. As anticipated, the lengthy lead-times for completing performance projects resulted in only one customer receiving an incentive for a natural gas project, which was from CenterPoint Energy. There remains a high level of interest in the program which will continue to drive the audit and direct install activities, and previous audits should drive the future performance projects.

Changes in 2016
None.

Process Efficiency
The Process Efficiency program offers large industrial customers customized resources to develop a holistic, sustainable energy management plan. Specifically, this program provides funding for studies to identify and scope energy efficiency opportunities. Prescriptive and custom rebates are available to customers who implement qualifying energy efficiency recommendations. This program is primarily marketed to large industrial customers through account managers.

Deviation from Goal or Budget
Electric - Although Process Efficiency did not meet the filed electric goal, it was still a major contributor to portfolio achievement. Much of its success can be attributed to a strong pipeline of projects that were identified in previous years. Spending did not exceed filed budgets and was in line with the amount of savings achieved.

Gas – Process Efficiency surpassed the gas goal by over 40%. Spending was well below the filed budget primarily due to a few big projects that did not qualify for rebates but were influenced by the program through on-going planning efforts and studies.

Changes in 2016
None.

Recommissioning
The Recommissioning program is designed to assist commercial and industrial customers and improve the efficiency of a building's current operating systems. Recommissioning is intended to tune-up existing systems so they function as efficiently as possible. Through a study provider of the customer's choosing, the program supports a systematic, investigative, and implementation plan to improve building operation, decrease costs, and reduce peak electric demand and natural gas usage. Recommissioning consists of two main steps: study and implementation. We offer rebates to off-set the cost of Recommissioning studies, as well as rebates for the implementation of Recommissioning measures.

The program is primarily marketed through participating trade partners and sales channels.

Deviation from Goal or Budget

Electric savings fell short of goal while staying under budget. The electric spend was in line with the program's electric achievement. The Recommissioning program met the gas savings goal while also proportionately exceeding its allocated budget.

Changes in 2016
None.

Self-Direct Efficiency
The Self-Direct Efficiency program is targeted toward "self-sufficient" business customers who have the resources to manage their own energy efficiency improvement projects and the capability to perform their own measurement and verification (M&V). Some customers may prefer to use their in-house experience and resources, while others may choose an energy service company (ESCO) or other energy partner to assist them with their efforts. Regardless, customers who implement and commission qualifying projects can receive rebates based upon the amount of energy savings achieved.

Deviation from Goal or Budget
The Self-Direct program had its first participant this year. Some customers continue to express interest in the program, but for their own reasons have not pursued participation beyond initial discussions. At that point, they typically gravitate to our holistic, full-service programs. Nonetheless, we continue to offer this product to any eligible customer who might be interested in self-managing their energy efficiency projects.

Changes in 2016
None.

Turn Key Services
The Turn Key Services program provides business customers with on-site audits to identify electric and gas energy efficiency opportunities, free implementation support to customers who need help implementing their energy efficiency projects, and prescriptive or custom rebates for the measures they choose to implement. Implementation support and rebates are available for any qualifying conservation project, regardless of whether it was identified in an audit. The program uses a hands-on approach and third-party assistance to help customers bridge the gap between identified energy saving opportunities and implementing those opportunities. The program is marketed to all business customers through our account managers and energy efficiency specialists as well as through advertising.

Deviation from Goal or Budget
In 2016, the program exceeded its electric goal achieving the highest savings since the program launched in 2012. This can be attributed to solid pipeline building in the past, performing ongoing follow up with customers who have completed audits, and offering a bonus to customers who implemented measures within one year of their audit.

Changes in 2016
None.

Business Load Management Programs

Electric Rate Savings

The Electric Rate Savings (ERS) program is offered to any business customer who can reduce their electric loads during control periods by at least 50 kW. In return, customers receive a monthly discount on their demand charges. Participants can save as much as 50 percent on their demand charges over the entire year. The ERS program is promoted through Xcel Energy's account management team and the Business Solutions Center.

Deviation from Goal or Budget

Despite the loss of customers from opt-outs and non-compliance, overall the program had net growth in 2016. This was largely due to a few customers returning to the program and some added load due to growth. The budget was underspent.

Changes in 2016

Xcel Energy continued to promote this program, with the goal of replacing some of the lost load due to non-compliance and customers who opted out in 2015 and left the program in 2016. Marginal growth in the program is still expected.

Business Saver's Switch

Saver's Switch for Business is a prescriptive load management program available to commercial customers. The program uses direct load control to cycle customers' rooftop air conditioning units during periods of peak demand, helping to maintain system reliability. The program is marketed via direct mail, telemarketing and advertising.

Deviation from Goal or Budget

The program slightly exceeded both its participation targets and budget for the year. This is primarily due to lower promotional expenditures, as a significant portion of the program's achievements were derived from the replacement of older hardware identified as no longer working or replaced due to exceeding its useful life.

Changes in 2016

None.

Business Indirect Impact Programs

Business Education

The Business Education program is intended to create awareness of energy conservation by providing business customers with information and resources to reduce their business' energy use. Xcel Energy provides customers with opportunities to actively engage in energy efficiency through offering program information at tradeshows and other outreach events, customer leads and social media channels such as Facebook and Twitter. The Company also uses traditional outreach channels like seasonal print and bill inserts as an integral part of the overall outreach strategy.

Deviation from Goal or Budget

The Company exceeded the electric and gas participation targets for this program while staying within the approved budgets. Continued long-term partnerships with community-based organizations contributed to increased participation without additional expenditures. Community partners continued to offer additional outreach opportunities as a result of mutually beneficial, longstanding relationships. The Company has worked to achieve better web reporting and analytics, newsletter readership, and social media reporting which have also supported increased participation.

Changes in 2016

None.

Small Business Lamp Recycling

The Small Business Lamp Recycling program encourages small business electric customers to recycle their spent fluorescent bulbs instead of discarding them in regular trash. Recycling fluorescent bulbs reduces the amount of mercury entering the environment. Participants are provided with two convenient ways to recycle spent bulbs. Customers can drop off their used CFL bulbs either at designated county recycling centers or at participating local hardware stores where both offer recycling of the bulbs at no charge. Many locations will also recycle non-CFL bulbs, such as fluorescent tubes and high intensity discharge bulbs, for a small fee. Xcel Energy offers a coupon on its website to help customers offset any bulb recycling costs.

The program was promoted through the Company's website.

Deviation from Goal or Budget

The Small Business Lamp Recycling program exceeded its filed participation goal and program budget. More customers are becoming aware of the importance of recycling and taking advantage of this environmentally friendly option.

Changes in 2016

None.

Energy Benchmarking

Energy Benchmarking is an indirect program that offers an online portal for building owners to access whole-building energy usage data—with a specific focus on providing building owners with aggregated energy usage information across multiple tenants. Key features of the Energy Benchmarking program include Building Owner Authorization, Tenant Identification, Data Privacy

Rule Implementation, Consumption Data Aggregation and Normalization, and Automated Data Transfer to the ENERGY STAR Portfolio Manager.

In 2016, 396 MN buildings were benchmarked using the tool, some of which were participating in existing whole-facility energy efficiency products. The table below presents the breakout of those requestors by product.

Program	*Number of Buildings*
Multi-Family Energy Efficiency Program	127
Turk-Key Services	64
Other Requestors	205
Total	396

Deviation from Goal or Budget
The Company underspent its budget in 2016 due to suspending promotional activities as the Company worked to streamline customer participation processes as well as make additional system enhancement to improve customer experience and service quality.

Changes in 2016
None.

Residential Segment

The Residential Segment provides cost-effective, direct and indirect impact energy efficiency and demand response programs that target customers' homes. Program offerings range from prescriptive rebates to in-home services covering energy efficiency measure installations and installation labor. Consumer education is included with most of the residential programs to increase conservation awareness and to encourage energy-wise choices and behaviors in the home.

Summary of Achievements

Segment	Electric Goal	Electric Actual	% of Electric Goal	Gas Goal	Gas Actual	% of Gas Goal
Budget	$21,762,406	$23,050,826	106%	$5,632,928	$6,691,216	119%
Generator kW	39,647	54,622	138%	n/a	n/a	n/a
kWh/Mcf Saved	100,401,037	189,097,201	188%	177,115	290,238	164%
Participation	1,699,699	3,456,638	203%	566,752	621,060	110%

In 2016, the Residential Segment's electric portfolio exceeded its participation, savings and spend goals. Respectively, Home Lighting, Energy Feedback, Residential Cooling and Heating System Rebate programs were the leading savings performers. The Home Lighting program experienced continued strong customer response to promotions and event marketing. The Home Energy Squad and Refrigerator Recycling programs also contributed significant electric savings in 2016.

The Residential Segment's gas portfolio greatly exceeded its savings goal within commensurate spend, and while reaching fewer participants than filed. Most of the segment's gas programs surpassed their savings goals. Respectively, Heating System Rebate, ENERGY STAR Homes, Energy Efficient Showerheads and Energy Feedback programs were the largest program contributors toward the segment's total gas achievements. Home Energy Squad and School Education Kits also contributed significantly. The Water Heating Rebate program achieved its highest ever participation and savings goals, likely due to a continued strong retail presence in Xcel Energy's gas service territory.

Residential Direct Impact Programs

Energy Efficient Showerheads

The Energy Efficient Showerheads program is designed to offer year-round natural gas and electric savings to Xcel Energy customers. Qualifying customers receive a direct mail or email offer for a 1.5 gallon per minute (GPM) showerhead, a 1.5 GPM kitchen aerator, and a 1.0 GPM bathroom aerator. Customers accept the offer by mailing in a business reply card, signing up via an online portal, or calling the vendor's toll-free number prior to the promotion's deadline. Following signup, customers are mailed a showerhead kit free of charge which includes the showerhead, two aerators, thread seal tape, and installation instructions.

Deviation from Goal or Budget

In 2016 the program exceeded the filed gas and electric savings goals, while electric savings exceeded the commensurate increased electric spend. Gas spend was under the filed budget. The higher electric savings and lower gas spend were primarily the result of the number of electric water heaters reported and improved installation rates.

Changes in 2016

None.

Energy Feedback

The Energy Feedback program provides participating customers information about their energy consumption and about how that consumption compares to similar homes nearby. This is an opt-out program that uses a participant and control group to statistically calculate how much energy was saved by the participants. At the end of 2016, the program was following savings from seven different populations: the original print report participants; participants who receive only email reports; participants selected to "refill" the original group; print report participants added in 2013; a group of electric-only customers added in 2015; a small refill in 2016; and customers who visited the My Energy portal.

Deviation from Goal or Budget

The program met its energy savings goals. Again this year we see the impact of difficulties in forecasting demand, as achievement is almost four times the originally expected value. Although the gas spend was higher than filed, electric spend was lower, with the combined actual spend coming in lower than the filed spend.

Changes in 2016

None.

ENERGY STAR® Homes

The ENERGY STAR® Homes program helps local builders construct energy efficient homes for our residential customers by providing both prescriptive rebates for energy efficient measures, as well as free services. These services include blue print analysis, construction site visits, blower door testing, infrared scanning, HERS score determination, and ENERGY STAR verification. The

program is promoted primarily through the spring and fall Parade of Homes events sponsored by the Builders' Association of the Twin Cities and by outreach via the program vendor.

Deviation from Goal or Budget
Program participation was again high due to the strong construction market; however, the changes in the applicable Minnesota Residential Energy Code raised the minimum baseline for both electric and gas dramatically. Consequently, although savings met filed goals, the average electric and gas savings per home were down significantly from 2015. The difference in overachievement between demand savings and energy savings can be traced back, in large part, to the original program modeling; increased volume is represented well in the energy savings but not demand savings. The original technical assumptions were more conservative than the actual results. Gas and electric spending exceeded filed goals, and levels were commensurate with or better than the associated participation rates.

Changes in 2016
Beginning in 2016 the program recognized "better than code" savings achievements with cash rebates in addition to house rating and consulting services. These changes are being implemented in response to the 2015 changes to the Minnesota Energy code, which raised housing baseline requirements. About one fourth of the homes going through the gas program and through the electric-only program received envelope rebates.

Heating System Rebate
The Heating System Rebate program offers prescriptive rebates to Xcel Energy natural gas customers who install new high-efficiency furnaces and hot water boilers, and to electric customers who install Electronically Commutated Motors (ECM). The natural gas portion of the program is designed to encourage customers to choose high-efficiency heating equipment through a tiered rebate schedule, while the electric portion is designed to encourage customers to upgrade the fan motor of their forced-air furnace. The program is marketed primarily to homeowners via various forms of mass media messaging and an extensive trade ally network that serves as in-home spokespeople for the program while selling new equipment. This program is also cross-marketed with the Insulation Rebate and Water Heating Rebate programs.

Deviation from Goal or Budget
The program exceeded its budget and savings goals. On the electric side, the ECM measure received far more participation than expected. This growth was partly fueled by manufacturers increasing production of furnaces with ECMs. The natural gas savings and spend increased due to a larger than expected number of top tier rebates submitted.

Changes in 2016
None.

Home Energy Squad
The Home Energy Squad program, offered in partnership with CenterPoint Energy (CPE), installs energy-saving measures in customers' homes. During the home visit and for a flat fee, customers receive the appropriate efficiency measures, free installation, consumer education, and the

convenience of the home service. The program is co-branded with CenterPoint Energy in all territories to eliminate customer confusion. Marketing tactics used to promote the program included mass media advertising, bill inserts, email, neighborhood canvassing, telemarketing, and event marketing.

Deviation from Goal or Budget
The Home Energy Squad program exceeded its electric savings goals but did not achieve its gas savings goal. The program achieved a much higher net gen kW savings than expected due to the programmable thermostats' actual average setback temperature being higher than we had estimated in the technical assumptions. While the average gas savings per participant was higher than the filed average, the gas savings goal was not achieved due to not reaching the gas participation goal. Program participation in the combination gas and electric territory increased over the previous year with a slight decrease in electric-only territory where CPE serves gas. The program's gas and electric spending was below the percent of savings achieved.

Changes in 2016
None

Home Lighting
The Home Lighting program offers discounted prices, via upstream incentives to retailers and manufacturers, on CFLs and LEDs. Energy-efficient light bulbs are an easy and low-cost way for customers to save energy and reduce their monthly electric bills. Increasingly, the Company has put more focus on LED bulbs to drive transformation in the marketplace.

The Home Lighting program is widely promoted through a variety of marketing channels, including radio, internet, print publications, bill inserts, and point-of-purchase displays. The Company promotes the program through local events with organizations such as sports teams, community events such as fairs, and light bulb "giveaways."

Deviation from Goal or Budget
The program greatly exceeded its electric energy savings and budget targets; however, the budget was proportionally less than the energy savings percentage. Significant achievements were made in growing LED sales to more than 1.3 million units or 34 percent of the residential lighting portfolio.

Changes in 2016
None

Home Performance with ENERGY STAR®
The Home Performance with ENERGY STAR program is a comprehensive "whole house" retrofit program available only to Xcel Energy residential combination natural gas and electric customers living in single-family homes or multi-unit complexes with fewer than four units. This program is designed to give cash rebates to customers who implement measures identified during the Home Energy Audit. Participants have one year to implement three required measures and an additional two measures from a prescribed list of options. Customers needing attic insulation are the primary candidates for the program.

Deviation from Goal or Budget
The program did not reach its participation goals and fell short of its savings goals. A factor in reduced participation continues to be the reduction in the number of insulation contractors available after the implementation of the BPI certification requirement. The program also experienced a decrease in electric energy savings attributed to lighting.

Changes in 2016
In December 2015 we filed for a change in the rebate for LEDs. The rebate amount per lamp was replaced with a rebate that was calculated as 50% of the retail price paid by the customer. The number of LEDs rebated dropped significantly from 2015 to 2016.

Insulation Rebate
The Insulation Rebate program offers prescriptive electric and natural gas rebates to residential customers to increase the insulation and bypass sealing in their homes. To qualify for the rebate, customers must have the insulation installed by a Building Performance Institute (BPI) certified installer. The program is primarily marketed through the trade partner network with an emphasis on communications through various channels including newsletters and annual program training. The program is also cross-marketed through other Xcel Energy residential programs such as Heating System Rebate and Water Heating Rebate.

Deviation from Goal or Budget
The Insulation Rebate program did not meet its savings goals in 2016 due to lower participation than forecasted. Program spending was proportionate with the overall achievement. To increase awareness while controlling costs, the program leveraged various cross-marketing opportunities among other Xcel Energy residential programs and social media outlets. In addition, the implementation of the BPI certification requirement for insulation contractors reduced the number of program-eligible contractors. To increase the number of BPI-certified insulation contractors the program leveraged electronic channels to recruit contractors.

Changes in 2016
None

Refrigerator Recycling
The Refrigerator Recycling program is designed to decrease the number of inefficient refrigerators and freezers in the Company's service territory in an environmentally safe and compliant manner, and by doing so deliver electric energy savings and peak demand reduction. Customers receive an incentive and free pick up and disposal of their operable, inefficient refrigerators and freezers. A third-party implementer delivers the product, including customer scheduling, pickup, recycling, and rebating. This product is primarily marketed through bill inserts, direct mail, print, radio advertisements, and online/social media efforts.

Deviation from Goal or Budget
The program did not meet its participation or savings goals in 2016. Program spending was under budget due to lower rebate, promotional, and third-party implementer costs. In an attempt to reach

goal, a bonus rebate was offered during the summer months, and low-cost marketing channels such as social media, email, and bill inserts were utilized. The program remains highly cost-effective, and a redesigned marketing plan will be implemented in 2017 with close coordination between Xcel Energy and the program implementer.

Changes in 2016
None.

Residential Cooling
The Residential Cooling program offers prescriptive electric rebates to customers who purchase qualifying, high-efficiency cooling systems installed by a participating contractor. The program emphasizes quality installation of cooling equipment as the majority of energy savings are seen through the proper sizing, installation, and testing of these units. The program offers flexibility to customers who wish to consider air source or ground source heat pumps to cool their homes.

This program is marketed to residential electric customers in single family homes through advertising, cross-promotions with other programs, bill inserts, and trade partner influence. As customers are required to use a participating contractor to ensure quality installation for most systems, participation in and awareness of the program relies heavily on our relationship with and engagement of the trade.

Deviation from Goal or Budget
The program performed very well in 2016, surpassing the filed electric and demand savings goals due to a strong retrofit market and typical summer weather.

Changes in 2016
The introduction of digital applications provided trade partners an accessible, faster option to submit rebates to Xcel Energy.

School Education Kits
The School Education Kits program offers free kits to students and supplementary curriculum to fifth and sixth grade teachers in the Xcel Energy gas and electric combination service territory. The kits include energy saving and water conservation measures that students implement at home with their families, including CFL lamps, a high-efficiency showerhead, and faucet aerators. The program offers gas and electric savings, supports state and Common Core education standards, and educates the next generation of energy consumers on how to be energy efficient. Additional incentives are offered to encourage students to return their Home Energy Worksheets (which determine install rates) and to install the provided CFLs. When more than 80% of the Home Energy Worksheets are returned and more than 70% of the CFLs are installed, teachers and their students are rewarded with low-cost promotional items. These low-cost promotions continue to drive program participation and measure install rates.

Deviation from Goal or Budget
This program did not meet its participation or savings goals in 2016. The filed goals were based on incorrect market information, thus forecasted participation was very difficult to reach. The program continues to find additional schools to market to in the combination service territory, but the total

participation potential has essentially plateaued making increased installation rates a continued priority.

Changes in 2016
The program emphasized the kit's water savings measures by launching a hotline with installation tips in multiple languages and providing teachers installation information that is easily emailed to parents.

Water Heating Rebate
The Water Heating Rebate program offers prescriptive rebates to residential customers who purchase and install high-efficiency gas water heating equipment. By providing these incentives, Xcel Energy helps participating customers reduce their natural gas usage and long-term operating costs. The program is marketed primarily through trade and retail partners, as well as through cross-promotions using seasonal messaging along with the Heating System Rebate and Insulation Rebate programs.

Deviation from Goal or Budget
In 2016, the program exceeded its filed gas savings and spending goals while savings exceeded the commensurate increased spend. While no market indicators clearly explain the increase in participation, increased awareness of the program, a strong retailer presence and customer demand are most likely the responsible factors.

Changes in 2016
None.

Residential Load Management Programs

Saver's Switch®

The Saver's Switch program offers a seasonal bill discount to customers who agree to allow the Company to control remotely their central air conditioners during the summer months. Customers with qualifying electric water heaters can enroll this equipment as well. Electric water heaters can be controlled year round, and customers receive incentives for those year round. Due to the aging of previously installed switches, most of the program's achievements in 2016 were derived from the replacement of older hardware or hardware identified as no longer working. Saver's Switch is a significant component of Xcel Energy's load management portfolio and is marketed primarily through direct mail and email.

Deviation from Goal or Budget

The program reached its target participation goal while spending less than its budget. This is primarily due to lower promotional expenditures.

Changes in 2016

None.

Residential Indirect Impact Programs

Consumer Education

The Consumer Education program creates awareness of energy conservation by providing residential customers with information and resources to reduce their homes' energy use. The Company provides customers with opportunities to actively engage in energy efficiency through offering product registration at community outreach events, customer feedback surveys, and social media channels. The Company also uses traditional outreach channels like seasonal print and bill inserts as an integral part of the overall education and outreach strategy.

Deviation from Target

The Consumer Education program exceeded its electric and gas participation targets while staying within the approved budgets. Increased participation is attributed to planned tactics, value-added outreach from continued long-term community-based organization partnerships, and increased tracking and reporting from those partnerships. Community partners continued to offer additional outreach opportunities at no charge as a result of mutually beneficial, longstanding relationships. The Company has also worked with our community relations and internal partners to provide better website reporting and analytics, newsletter readership and social media reporting. This has resulted in increased participation.

Changes in 2016

None.

Home Energy Audit

The Home Energy Audit program provides energy audit services to Xcel Energy natural gas and electric residential customers. This program is designed to improve energy savings in residential homes by influencing customer behavior through conservation education and encouraging identification and implementation of energy efficiency efforts. Considered a gateway program to the other Xcel Energy residential efficiency programs, the Home Energy Audit program is cross-promoted along with the other programs.

Deviation from Goal or Budget

In an effort to manage the overall residential portfolio budget, the program limited costly promotions for 2016. Therefore, the program did not reach its target participation for the year. The program under spent its budget.

Changes in 2016

None.

Lamp Recycling

The Residential Lamp Recycling program encourages residential electric customers to recycle their spent fluorescent bulbs instead of discarding them in household trash. Recycling fluorescent bulbs reduces the amount of mercury entering the environment. Participants are provided with two convenient ways to recycle spent bulbs. Customers can drop off their used CFL bulbs either at designated county recycling centers or at participating local hardware stores where both offer

recycling of the bulbs at no charge. Many locations will also recycle non-CFL bulbs, such as fluorescent tubes and high intensity discharge bulbs, for a small fee. Xcel Energy offers a coupon on its website to help customers offset any bulb recycling costs.

The program was promoted through a variety of channels along with the Home Lighting program and on the Company's website and in printed materials.

Deviation from Goal or Budget
The Residential Lamp Recycling program exceeded its filed participation goal and program budget. More customers are becoming aware of the importance of recycling and taking advantage of the environmentally friendly option.

Changes in 2016
None.

Low-Income Segment

The Low-Income Segment provides services and products to help income-qualified customers reduce their energy usage and ultimately lower their utility bills. The portfolio consists of the Home Energy Savings (HESP), Multi-Family Energy Savings (MESP), and Low-Income Home Energy Squad programs. HESP offers an in-home walk-through and energy usage analysis to identify areas for energy savings and energy efficient upgrades for the home. MESP provides electric home energy efficiency measures and educational information to multi-family building tenants. The Low-Income Home Energy Squad program performs a quick assessment of each participant's home to identify opportunities for energy-saving measure implementation and installation during one visit.

Summary of Achievements

Segment	Electric Goal	Electric Actual	% of Electric Goal	Gas Goal	Gas Actual	% of Gas Goal
Budget	$2,520,587	$2,312,820	92%	$1,636,221	$1,648,482	101%
Generator kW	476	627	132%	n/a	n/a	n/a
kWh/Mcf Saved	2,445,325	2,189,433	90%	23,275	14,882	64%
Participation	4,246	5,108	120%	2,050	1,186	58%

The Low-Income Segment met its minimum electric spend requirement and surpassed its electric demand savings and participation goals. The electric segment spent less than its filed budget and was under its filed electric savings goal. The gas segment met its minimum spend requirement and surpassed slightly its filed budget. Gas segment did not achieve its participation and energy savings goals.

The Home Energy Savings Program surpassed the participation goals for both fuels and exceeded the electric savings goals with the electric spend ending the year slightly below budget. Gas savings were below goal. This is driven in part by the program cost structure and that not every audit received weatherization.

Year 2016 was the fourth year for the Multi-Family Energy Savings program, and the performance remains strong. The program continues to exceed the savings and participation goals while coming in under budget. This can be attributed to the efficiency of reaching a high number of units in larger complexes, allowing for more unit participation than forecasted.

The Low-Income Home Energy Squad program did not reach its savings nor participant goals. The program spends were commensurate with both fuels' actual savings. With the participation goal proving to be difficult to reach, the program filed to target fewer customers in 2017 while also expanding into electric-only territory. Outreach activities for the next year will use some new tactics along with ongoing less costly efforts to reach target participation.

Home Energy Savings Program

The Home Energy Savings program (HESP) offers electric and natural gas direct install measures and services to customers meeting income qualifications. The program is designed to help customers challenged to pay their utility bills by providing them with energy saving measures and information that will help reduce energy usage and ultimately make their energy bills more manageable.

HESP is marketed through various channels that include our partner vendors and advertising campaigns. We also market the program through community events, interactive marketing, and support from Xcel Energy's call centers.

Deviation from Goal or Budget

The program exceeded both gas and electric participation goals, coming in only slightly under its electric budget and exceeding the gas budget. While the electric savings surpassed goal, the gas savings ended the year under goal despite the higher spend. The cost structure for the gas side of the program, which provides separate vendor reimbursement for audits, drives some costs without the related savings. The audit cost had historically been included in the cost for weatherization. Additionally for the first time in a few years, the program experienced an increase in the overall measure installations. It is believed that the increases in savings and measure installations are the result of one vendor gaining familiarity and driving momentum with the program delivery.

Changes in 2016

None.

Low-Income Home Energy Squad

The Low-Income Home Energy Squad program provides no-cost home assessments and energy saving measures to qualifying Xcel Energy low-income residential combination electric and gas customers. During a home visit, the program identifies energy saving opportunities, educates the customers about energy saving measures, and then installs each customer's measures of choice. Xcel Energy implements the marketing and promotions for this program and pays for materials and labor.

Deviation from Goal or Budget

The Low-Income Home Energy Squad program did not meet its savings and participant goals, and came in under its budget. The program limited its spending by taking advantage of cross promotions with other programs and additional outreach. The program achieved a much higher demand savings than expected due to programmable thermostat average setback temperatures being higher than estimated in our technical assumptions. The program experienced low participation during the first half of the year, and the increase in summer months was not enough to make up the difference by year end. Historically the program's participation sees a decline during years when the non-low income Home Energy Squad program experiences increases. Additional marketing tactics in early 2017 are planned to address lower participation in the program offerings during first and second quarters.

Changes in 2016

None.

Multi-Family Energy Savings Program

The Multi-Family Energy Savings program (MESP) offers electric direct install measures and education to customers who reside in multi-family properties meeting income qualifications. The program is designed to provide in-unit energy savings measures and education that will assist tenants' efforts to reduce their energy usage and ultimately help make their energy bills more manageable.

MESP is primarily marketed through our vendor partner and targeted to building owners or property managers, with additional support from Xcel Energy. There were no promotional activities necessary to solicit projects in 2016.

Deviation from Goal or Budget

Savings and participation remain strong for the program again in its fourth year, exceeding both goals while coming in slightly under budget. The positive performance of the program is attributed to our ability to efficiently reach a higher number of residents per site visit. Due to the strong interest among property management organizations to include all of their qualifying buildings, the program's cost per acquisition is low. However, to ensure funds are fairly distributed across the region, we continue to manage participation by limiting the number of properties per management organization per year. As the program matures, we expect a need to actively promote the program, resulting in increased acquisition costs and a lessened need to manage participation.

Changes in 2016

None.

Planning Segment

The CIP Planning Segment includes Advertising and Promotion, Application Development and Maintenance, CIP Training, and DSM Regulatory Affairs. The segment is indirect impact and therefore does not generate energy savings. The table below provides goal and actual spending in this segment for 2016.

Summary of Achievements

Planning Segment	Electric Goal	Electric Actual	% of Electric Goal	Gas Goal	Gas Actual	% of Gas Goal
Advertising & Promotion	$2,628,000	$2,823,870	107%	$610,000	$663,542	109%
Application Development and Maintenance	$1,101,600	$602,241	55%	$267,246	$181,422	68%
CIP Training	$124,999	$89,289	71%	$40,000	$25,618	64%
Regulatory Affairs	$435,669	$317,291	73%	$140,687	$78,445	56%
Total	**$4,290,268**	**$3,832,691**	**89%**	**$1,057,933**	**$949,028**	**90%**

Advertising and Promotion

Advertising and Promotion allows Xcel Energy to implement a variety of residential and business advertising and promotional plans. In 2016, the Residential strategies primarily included multimedia advertising and promotional events. These strategies built awareness, educated consumers, promoted specific programs' benefits, and cross-promoted programs with appropriate seasonal messaging. The Business strategies included multimedia advertising, special segment campaigns, and events designed to enhance customer and trade partner education and to increase engagement with our programs.

Deviation from Goal or Budget

The program exceeded its filed program spending in support of programs that needed additional marketing spend to make goal.

Changes in 2016

None.

Application, Development, and Maintenance

Application, Development, and Maintenance (ADM) provides funds for software purchases that support the DSM programs within the portfolio, and pays for in-house and external resources needed to configure and maintain the software used to support our DSM programs. The ADM budget was created to allow for easier expense control and tracking. As an indirect program in the Planning Segment, this program is not marketed to customers.

Deviation from Goal or Budget

In 2016, the Company under spent its ADM budget by implementing cost-saving initiatives across the I.T. portfolio.

Changes in 2016
None.

CIP Training
The CIP Training budget allows Xcel Energy marketing, engineering, regulatory, operations and sales personnel the opportunity for continued education for the advancement of energy efficiency. These educational trainings, seminars and conferences focus on energy efficient electric and natural gas equipment, industry best practices, new advances in technology and changes in the utility industry. The ability to attend continued education under the CIP Training budget allows us to better serve our customers by having staff that is up to date and informed on the latest advances in DSM and energy efficiency. As an indirect program in the Planning Segment, this program is not marketed to customers or trade partners.

Deviation from Goal or Budget
In 2016, the Company under spent the CIP Training budgets by encouraging local and regional training instead of traveling to conferences, seminars and training held outside of the Xcel Energy service territory.

Changes in 2016
None.

DSM Regulatory Affairs
DSM Regulatory Affairs manages all CIP regulatory filings, directs cost benefit analyses, provides tracking tools for energy conservation achievements, and analyzes and prepares cost recovery reports. The group also provides procedures for addressing requirements of the CIP regulatory process. In addition, Regulatory Affairs supports the DSM components of resource planning, certificates of need, and rate cases, and provides strategic planning and internal policy guidance on DSM issues.

Deviation from Goal or Budget
Regulatory Affairs under spent the approved gas and electric budgets.

Changes in 2016
None.

Research, Evaluations, & Pilots Segment

The Research, Evaluations, and Pilots Segment provides Market Research and Product Development services to Xcel Energy. This segment includes the pilots being managed within the Product Development program. The table below shows goal and actual spending in this segment for 2016.

Summary of Achievements

Research, Evaluations & Pilots Segment	Electric Goal	Electric Actual	% of Electric Goal	Gas Goal	Gas Actual	% of Gas Goal
Market Research	$998,988	$756,788	76%	$189,070	$163,032	86%
Product Development	$807,000	$361,926	48%	$227,972	$102,383	48%
Energy Information Systems Pilot		$225,768	INF%	$137,145	$10,222	7%
Business Energy Feedback Pilot	$126,994	$307,542	242%		$8,931	INF%
Smart Thermostat Pilot	$486,521	$462,014	95%	$118,979	$151,817	128%
Energy Star Retail Products Platform	$473,544	$321,510	68%	$26,551	$70,936	267%
Total	**$2,893,047**	**$2,435,548**	**85%**	**$699,717**	**$507,322**	**74%**

Market Research

DSM Market Research conducts surveys and studies to understand customer needs that relate to DSM conservation efforts. In 2016, the Company conducted the following general research projects:

- Business Attitude, Awareness, and Usage (AAU) Study;
- Dun & Bradstreet Business list refresh for Sales Force market segmentation;
- E Source Consultative Services; and
- Residential and Business Advertising Tracking.

Market Research funds are also used to procure third-party services for comprehensive, process, and impact evaluations on individual programs. In 2016, the Company conducted research on the following programs:

- MN Computer Efficiency;
- MN Efficiency Controls;
- MN Lighting Efficiency; and
- MN Refrigerator Recycling

Deviation from Goal or Budget
The Market Research program under-spent both its gas and electricity budgets though cost savings achieved by issuing a single contract for Minnesota and Colorado Business and Residential segment program evaluations.

Changes in 2016
None.

Product Development
Product Development is an indirect impact program that identifies, assesses, and develops new conservation and load management products and services for our CIP portfolio. This work enables us to identify and promote promising new demand-side management opportunities for its customers, as well as to operate pilots to help inform future product design.

Product development also works on emerging efficiency topics and opportunities including CARD grants and state workgroups on efficiency and data related topics. We also cooperate with many national groups working to define and develop next generation efficiency and demand response opportunities including the American Council for an Energy Efficient Economy (ACEEE), Consortium for Energy Efficiency (CEE), Department of Energy (DOE), Peak Load Management Alliance (PLMA), and the Electric Power Research Institute (EPRI).

The Product Development group developed the following products, pilots or measures during 2016:

Business DSM
- Mini-split heat pumps; and
- Building Operator Certification.

Residential DSM
- Mini-split heat pumps

Deviation from Goal or Budget
Product Development did not spend all of the filed electric or gas budget dollars in 2016 due to lower than anticipated costs for research, consulting services, and association dues.

Changes in 2016
None.

Energy Information Systems Pilot
The Energy Information Systems (EIS) Pilot program offers custom electric and gas rebates and consulting services to assist customers with the selection and installation of an EIS. EIS tools hold the promise to contextualize and streamline the analysis of energy data, thereby increasing the capability of users (and utility program delivery models) to achieve deeper energy savings. With the EIS pilot, the Company will help its customers put EIS into action and test whether they can be an effective way to achieve and expand energy savings. The pilot is primarily marketed to large

commercial and industrial customers. The pilot was filed as a formal modification in early 2015 and launched to customers in late 2015.

Deviation from Goal
Due to the length of the evaluation and scoping periods for customer EIS installations, the pilot did not claim any impact in 2016 and underspent the approved budget.

Changes in 2016
None.

Energy Feedback Pilot - Business
The Energy Feedback Pilot – Business delivered energy reports to approximately 20,000 small business customers in Xcel Energy's Minnesota service territory in 2016. The pilot intended to measure the effectiveness of various feedback methods on small business (up to 250 kW of demand) customers' energy usage. The feedback communication strategies were intended to decrease energy use by inducing changes in the behavior of the end-user, and increase their adoption of energy-efficient technologies and energy-efficient practices.

We delivered six sets of energy reports to customers in 2016.

The pilot concluded on December 31, 2016.

Deviation from Target
The pilot did not measure any statistically significant energy savings during 2016. We did not pursue transition of this pilot to a program in the 2017-2019 CIP Triennial Plan.

Changes in 2016
None.

Smart Thermostat Pilot
The Smart Thermostat Pilot program offered qualifying customers a rebate to purchase and install qualifying WiFi connected "smart" thermostats. The pilot's objective was to study the energy efficiency benefits, as well as test demand response benefits, associated with smart thermostats.

The program was primarily marketed via email campaigns that drove residential customers to the Xcel Energy Store, an online marketplace that sold the qualified smart thermostats and applied the rebate instantly at checkout for qualifying customers. The pilot was filed as a formal modification in February 2015 and launched to customers in late 2015.

The Smart Thermostat Pilot officially closed on December 31, 2016, and the final M&V evaluation is currently in progress.

Deviation from Goal or Budget
The pilot evaluation is currently in process, thus the achievements claimed use the measure assumptions filed originally with the pilot and matched to pilot participation. . The pilot was over budget by less than 5 percent in 2016, primarily due to the under-spend in 2015 as a result of the late

pilot launch. This required a majority of the pilot's two-year costs to occur in 2016, as noted in the 2015 CIP Status Report. Overall, the two-year budget for the Smart Thermostat Pilot was under budget by approximately 35 percent. The main reason for this variance was due to lower than expected M&V costs, which were made possible due to efficiencies achieved by M&V cost-sharing with other smart thermostat pilots the Company is operating in other jurisdictions.

Changes in 2016
None.

EnergyStar® Retail Products Platform Pilot

The EnergyStar® Retail Products Platform Pilot is intended to test a national-level mid-stream incentive approach to driving transformation of the appliance and consumer electronics market. The Pilot is part of an effort coordinated by the U.S. Environmental Protection Agency to evaluate if incentivizing retailers for efficient product sales can drive increased market penetration of EnergyStar® products. The Pilot launched in 2016 and included participating utilities and energy efficiency program implementers from California, the Pacific Northwest, New York, Vermont, Wisconsin, Hawaii and New Jersey. Emphasis for 2016 was on establishing a data integrator to compile sales data from eligible retailers, review and approve retailer implementation plans, and establish the EM&V baseline for 2017.

Deviation from Target
Gas savings were significantly exceeded, while electric savings were somewhat below target. This reflects a higher ratio of gas to electric clothes dryers than projected. Overall, program administration costs were lower than anticipated, allowing the incentive pool to be increased.

Changes in 2016
None

Alternative Filings

Summary of Achievements

Alternative Filings Segment	Electric Goal	Electric Actual	% of Electric Goal	Gas Goal	Gas Actual	% of Gas Goal
One Stop	$17,024,668	$20,454,290	120%	n/a	n/a	n/a
EnerChange	$418,500	$402,530	96%	$46,500	$44,736	96%
Energy Smart	$356,250	$345,096	97%	$18,750	$17,812	95%
Trillion Btu	$174,600	$130,013	74%	$19,400	$12,676	65%
Energy Intelligence	$379,478	$322,854	85%	$42,164	$32,634	77%
Total	**$18,353,496**	**$21,654,782**	118%	**$126,814**	**$107,858**	85%

EnerChange

EnerChange is an indirect impact program that provides non-profit organizations with facility evaluations, recommendations for conservation, reviews of available electric and natural gas utility rebates, customer assistance to drive implementation of measures and assistance with implementation financing. EnerChange leverages referrals, networking, associations, organizations and social media to market the program.

Deviation from Goal or Budget

None.

Changes in 2016

None.

Energy Intelligence

Energy Intelligence is an alternative CIP program that is managed, marketed, and delivered by the Center for Energy and Environment (CEE). The purpose of the Energy Intelligence program is to complement Xcel Energy's energy efficiency programs, offering small industrial customers with a maximum kW of 400 a better understanding of their energy use, identification of immediate saving opportunities, implementation support, and immediate verification of savings. This customer size is typically found in a light industrial park.

Deviation from Goal or Budget

The Energy Intelligence program was in line with the 2016 electric budget and slightly underspent its gas budget due to more electric-only and fewer dual-fuel customers participating than expected.

Changes in 2016

None.

Energy Smart

Energy Smart is an indirect impact business energy efficiency assistance program developed by Minnesota Waste Wise, a non-profit affiliate of the Minnesota Chamber of Commerce. The mission of the program is to engage Minnesota businesses and direct them toward existing utility energy efficiency and load management programs.

The Energy Smart program offers a number of electric and natural gas services such as on-site business consultations and distribution of CIP program information. The program is primarily marketed to the business community through direct contact with members of the Minnesota Chamber of Commerce, Waste Wise Contract participants, partnership with the local chambers and business groups, door-to-door outreach, direct mailings, inquiries via the Energy Smart Website, and social media such as Twitter, Facebook, and LinkedIn.

Deviation from Goal or Budget

2016 spend was within 10% of the filed budget.

Changes in 2016

None

One-Stop Efficiency Shop®

The One-Stop Efficiency Shop® (One-Stop) is an innovative, full-service lighting rebate program designed to save energy in the hard-to-serve small business sector. Designed and implemented by the Center for Energy and Environment, One-Stop targets small businesses with 400 kW demand or less.

This sector requires a more focused approach because small businesses are difficult to serve with traditional lighting rebate programs due to limitations on financial resources, time, knowledge of lighting products and access to quality contractors.

One-Stop is structured specifically to address these needs and concerns by offering qualified businesses:

- A free lighting audit with cost savings recommendations;
- Substantial incentives combined with the option of convenient and attractive financing;
- A simple, one-stop service that holds customer time requirements to a minimum; and
- Start-to-finish oversight of the entire lighting retrofit project.

This combination of services brings education, financial resources and minimal time commitment directly to the customer.

Deviation from Goal or Budget

In 2016, One-Stop significantly exceeded energy savings, demand savings, and budget goals. Much of the increase in achievement can be attributed to the rapid advancement of LED technology. Technical advancements in the manufacture of LEDs have replaced more mature product offerings and declining prices have opened new avenues for energy savings.

Additional budget to fund the extra operating costs and rebates associated with delivery of savings beyond goals was obtained by a formal budget modification request, which was approved by the Department, and utilization of a portion of CIP's 25% budget flexibility. CEE worked closely with Xcel Energy to track and pre-approve all budget modifications.

Changes in 2016
None.

Trillion BTU
Trillion BTU is an indirect program intended to increase participation in Xcel Energy's existing commercial and industrial energy efficiency programs. The Program leverages the American Recovery and Reinvestment Act funding awarded to the St. Paul Port Authority (SPPA) and resources of local economic development agencies and municipalities in Xcel Energy's electric and gas service territories to create a revolving loan fund and provide technical assistance to prospective participating businesses. The program is primarily delivered to customers by way of the SPPA and targets customers looking to implement relatively large energy saving projects.

Deviation from Goal or Budget
The Trillion BTU program underspent its electric and gas budgets. This was due to the fact that the St. Paul Port Authority administrative costs were lower than projected.

Changes in 2016
None.

Assessments Segment

The Assessments Segment accounts for assessments from the DER to support state energy policy. This segment includes assessments authorized by Minnesota statute, as well as fees for DER and PUC review of our filings.

Summary of Achievements

Assessments Segment	Electric Goal	Electric Actual	% of Electric Goal	Gas Goal	Gas Actual	% of Gas Goal
Budget	$1,736,000	$1,797,520	104%	$345,600	$354,952	103%

Deviation from Goal or Budget
None.

Changes in 2016
None.

ELECTRIC CIP TOTAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$80,811,204	$80,811,204	$80,811,204	$80,811,204
T & D	N/A	$30,630,299	$30,630,299	$30,630,299	$30,630,299
Marginal Energy	N/A	$179,398,783	$179,398,783	$179,398,783	$179,398,783
Environmental Externality	N/A	N/A	N/A	N/A	$7,482,548
Subtotal	N/A	$290,840,286	$290,840,286	$290,840,286	$298,322,835
Participant Benefits					
Bill Reduction - Electric	$348,687,834	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$35,552,753	N/A	N/A	$35,552,753	$35,552,753
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$62,822,087	N/A	N/A	$18,688,310	$18,688,310
Subtotal	$447,062,674	N/A	N/A	$54,241,063	$54,241,063
Total Benefits	$447,062,674	$290,840,286	$290,840,286	$345,081,349	$352,563,897
Costs					
Utility Project Costs					
Customer Services	N/A	$8,834,355	$8,834,355	$8,834,355	$8,834,355
Project Administration	N/A	$19,115,969	$19,115,969	$19,115,969	$19,115,969
Advertising & Promotion	N/A	$7,570,394	$7,570,394	$7,570,394	$7,570,394
Measurement & Verification	N/A	$2,201,065	$2,201,065	$2,201,065	$2,201,065
Rebates	N/A	$35,552,753	$35,552,753	$35,552,753	$35,552,753
Other	N/A	$1,802,754	$1,802,754	$1,802,754	$1,802,754
Subtotal	N/A	$75,077,290	$75,077,290	$75,077,290	$75,077,290
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$348,687,834	N/A	N/A
Subtotal	N/A	N/A	$348,687,834	N/A	N/A
Participant Costs					
Incremental Capital Costs	$120,112,934	N/A	N/A	$104,213,453	$104,213,453
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$120,112,934	N/A	N/A	$104,213,453	$104,213,453
Total Costs	$120,112,934	$75,077,290	$423,765,124	$179,290,743	$179,290,743
Net Benefit (Cost)	$326,949,740	$215,762,996	($132,924,838)	$165,790,606	$173,273,154
Benefit/Cost Ratio	3.72	3.87	0.69	1.92	1.97

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

2016 ELECTRIC GOAL

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	13.2 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	38.36%
Gross Load Factor at Customer	E	19.09%
Transmission Loss Factor (Energy)	F	6.984%
Transmission Loss Factor (Demand)	G	8.085%
Societal Net Benefit (Cost)	H	$778

Program Summary per Participant		
Gross kW Saved at Customer	I	0.12 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.05 kW
Gross Annual kWh Saved at Customer	(B x E x I)	209 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	224 kWh

Program Summary All Participants		
Total Participants	J	1,786,119
Total Budget	K	**$75,077,290**
Gross kW Saved at Customer	(J x I)	222,750 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**92,962 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	372,450,281 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**400,414,935 kWh**
Societal Net Benefits	(J x I x H)	**$173,273,154**

Utility Program Cost per kWh Lifetime	**$0.0142**
Utility Program Cost per kW at Gen	**$807.61**

ELECTRIC CIP TOTAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$106,553,930	$106,553,930	$106,553,930	$106,553,930
T & D	N/A	$30,546,824	$30,546,824	$30,546,824	$30,546,824
Marginal Energy	N/A	$212,475,881	$212,475,881	$212,475,881	$212,475,881
Environmental Externality	N/A	N/A	N/A	N/A	$8,830,637
Subtotal	N/A	$349,576,635	$349,576,635	$349,576,635	$358,407,272
Participant Benefits					
Bill Reduction - Electric	$422,978,175	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$41,538,204	N/A	N/A	$41,538,204	$41,538,204
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$63,393,112	N/A	N/A	$63,393,112	$63,393,112
Subtotal	$527,909,491	N/A	N/A	$104,931,316	$104,931,316
Total Benefits	$527,909,491	$349,576,635	$349,576,635	$454,507,951	$463,338,588
Costs					
Utility Project Costs					
Customer Services	N/A	$1,113,236	$1,113,236	$1,113,236	$1,113,236
Project Administration	N/A	$25,277,946	$25,277,946	$25,277,946	$25,277,946
Advertising & Promotion	N/A	$5,244,213	$5,244,213	$5,244,213	$5,244,213
Measurement & Verification	N/A	$1,847,827	$1,847,827	$1,847,827	$1,847,827
Rebates	N/A	$41,538,204	$41,538,204	$41,538,204	$41,538,204
Other	N/A	$44,958	$44,958	$44,958	$44,958
Subtotal	N/A	$75,066,383	$75,066,383	$75,066,383	$75,066,383
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$422,978,175	N/A	N/A
Subtotal	N/A	N/A	$422,978,175	N/A	N/A
Participant Costs					
Incremental Capital Costs	$152,603,791	N/A	N/A	$152,603,791	$152,603,791
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$152,603,791	N/A	N/A	$152,603,791	$152,603,791
Total Costs	$152,603,791	$75,066,383	$498,044,558	$227,670,174	$227,670,174
Net Benefit (Cost)	$375,305,700	$274,510,252	($148,467,923)	$226,837,776	$235,668,413
Benefit/Cost Ratio	3.46	4.66	0.70	2.00	2.04

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

2016 ELECTRIC ACTUAL

Input Summary and Totals

Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	13.6 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	34.55%
Gross Load Factor at Customer	E	15.45%
Transmission Loss Factor (Energy)	F	7.219%
Transmission Loss Factor (Demand)	G	8.209%
Societal Net Benefit (Cost)	H	$732

Program Summary per Participant

Gross Realized kW Saved at Customer	I	0.09 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.03 kW
Gross Realized Annual kWh Saved at Customer	(B x E x I)	120 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	130 kWh

Program Summary All Participants

Total Participants	J	3,623,560
Total Budget	K	**$75,066,383**
Gross kW Saved at Customer	(J x I)	321,995 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**121,194 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	435,806,662 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**469,717,428 kWh**
Societal Net Benefits	(J x I x H)	**$235,668,413**

Utility Program Cost per kWh Lifetime	**$0.0117**
Utility Program Cost per kW at Gen	**$619.39**

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **Xcel Energy**
Project: **Total Gas CIP With Indirect Participants**

Input Data	**2016**
1) Retail Rate ($/Dth) =	$6.60
Escalation Rate =	4.28%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	2.80%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.34
Escalation Rate =	4.28%
4) Demand Cost ($/Unit/Yr) =	$74.00
Escalation Rate =	4.28%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0600
Escalation Rate =	4.28%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.027
Escalation Rate =	2.80%
8) Non-Gas Fuel Loss Factor	5.80%
9) Gas Environmental Damage Factor =	$0.3500
Escalation Rate =	1.73%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0213
Escalation Rate =	1.73%
11) Participant Discount Rate =	2.67%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.67%
14) General Input Data Year =	2012
15a) Project Analysis Year 1 =	2016
15b) Project Analysis Year 2 =	
15c) Project Analysis Year 3 =	
Administrative & Operating Costs =	$8,892,202
Incentive Costs =	$4,661,621
16) Total Utility Project Costs =	$13,553,823
17) Direct Participant Costs ($/Part.) =	$43
18) Participant Non-Energy Costs (Annual $/Part.) =	$0
Escalation Rate =	1.73%
19) Participant Non-Energy Savings (Annual $/Part) =	$3
Escalation Rate =	1.73%
20) Project Life (Years) =	10.8
21) Avg. Dth/Part. Saved =	1.22
22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh
23) Number of Participants =	571,702
24) Total Annual Dth Saved =	696,474
25) Incentive/Participant =	$8.15

Cost Summary	**2016**
Utility Cost per Participant =	$24
Cost per Participant per Dth =	$54.38
Lifetime Energy Reduction (Dth)	7,516,518
Societal Cost per Dth	$3.82

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($25,995,758)	0.60
Utility Cost Test	$25,175,877	2.86
Societal Test	$33,763,512	2.18
Participant Test	$64,883,681	3.63

Conservation Improvement Program (CIP) ACTUAL

BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **Xcel Energy**
Project: **Total Gas CIP With Indirect Participants**

Input Data	
1) Retail Rate ($/Dth) =	$6.60
Escalation Rate =	4.28%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	2.80%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.34
Escalation Rate =	4.28%
4) Demand Cost ($/Unit/Yr) =	$74.00
Escalation Rate =	4.28%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0600
Escalation Rate =	4.28%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.027
Escalation Rate =	2.80%
8) Non-Gas Fuel Loss Factor	5.80%
9) Gas Environmental Damage Factor =	$0.3500
Escalation Rate =	1.73%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0213
Escalation Rate =	1.73%
11) Participant Discount Rate =	2.67%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.67%
14) General Input Data Year =	2012
15a) Project Analysis Year 1 =	
15b) Project Analysis Year 2 =	
15c) Project Analysis Year 3 =	2016

			2016
Administrative & Operating Costs =	$0	$0	$7,501,006
Incentive Costs =	$0	$0	$5,841,990
16) Total Utility Project Costs =	$0	$0	$13,342,996
17) Direct Participant Costs ($/Part.) =	$0	$0	$50
18) Participant Non-Energy Costs (Annual $/Part.) =	$0	$0	$0
Escalation Rate =	1.73%	1.73%	1.73%
19) Participant Non-Energy Savings (Annual $/Part) =	$0	$0	$2
Escalation Rate =	1.73%	1.73%	1.73%
20) Project Life (Years) =	0.0	0.0	12.4
21) Avg. Dth/Part. Saved =	-	-	1.44
22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh	0 kWh	0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh	0 kWh	0 kWh
23) Number of Participants =	-	-	632,454
24) Total Annual Dth Saved =	0	0	908,472
25) Incentive/Participant =	$0.00	$0.00	$9.24

Cost Summary	**2016**
Utility Cost per Participant =	$21
Cost per Participant per Dth =	$49.35
Lifetime Energy Reduction (Dth)	11,293,853
Societal Cost per Dth	$3.46

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($31,474,949)	0.64
Utility Cost Test	$41,639,278	4.12
Societal Test	$49,208,981	2.26
Participant Test	$68,678,822	3.18

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **Xcel Energy**
Project: **Total Gas CIP Direct Participants Only**

Input Data	2016
1) Retail Rate ($/Dth) =	$6.60
Escalation Rate =	4.28%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	2.80%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.34
Escalation Rate =	4.28%
4) Demand Cost ($/Unit/Yr) =	$74.00
Escalation Rate =	4.28%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0600
Escalation Rate =	4.28%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.027
Escalation Rate =	2.80%
8) Non-Gas Fuel Loss Factor	5.80%
9) Gas Environmental Damage Factor =	$0.3500
Escalation Rate =	1.73%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0213
Escalation Rate =	1.73%
11) Participant Discount Rate =	2.67%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.67%
14) General Input Data Year =	2012
15a) Project Analysis Year 1 =	2016
15b) Project Analysis Year 2 =	
15c) Project Analysis Year 3 =	

	2016
Administrative & Operating Costs =	$6,422,509
Incentive Costs =	$4,661,621
16) Total Utility Project Costs =	$11,084,130
17) Direct Participant Costs ($/Part.) =	$132
18) Participant Non-Energy Costs (Annual $/Part.) =	$0
Escalation Rate =	1.73%
19) Participant Non-Energy Savings (Annual $/Part) =	$8
Escalation Rate =	1.73%
20) Project Life (Years) =	10.8
21) Avg. Dth/Part. Saved =	3.78
22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh
23) Number of Participants =	184,390
24) Total Annual Dth Saved =	696,474
25) Incentive/Participant =	$25.28

Cost Summary	2016
Utility Cost per Participant =	$60
Cost per Participant per Dth =	$50.84
Lifetime Energy Reduction (Dth)	7,516,518
Societal Cost per Dth	$3.49

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($23,526,065)	0.62
Utility Cost Test	$27,645,570	3.49
Societal Test	$36,233,205	2.38
Participant Test	$64,883,681	3.63

Conservation Improvement Program (CIP) ACTUAL

BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **Xcel Energy**
Project: **Total Gas CIP Direct Participants Only**

Input Data	
1) Retail Rate ($/Dth) =	$6.60
Escalation Rate =	4.28%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	2.80%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.34
Escalation Rate =	4.28%
4) Demand Cost ($/Unit/Yr) =	$74.00
Escalation Rate =	4.28%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0600
Escalation Rate =	4.28%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.027
Escalation Rate =	2.80%
8) Non-Gas Fuel Loss Factor	5.80%
9) Gas Environmental Damage Factor =	$0.3500
Escalation Rate =	1.73%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0213
Escalation Rate =	1.73%
11) Participant Discount Rate =	2.67%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.67%
14) General Input Data Year =	2012
15a) Project Analysis Year 1 =	
15b) Project Analysis Year 2 =	
15c) Project Analysis Year 3 =	2016

			2016
Administrative & Operating Costs =	$0	$0	$5,409,896
Incentive Costs =	$0	$0	$5,697,584
16) Total Utility Project Costs =	$0	$0	$11,107,480
17) Direct Participant Costs ($/Part.) =	$0	$0	$50
18) Participant Non-Energy Costs (Annual $/Part.) =	$0	$0	$0
Escalation Rate =	1.73%	1.73%	1.73%
19) Participant Non-Energy Savings (Annual $/Part) =	$0	$0	$2
Escalation Rate =	1.73%	1.73%	1.73%
20) Project Life (Years) =	0.0	0.0	12.4
21) Avg. Dth/Part. Saved =	-	-	1.44
22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh	0 kWh	0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh	0 kWh	0 kWh
23) Number of Participants =	-	-	632,454
24) Total Annual Dth Saved =	0	0	908,472
25) Incentive/Participant =	$0.00	$0.00	$9.01

Cost Summary	**2016**
Utility Cost per Participant =	$18
Cost per Participant per Dth =	$46.89
Lifetime Energy Reduction (Dth)	11,293,853
Societal Cost per Dth	$3.27

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($29,239,433)	0.65
Utility Cost Test	$43,874,793	4.95
Societal Test	$51,300,091	2.39
Participant Test	$68,534,416	3.17

ELECTRIC CIP CONSERVATION TOTAL 2016 ELECTRIC GOAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$56,102,321	$56,102,321	$56,102,321	$56,102,321
T & D	N/A	$21,262,242	$21,262,242	$21,262,242	$21,262,242
Marginal Energy	N/A	$179,173,486	$179,173,486	$179,173,486	$179,173,486
Environmental Externality	N/A	N/A	N/A	N/A	$7,475,320
Subtotal	N/A	$256,538,049	$256,538,049	$256,538,049	$264,013,369
Participant Benefits					
Bill Reduction - Electric	$329,555,956	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$35,552,753	N/A	N/A	$35,552,753	$35,552,753
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$62,822,087	N/A	N/A	$18,688,310	$18,688,310
Subtotal	$427,930,796	N/A	N/A	$54,241,063	$54,241,063
Total Benefits	$427,930,796	$256,538,049	$256,538,049	$310,779,111	$318,254,431
Costs					
Utility Project Costs					
Customer Services	N/A	$5,982,056	$5,982,056	$5,982,056	$5,982,056
Project Administration	N/A	$11,902,205	$11,902,205	$11,902,205	$11,902,205
Advertising & Promotion	N/A	$3,800,564	$3,800,564	$3,800,564	$3,800,564
Measurement & Verification	N/A	$1,200,661	$1,200,661	$1,200,661	$1,200,661
Rebates	N/A	$35,552,753	$35,552,753	$35,552,753	$35,552,753
Other	N/A	$995,643	$995,643	$995,643	$995,643
Subtotal	N/A	$59,433,882	$59,433,882	$59,433,882	$59,433,882
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$329,555,956	N/A	N/A
Subtotal	N/A	N/A	$329,555,956	N/A	N/A
Participant Costs					
Incremental Capital Costs	$120,112,934	N/A	N/A	$104,213,453	$104,213,453
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$120,112,934	N/A	N/A	$104,213,453	$104,213,453
Total Costs	$120,112,934	$59,433,882	$388,989,838	$163,647,335	$163,647,335
Net Benefit (Cost)	$307,817,862	$197,104,166	($132,451,790)	$147,131,776	$154,607,096
Benefit/Cost Ratio	3.56	4.32	0.66	1.90	1.94

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	13.2 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	43.94%
Gross Load Factor at Customer	E	31.76%
Transmission Loss Factor (Energy)	F	6.984%
Transmission Loss Factor (Demand)	G	7.988%
Societal Net Benefit (Cost)	H	$1,156

Program Summary per Participant

Gross kW Saved at Customer	I	0.14 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.07 kW
Gross Annual kWh Saved at Customer	(B x E x I)	401 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	431 kWh

Program Summary All Participants

Total Participants	J	928,734
Total Budget	K	**$59,433,882**
Gross kW Saved at Customer	(J x I)	133,718 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**63,851 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	371,985,211 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**399,913,576 kWh**
Societal Net Benefits	(J x I x H)	**$154,607,096**

Utility Program Cost per kWh Lifetime	**$0.0112**
Utility Program Cost per kW at Gen	**$930.82**

ELECTRIC CIP CONSERVATION TOTAL — 2016 ELECTRIC — ACTUAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$78,935,296	$78,935,296	$78,935,296	$78,935,296
T & D	N/A	$29,928,310	$29,928,310	$29,928,310	$29,928,310
Marginal Energy	N/A	$211,152,681	$211,152,681	$211,152,681	$211,152,681
Environmental Externality	N/A	N/A	N/A	N/A	$8,783,681
Subtotal	N/A	$320,016,287	$320,016,287	$320,016,287	$328,799,968
Participant Benefits					
Bill Reduction - Electric	$420,300,515	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$41,082,809	N/A	N/A	$41,082,809	$41,082,809
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$63,393,112	N/A	N/A	$63,393,112	$63,393,112
Subtotal	$524,776,437	N/A	N/A	$104,475,922	$104,475,922
Total Benefits	$524,776,437	$320,016,287	$320,016,287	$424,492,209	$433,275,890
Costs					
Utility Project Costs					
Customer Services	N/A	$882,837	$882,837	$882,837	$882,837
Project Administration	N/A	$15,191,654	$15,191,654	$15,191,654	$15,191,654
Advertising & Promotion	N/A	$1,925,535	$1,925,535	$1,925,535	$1,925,535
Measurement & Verification	N/A	$1,400,838	$1,400,838	$1,400,838	$1,400,838
Rebates	N/A	$41,082,809	$41,082,809	$41,082,809	$41,082,809
Other	N/A	$44,767	$44,767	$44,767	$44,767
Subtotal	N/A	$60,528,440	$60,528,440	$60,528,440	$60,528,440
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$420,300,515	N/A	N/A
Subtotal	N/A	N/A	$420,300,515	N/A	N/A
Participant Costs					
Incremental Capital Costs	$151,810,794	N/A	N/A	$151,810,794	$151,810,794
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$151,810,794	N/A	N/A	$151,810,794	$151,810,794
Total Costs	$151,810,794	$60,528,440	$480,828,955	$212,339,234	$212,339,234
Net Benefit (Cost)	$372,965,643	$259,487,847	($160,812,668)	$212,152,975	$220,936,656
Benefit/Cost Ratio	3.46	5.29	0.67	2.00	2.04

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	13.6 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	35.87%
Gross Load Factor at Customer	E	21.81%
Transmission Loss Factor (Energy)	F	7.219%
Transmission Loss Factor (Demand)	G	8.268%
Societal Net Benefit (Cost)	H	$974

Program Summary per Participant		
Gross Realized kW Saved at Customer	I	0.10 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.04 kW
Gross Realized Annual kWh Saved at Customer	(B x E x I)	193 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	208 kWh

Program Summary All Participants		
Total Participants	J	2,242,619
Total Budget	K	**$60,528,440**
Gross kW Saved at Customer	(J x I)	226,825 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**88,703 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	433,389,857 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**467,110,407 kWh**
Societal Net Benefits	(J x I x H)	**$220,936,656**

Utility Program Cost per kWh Lifetime	**$0.0095**
Utility Program Cost per kW at Gen	**$682.37**

ELECTRIC CIP LOAD MANAGEMENT TOTAL — 2016 ELECTRIC GOAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$24,708,883	$24,708,883	$24,708,883	$24,708,883
T & D	N/A	$9,368,058	$9,368,058	$9,368,058	$9,368,058
Marginal Energy	N/A	$225,297	$225,297	$225,297	$225,297
Environmental Externality	N/A	N/A	N/A	N/A	$7,228
Subtotal	N/A	$34,302,238	$34,302,238	$34,302,238	$34,309,466
Participant Benefits					
Bill Reduction - Electric	$19,131,878	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$0	N/A	N/A	$0	$0
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$19,131,878	N/A	N/A	$0	$0
Total Benefits	$19,131,878	$34,302,238	$34,302,238	$34,302,238	$34,309,466
Costs					
Utility Project Costs					
Customer Services	N/A	$2,327,188	$2,327,188	$2,327,188	$2,327,188
Project Administration	N/A	$4,503,989	$4,503,989	$4,503,989	$4,503,989
Advertising & Promotion	N/A	$417,098	$417,098	$417,098	$417,098
Measurement & Verification	N/A	$435,000	$435,000	$435,000	$435,000
Rebates	N/A	$0	$0	$0	$0
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$7,683,274	$7,683,274	$7,683,274	$7,683,274
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$19,131,878	N/A	N/A
Subtotal	N/A	N/A	$19,131,878	N/A	N/A
Participant Costs					
Incremental Capital Costs	$0	N/A	N/A	$0	$0
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$0	N/A	N/A	$0	$0
Total Costs	$0	$7,683,274	$26,815,152	$7,683,274	$7,683,274
Net Benefit (Cost)	$19,131,878	$26,618,964	$7,487,086	$26,618,964	$26,626,192
Benefit/Cost Ratio	INF	4.46	1.28	4.46	4.47

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	9.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	30.01%
Gross Load Factor at Customer	E	0.06%
Transmission Loss Factor (Energy)	F	7.238%
Transmission Loss Factor (Demand)	G	8.229%
Societal Net Benefit (Cost)	H	$299

Program Summary per Participant

Gross kW Saved at Customer	I	4.19 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	1.37 kW
Gross Annual kWh Saved at Customer	(B x E x I)	22 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	24 kWh

Program Summary All Participants

Total Participants	J	21,231
Total Budget	K	**$7,683,274**
Gross kW Saved at Customer	(J x I)	89,032 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**29,111 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	465,070 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**501,359 kWh**
Societal Net Benefits	(J x I x H)	**$26,626,192**

Utility Program Cost per kWh Lifetime	**$1.7093**
Utility Program Cost per kW at Gen	**$263.93**

ELECTRIC CIP LOAD MANAGEMENT TOTAL — 2016 ELECTRIC — ACTUAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$25,987,308	$25,987,308	$25,987,308	$25,987,308
T & D	N/A	$0	$0	$0	$0
Marginal Energy	N/A	$233,867	$233,867	$233,867	$233,867
Environmental Externality	N/A	N/A	N/A	N/A	$7,021
Subtotal	N/A	$26,221,175	$26,221,175	$26,221,175	$26,228,196
Participant Benefits					
Bill Reduction - Electric	$365,570	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$0	N/A	N/A	$0	$0
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$365,570	N/A	N/A	$0	$0
Total Benefits	$365,570	$26,221,175	$26,221,175	$26,221,175	$26,228,196
Costs					
Utility Project Costs					
Customer Services	N/A	$17,694	$17,694	$17,694	$17,694
Project Administration	N/A	$6,177,429	$6,177,429	$6,177,429	$6,177,429
Advertising & Promotion	N/A	$342,311	$342,311	$342,311	$342,311
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$0	$0	$0	$0
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$6,537,433	$6,537,433	$6,537,433	$6,537,433
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$365,570	N/A	N/A
Subtotal	N/A	N/A	$365,570	N/A	N/A
Participant Costs					
Incremental Capital Costs	$0	N/A	N/A	$0	$0
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$0	N/A	N/A	$0	$0
Total Costs	$0	$6,537,433	$6,903,003	$6,537,433	$6,537,433
Net Benefit (Cost)	$365,570	$19,683,742	$19,318,172	$19,683,742	$19,690,763
Benefit/Cost Ratio	INF	4.01	3.80	4.01	4.01

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	8.7 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	30.54%
Gross Load Factor at Customer	E	0.06%
Transmission Loss Factor (Energy)	F	7.159%
Transmission Loss Factor (Demand)	G	8.091%
Societal Net Benefit (Cost)	H	$212

Program Summary per Participant

Gross Realized kW Saved at Customer	I	4.69 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	1.56 kW
Gross Realized Annual kWh Saved at Customer	(B x E x I)	25 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	27 kWh

Program Summary All Participants

Total Participants	J	19,812
Total Budget	K	**$6,537,433**
Gross kW Saved at Customer	(J x I)	92,852 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**30,853 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	487,852 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**525,469 kWh**
Societal Net Benefits	(J x I x H)	**$19,690,763**

Utility Program Cost per kWh Lifetime	**$1.4381**
Utility Program Cost per kW at Gen	**$211.89**

BUSINESS SEGMENT TOTAL — 2016 ELECTRIC — GOAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$48,350,934	$48,350,934	$48,350,934	$48,350,934
T & D	N/A	$18,331,694	$18,331,694	$18,331,694	$18,331,694
Marginal Energy	N/A	$146,748,499	$146,748,499	$146,748,499	$146,748,499
Environmental Externality	N/A	N/A	N/A	N/A	$6,010,814
Subtotal	N/A	$213,431,126	$213,431,126	$213,431,126	$219,441,940
Participant Benefits					
Bill Reduction - Electric	$245,603,158	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$26,692,621	N/A	N/A	$26,692,621	$26,692,621
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$55,951,182	N/A	N/A	$18,375,286	$18,375,286
Subtotal	$328,246,961	N/A	N/A	$45,067,908	$45,067,908
Total Benefits	$328,246,961	$213,431,126	$213,431,126	$258,499,034	$264,509,848
Costs					
Utility Project Costs					
Customer Services	N/A	$4,671,315	$4,671,315	$4,671,315	$4,671,315
Project Administration	N/A	$10,040,134	$10,040,134	$10,040,134	$10,040,134
Advertising & Promotion	N/A	$1,311,182	$1,311,182	$1,311,182	$1,311,182
Measurement & Verification	N/A	$991,646	$991,646	$991,646	$991,646
Rebates	N/A	$26,692,621	$26,692,621	$26,692,621	$26,692,621
Other	N/A	$991,143	$991,143	$991,143	$991,143
Subtotal	N/A	$44,698,041	$44,698,041	$44,698,041	$44,698,041
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$245,603,158	N/A	N/A
Subtotal	N/A	N/A	$245,603,158	N/A	N/A
Participant Costs					
Incremental Capital Costs	$95,147,481	N/A	N/A	$82,641,910	$82,641,910
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$95,147,481	N/A	N/A	$82,641,910	$82,641,910
Total Costs	$95,147,481	$44,698,041	$290,301,199	$127,339,952	$127,339,952
Net Benefit (Cost)	$233,099,480	$168,733,085	($76,870,073)	$131,159,082	$137,169,896
Benefit/Cost Ratio	3.45	4.77	0.74	2.03	2.08

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	14.6 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	57.68%
Gross Load Factor at Customer	E	37.24%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$1,610

Program Summary per Participant		
Gross kW Saved at Customer	I	1.04 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.64 kW
Gross Annual kWh Saved at Customer	(B x E x I)	3,382 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	3,621 kWh

Program Summary All Participants		
Total Participants	J	82,173
Total Budget	K	**$44,698,041**
Gross kW Saved at Customer	(J x I)	85,201 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**52,840 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	277,929,047 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**297,568,573 kWh**
Societal Net Benefits	(J x I x H)	**$137,169,896**

Utility Program Cost per kWh Lifetime	**$0.0103**
Utility Program Cost per kW at Gen	**$845.91**

BUSINESS SEGMENT TOTAL — 2016 ELECTRIC — ACTUAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$61,626,712	$61,626,712	$61,626,712	$61,626,712
T & D	N/A	$19,825,230	$19,825,230	$19,825,230	$19,825,230
Marginal Energy	N/A	$142,470,866	$142,470,866	$142,470,866	$142,470,866
Environmental Externality	N/A	N/A	N/A	N/A	$5,770,420
Subtotal	N/A	$223,922,808	$223,922,808	$223,922,808	$229,693,228
Participant Benefits					
Bill Reduction - Electric	$231,520,357	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$27,722,384	N/A	N/A	$27,722,384	$27,722,384
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$64,170,328	N/A	N/A	$64,170,328	$64,170,328
Subtotal	$323,413,069	N/A	N/A	$91,892,712	$91,892,712
Total Benefits	$323,413,069	$223,922,808	$223,922,808	$315,815,520	$321,585,940
Costs					
Utility Project Costs					
Customer Services	N/A	$91,720	$91,720	$91,720	$91,720
Project Administration	N/A	$13,522,539	$13,522,539	$13,522,539	$13,522,539
Advertising & Promotion	N/A	$1,122,192	$1,122,192	$1,122,192	$1,122,192
Measurement & Verification	N/A	$947,887	$947,887	$947,887	$947,887
Rebates	N/A	$27,722,384	$27,722,384	$27,722,384	$27,722,384
Other	N/A	$27,776	$27,776	$27,776	$27,776
Subtotal	N/A	$43,434,498	$43,434,498	$43,434,498	$43,434,498
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$231,520,357	N/A	N/A
Subtotal	N/A	N/A	$231,520,357	N/A	N/A
Participant Costs					
Incremental Capital Costs	$103,162,184	N/A	N/A	$103,162,184	$103,162,184
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$103,162,184	N/A	N/A	$103,162,184	$103,162,184
Total Costs	$103,162,184	$43,434,498	$274,954,855	$146,596,682	$146,596,682
Net Benefit (Cost)	$220,250,885	$180,488,310	($51,032,047)	$169,218,838	$174,989,258
Benefit/Cost Ratio	3.13	5.16	0.81	2.15	2.19

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	15.5 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	60.96%
Gross Load Factor at Customer	E	30.04%
Transmission Loss Factor (Energy)	F	6.606%
Transmission Loss Factor (Demand)	G	7.019%
Societal Net Benefit (Cost)	H	$1,784

Program Summary per Participant		
Gross Realized kW Saved at Customer	I	0.67 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.44 kW
Gross Realized Annual kWh Saved at Customer	(B x E x I)	1,751 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	1,875 kWh

Program Summary All Participants		
Total Participants	J	147,382
Total Budget	K	**$43,434,498**
Gross kW Saved at Customer	(J x I)	98,093 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**64,307 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	258,094,665 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**276,349,242 kWh**
Societal Net Benefits	(J x I x H)	**$174,989,258**

Utility Program Cost per kWh Lifetime	**$0.0102**
Utility Program Cost per kW at Gen	**$675.43**

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **Xcel Energy**
Project: **Business Segment w/ Indirect Participants**

Input Data	2016
1) Retail Rate ($/Dth) =	$6.60
Escalation Rate =	4.28%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	2.80%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.34
Escalation Rate =	4.28%
4) Demand Cost ($/Unit/Yr) =	$74.00
Escalation Rate =	4.28%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0600
Escalation Rate =	4.28%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.027
Escalation Rate =	2.80%
8) Non-Gas Fuel Loss Factor	5.80%
9) Gas Environmental Damage Factor =	$0.3500
Escalation Rate =	1.73%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0213
Escalation Rate =	1.73%
11) Participant Discount Rate =	2.67%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.67%
14) General Input Data Year =	2012
15a) Project Analysis Year 1 =	2016
15b) Project Analysis Year 2 =	
15c) Project Analysis Year 3 =	

	2016
Administrative & Operating Costs =	$2,494,159
Incentive Costs =	$2,315,540
16) Total Utility Project Costs =	$4,809,699
17) Direct Participant Costs ($/Part.) =	$6,021
18) Participant Non-Energy Costs (Annual $/Part.) =	$0
Escalation Rate =	1.73%
19) Participant Non-Energy Savings (Annual $/Part) =	$263
Escalation Rate =	1.73%
20) Project Life (Years) =	10.5
21) Avg. Dth/Part. Saved =	171.07
22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh
23) Number of Participants =	2,900
24) Total Annual Dth Saved =	496,084
25) Incentive/Participant =	$798.51

Cost Summary	2016
Utility Cost per Participant =	$1,659
Cost per Participant per Dth =	$44.89
Lifetime Energy Reduction (Dth)	5,193,105
Societal Cost per Dth	$3.08

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($12,457,201)	0.68
Utility Cost Test	$22,108,166	5.60
Societal Test	$25,848,827	2.62
Participant Test	$39,965,167	3.25

Conservation Improvement Program (CIP) ACTUAL

BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **Xcel Energy**
Project: **Business Segment w/ Indirect Participants**

Input Data	
1) Retail Rate ($/Dth) =	$6.60
Escalation Rate =	4.28%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	2.80%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.34
Escalation Rate =	4.28%
4) Demand Cost ($/Unit/Yr) =	$74.00
Escalation Rate =	4.28%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0600
Escalation Rate =	4.28%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.027
Escalation Rate =	2.80%
8) Non-Gas Fuel Loss Factor	5.80%
9) Gas Environmental Damage Factor =	$0.3500
Escalation Rate =	1.73%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0213
Escalation Rate =	1.73%
11) Participant Discount Rate =	2.67%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.67%
14) General Input Data Year =	2012
15a) Project Analysis Year 1 =	
15b) Project Analysis Year 2 =	
15c) Project Analysis Year 3 =	2016

			2016
Administrative & Operating Costs =	$0	$0	$1,773,760
Incentive Costs =	$0	$0	$1,773,188
16) Total Utility Project Costs =	$0	$0	$3,546,948
17) Direct Participant Costs ($/Part.) =	$0	$0	$19,984
18) Participant Non-Energy Costs (Annual $/Part.) =	$0	$0	$0
Escalation Rate =	1.73%	1.73%	1.73%
19) Participant Non-Energy Savings (Annual $/Part) =	$0	$0	$759
Escalation Rate =	1.73%	1.73%	1.73%
20) Project Life (Years) =	0.0	0.0	11.7
21) Avg. Dth/Part. Saved =	-	-	818.60
22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh	0 kWh	0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh	0 kWh	0 kWh
23) Number of Participants =	-	-	729
24) Total Annual Dth Saved =	0	0	596,761
25) Incentive/Participant =	$0.00	$0.00	$2,432.36

Cost Summary	**2016**
Utility Cost per Participant =	$4,865
Cost per Participant per Dth =	$30.36
Lifetime Energy Reduction (Dth)	7,000,250
Societal Cost per Dth	$2.34

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($13,309,949)	0.72
Utility Cost Test	$30,817,104	9.69
Societal Test	$37,948,824	3.32
Participant Test	$37,584,409	3.57

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **Xcel Energy**
Project: **Business Segment Direct Participants Only**

Input Data	2016
1) Retail Rate ($/Dth) =	$6.60
Escalation Rate =	4.28%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	2.80%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.34
Escalation Rate =	4.28%
4) Demand Cost ($/Unit/Yr) =	$74.00
Escalation Rate =	4.28%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0600
Escalation Rate =	4.28%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.027
Escalation Rate =	2.80%
8) Non-Gas Fuel Loss Factor	5.80%
9) Gas Environmental Damage Factor =	$0.3500
Escalation Rate =	1.73%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0213
Escalation Rate =	1.73%
11) Participant Discount Rate =	2.67%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.67%
14) General Input Data Year =	2012
15a) Project Analysis Year 1 =	2016
15b) Project Analysis Year 2 =	
15c) Project Analysis Year 3 =	

	2016
Administrative & Operating Costs =	$2,456,747
Incentive Costs =	$2,315,540
16) Total Utility Project Costs =	$4,772,287
17) Direct Participant Costs ($/Part.) =	$17,463
18) Participant Non-Energy Costs (Annual $/Part.) =	$0
Escalation Rate =	1.73%
19) Participant Non-Energy Savings (Annual $/Part) =	$764
Escalation Rate =	1.73%
20) Project Life (Years) =	10.5
21) Avg. Dth/Part. Saved =	496.18
22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh
23) Number of Participants =	1,000
24) Total Annual Dth Saved =	496,084
25) Incentive/Participant =	$2,315.98

Cost Summary	2016
Utility Cost per Participant =	$4,773
Cost per Participant per Dth =	$44.82
Lifetime Energy Reduction (Dth)	5,193,105
Societal Cost per Dth	$3.07

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($12,419,789)	0.68
Utility Cost Test	$22,145,578	5.64
Societal Test	$25,886,239	2.62
Participant Test	$39,965,167	3.25

Conservation Improvement Program (CIP) ACTUAL

BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **Xcel Energy**
Project: **Business Segment Direct Participants Only**

Input Data	
1) Retail Rate ($/Dth) =	$6.60
Escalation Rate =	4.28%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	2.80%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.34
Escalation Rate =	4.28%
4) Demand Cost ($/Unit/Yr) =	$74.00
Escalation Rate =	4.28%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0600
Escalation Rate =	4.28%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.027
Escalation Rate =	2.80%
8) Non-Gas Fuel Loss Factor	5.80%
9) Gas Environmental Damage Factor =	$0.3500
Escalation Rate =	1.73%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0213
Escalation Rate =	1.73%
11) Participant Discount Rate =	2.67%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.67%
14) General Input Data Year =	2012
15a) Project Analysis Year 1 =	
15b) Project Analysis Year 2 =	
15c) Project Analysis Year 3 =	2016

			2016
Administrative & Operating Costs =	$0	$0	$1,738,158
Incentive Costs =	$0	$0	$1,773,188
16) Total Utility Project Costs =	$0	$0	$3,511,346
17) Direct Participant Costs ($/Part.) =	$0	$0	$19,984
18) Participant Non-Energy Costs (Annual $/Part.) =	$0	$0	$0
Escalation Rate =	1.73%	1.73%	1.73%
19) Participant Non-Energy Savings (Annual $/Part) =	$0	$0	$759
Escalation Rate =	1.73%	1.73%	1.73%
20) Project Life (Years) =	0.0	0.0	11.7
21) Avg. Dth/Part. Saved =	-	-	818.60
22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh	0 kWh	0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh	0 kWh	0 kWh
23) Number of Participants =	-	-	729
24) Total Annual Dth Saved =	0	0	596,761
25) Incentive/Participant =	$0.00	$0.00	$2,432.36

Cost Summary	**2016**
Utility Cost per Participant =	$4,817
Cost per Participant per Dth =	$30.30
Lifetime Energy Reduction (Dth)	7,000,250
Societal Cost per Dth	$2.34

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($13,274,347)	0.72
Utility Cost Test	$30,852,706	9.79
Societal Test	$37,984,426	3.32
Participant Test	$37,584,409	3.57

BUSINESS SEGMENT ENERGY EFFICIENCY TOTAL 2016 ELECTRIC GOAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$41,586,686	$41,586,686	$41,586,686	$41,586,686
T & D	N/A	$15,767,120	$15,767,120	$15,767,120	$15,767,120
Marginal Energy	N/A	$146,637,750	$146,637,750	$146,637,750	$146,637,750
Environmental Externality	N/A	N/A	N/A	N/A	$6,007,424
Subtotal	N/A	$203,991,557	$203,991,557	$203,991,557	$209,998,980
Participant Benefits					
Bill Reduction - Electric	$238,396,123	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$26,692,621	N/A	N/A	$26,692,621	$26,692,621
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$55,951,182	N/A	N/A	$18,375,286	$18,375,286
Subtotal	$321,039,926	N/A	N/A	$45,067,908	$45,067,908
Total Benefits	$321,039,926	$203,991,557	$203,991,557	$249,059,464	$255,066,888
Costs					
Utility Project Costs					
Customer Services	N/A	$4,331,789	$4,331,789	$4,331,789	$4,331,789
Project Administration	N/A	$8,203,819	$8,203,819	$8,203,819	$8,203,819
Advertising & Promotion	N/A	$876,388	$876,388	$876,388	$876,388
Measurement & Verification	N/A	$715,458	$715,458	$715,458	$715,458
Rebates	N/A	$26,692,621	$26,692,621	$26,692,621	$26,692,621
Other	N/A	$991,143	$991,143	$991,143	$991,143
Subtotal	N/A	$41,811,218	$41,811,218	$41,811,218	$41,811,218
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$238,396,123	N/A	N/A
Subtotal	N/A	N/A	$238,396,123	N/A	N/A
Participant Costs					
Incremental Capital Costs	$95,147,481	N/A	N/A	$82,641,910	$82,641,910
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$95,147,481	N/A	N/A	$82,641,910	$82,641,910
Total Costs	$95,147,481	$41,811,218	$280,207,342	$124,453,129	$124,453,129
Net Benefit (Cost)	$225,892,445	$162,180,338	($76,215,785)	$124,606,336	$130,613,759
Benefit/Cost Ratio	3.37	4.88	0.73	2.00	2.05

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	14.6 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	68.08%
Gross Load Factor at Customer	E	56.01%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$2,308

Program Summary per Participant

Gross kW Saved at Customer	I	8.15 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	5.97 kW
Gross Annual kWh Saved at Customer	(B x E x I)	39,990 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	42,815 kWh

Program Summary All Participants

Total Participants	J	6,942
Total Budget	K	**$41,811,218**
Gross kW Saved at Customer	(J x I)	56,581 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**41,419 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	277,626,785 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**297,244,952 kWh**
Societal Net Benefits	(J x I x H)	**$130,613,759**

Utility Program Cost per kWh Lifetime	**$0.0096**
Utility Program Cost per kW at Gen	**$1,009.47**

BUSINESS SEGMENT ENERGY EFFICIENCY TOTAL — 2016 ELECTRIC — ACTUAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$52,288,751	$52,288,751	$52,288,751	$52,288,751
T & D	N/A	$19,825,230	$19,825,230	$19,825,230	$19,825,230
Marginal Energy	N/A	$142,343,319	$142,343,319	$142,343,319	$142,343,319
Environmental Externality	N/A	N/A	N/A	N/A	$5,766,740
Subtotal	N/A	$214,457,300	$214,457,300	$214,457,300	$220,224,040
Participant Benefits					
Bill Reduction - Electric	$231,361,282	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$27,722,384	N/A	N/A	$27,722,384	$27,722,384
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$64,170,328	N/A	N/A	$64,170,328	$64,170,328
Subtotal	$323,253,994	N/A	N/A	$91,892,712	$91,892,712
Total Benefits	$323,253,994	$214,457,300	$214,457,300	$306,350,012	$312,116,752
Costs					
Utility Project Costs					
Customer Services	N/A	$58,906	$58,906	$58,906	$58,906
Project Administration	N/A	$10,851,124	$10,851,124	$10,851,124	$10,851,124
Advertising & Promotion	N/A	$735,598	$735,598	$735,598	$735,598
Measurement & Verification	N/A	$947,887	$947,887	$947,887	$947,887
Rebates	N/A	$27,722,384	$27,722,384	$27,722,384	$27,722,384
Other	N/A	$27,776	$27,776	$27,776	$27,776
Subtotal	N/A	$40,343,675	$40,343,675	$40,343,675	$40,343,675
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$231,361,282	N/A	N/A
Subtotal	N/A	N/A	$231,361,282	N/A	N/A
Participant Costs					
Incremental Capital Costs	$103,162,184	N/A	N/A	$103,162,184	$103,162,184
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$103,162,184	N/A	N/A	$103,162,184	$103,162,184
Total Costs	$103,162,184	$40,343,675	$271,704,957	$143,505,859	$143,505,859
Net Benefit (Cost)	$220,091,809	$174,113,625	($57,247,657)	$162,844,153	$168,610,893
Benefit/Cost Ratio	3.13	5.32	0.79	2.13	2.17

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	15.5 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	75.92%
Gross Load Factor at Customer	E	48.18%
Transmission Loss Factor (Energy)	F	6.606%
Transmission Loss Factor (Demand)	G	7.030%
Societal Net Benefit (Cost)	H	$2,761

Program Summary per Participant		
Gross Realized kW Saved at Customer	I	7.16 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	5.84 kW
Gross Realized Annual kWh Saved at Customer	(B x E x I)	30,203 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	32,340 kWh

Program Summary All Participants		
Total Participants	J	8,534
Total Budget	K	**$40,343,675**
Gross kW Saved at Customer	(J x I)	61,068 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**49,868 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	257,756,180 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**275,986,839 kWh**
Societal Net Benefits	(J x I x H)	**$168,610,893**

Utility Program Cost per kWh Lifetime	**$0.0094**
Utility Program Cost per kW at Gen	**$809.02**

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **Xcel Energy**
Project: **Business Segment Energy Efficiency Total**

Input Data	**2016**
1) Retail Rate ($/Dth) =	$6.60
Escalation Rate =	4.28%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	2.80%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.34
Escalation Rate =	4.28%
4) Demand Cost ($/Unit/Yr) =	$74.00
Escalation Rate =	4.28%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0600
Escalation Rate =	4.28%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.027
Escalation Rate =	2.80%
8) Non-Gas Fuel Loss Factor	5.80%
9) Gas Environmental Damage Factor =	$0.3500
Escalation Rate =	1.73%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0213
Escalation Rate =	1.73%
11) Participant Discount Rate =	2.67%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.67%
14) General Input Data Year =	2012
15a) Project Analysis Year 1 =	2016
15b) Project Analysis Year 2 =	
15c) Project Analysis Year 3 =	

Administrative & Operating Costs =	$2,456,747
Incentive Costs =	$2,315,540
16) Total Utility Project Costs =	$4,772,287
17) Direct Participant Costs ($/Part.) =	$17,463
18) Participant Non-Energy Costs (Annual $/Part.) =	$0
Escalation Rate =	1.73%
19) Participant Non-Energy Savings (Annual $/Part) =	$764
Escalation Rate =	1.73%
20) Project Life (Years) =	10.5
21) Avg. Dth/Part. Saved =	496.18
22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh
23) Number of Participants =	1,000
24) Total Annual Dth Saved =	496,084
25) Incentive/Participant =	$2,315.98

Cost Summary	**2016**
Utility Cost per Participant =	$4,773
Cost per Participant per Dth =	$44.82
Lifetime Energy Reduction (Dth)	5,193,105
Societal Cost per Dth	$3.07

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($12,419,789)	0.68
Utility Cost Test	$22,145,578	5.64
Societal Test	$25,886,239	2.62
Participant Test	$39,965,167	3.25

Conservation Improvement Program (CIP) ACTUAL

BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **Xcel Energy**
Project: **Business Segment Energy Efficiency Total**

Input Data

1) Retail Rate ($/Dth) =	$6.60
Escalation Rate =	4.28%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	2.80%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.34
Escalation Rate =	4.28%
4) Demand Cost ($/Unit/Yr) =	$74.00
Escalation Rate =	4.28%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0600
Escalation Rate =	4.28%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.027
Escalation Rate =	2.80%
8) Non-Gas Fuel Loss Factor	5.80%
9) Gas Environmental Damage Factor =	$0.3500
Escalation Rate =	1.73%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0213
Escalation Rate =	1.73%
11) Participant Discount Rate =	2.67%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.67%
14) General Input Data Year =	2012
15a) Project Analysis Year 1 =	
15b) Project Analysis Year 2 =	
15c) Project Analysis Year 3 =	2016

			2016
Administrative & Operating Costs =	$0	$0	$1,738,158
Incentive Costs =	$0	$0	$1,773,188
16) Total Utility Project Costs =	$0	$0	$3,511,346
17) Direct Participant Costs ($/Part.) =	$0	$0	$19,984
18) Participant Non-Energy Costs (Annual $/Part.) =	$0	$0	$0
Escalation Rate =	1.73%	1.73%	1.73%
19) Participant Non-Energy Savings (Annual $/Part) =	$0	$0	$759
Escalation Rate =	1.73%	1.73%	1.73%
20) Project Life (Years) =	0.0	0.0	11.7
21) Avg. Dth/Part. Saved =	-	-	818.60
22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh	0 kWh	0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh	0 kWh	0 kWh
23) Number of Participants =	-	-	729
24) Total Annual Dth Saved =	0	0	596,761
25) Incentive/Participant =	$0.00	$0.00	$2,432.36

Cost Summary	2016
Utility Cost per Participant =	$4,817
Cost per Participant per Dth =	$30.30
Lifetime Energy Reduction (Dth)	7,000,250
Societal Cost per Dth	$2.34

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($13,274,347)	0.72
Utility Cost Test	$30,852,706	9.79
Societal Test	$37,984,426	3.32
Participant Test	$37,584,409	3.57

BUSINESS NEW CONSTRUCTION 2016 ELECTRIC GOAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$6,069,283	$6,069,283	$6,069,283	$6,069,283
T & D	N/A	$2,301,084	$2,301,084	$2,301,084	$2,301,084
Marginal Energy	N/A	$13,165,395	$13,165,395	$13,165,395	$13,165,395
Environmental Externality	N/A	N/A	N/A	N/A	$527,803
Subtotal	N/A	$21,535,762	$21,535,762	$21,535,762	$22,063,564
Participant Benefits					
Bill Reduction - Electric	$21,897,208	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$2,778,931	N/A	N/A	$2,778,931	$2,778,931
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$5,681,361	N/A	N/A	$0	$0
Subtotal	$30,357,499	N/A	N/A	$2,778,931	$2,778,931
Total Benefits	$30,357,499	$21,535,762	$21,535,762	$24,314,693	$24,842,495
Costs					
Utility Project Costs					
Customer Services	N/A	$1,486,499	$1,486,499	$1,486,499	$1,486,499
Project Administration	N/A	$384,669	$384,669	$384,669	$384,669
Advertising & Promotion	N/A	$31,337	$31,337	$31,337	$31,337
Measurement & Verification	N/A	$304,699	$304,699	$304,699	$304,699
Rebates	N/A	$2,778,931	$2,778,931	$2,778,931	$2,778,931
Other	N/A	$351,000	$351,000	$351,000	$351,000
Subtotal	N/A	$5,337,135	$5,337,135	$5,337,135	$5,337,135
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$21,897,208	N/A	N/A
Subtotal	N/A	N/A	$21,897,208	N/A	N/A
Participant Costs					
Incremental Capital Costs	$13,816,273	N/A	N/A	$12,467,026	$12,467,026
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$13,816,273	N/A	N/A	$12,467,026	$12,467,026
Total Costs	$13,816,273	$5,337,135	$27,234,343	$17,804,161	$17,804,161
Net Benefit (Cost)	$16,541,227	$16,198,627	($5,698,581)	$6,510,532	$7,038,335
Benefit/Cost Ratio	2.20	4.04	0.79	1.37	1.40

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	20.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	91.07%
Gross Load Factor at Customer	E	44.06%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$1,382

Program Summary per Participant

Gross kW Saved at Customer	I	118.45 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	115.99 kW
Gross Annual kWh Saved at Customer	(B x E x I)	457,204 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	489,511 kWh

Program Summary All Participants

Total Participants	J	43
Total Budget	K	**$5,337,135**
Gross kW Saved at Customer	(J x I)	5,094 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**4,988 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	19,659,752 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**21,048,986 kWh**
Societal Net Benefits	(J x I x H)	**$7,038,335**

Utility Program Cost per kWh Lifetime	**$0.0127**
Utility Program Cost per kW at Gen	**$1,070.06**

BUSINESS NEW CONSTRUCTION — 2016 ELECTRIC — ACTUAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$14,025,574	$14,025,574	$14,025,574	$14,025,574
T & D	N/A	$5,317,776	$5,317,776	$5,317,776	$5,317,776
Marginal Energy	N/A	$26,940,631	$26,940,631	$26,940,631	$26,940,631
Environmental Externality	N/A	N/A	N/A	N/A	$1,064,088
Subtotal	N/A	$46,283,982	$46,283,982	$46,283,982	$47,348,069
Participant Benefits					
Bill Reduction - Electric	$44,973,431	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$6,080,073	N/A	N/A	$6,080,073	$6,080,073
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$51,053,504	N/A	N/A	$6,080,073	$6,080,073
Total Benefits	$51,053,504	$46,283,982	$46,283,982	$52,364,054	$53,428,142
Costs					
Utility Project Costs					
Customer Services	N/A	$399	$399	$399	$399
Project Administration	N/A	$2,982,426	$2,982,426	$2,982,426	$2,982,426
Advertising & Promotion	N/A	$55,612	$55,612	$55,612	$55,612
Measurement & Verification	N/A	$650,629	$650,629	$650,629	$650,629
Rebates	N/A	$6,080,073	$6,080,073	$6,080,073	$6,080,073
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$9,769,138	$9,769,138	$9,769,138	$9,769,138
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$44,973,431	N/A	N/A
Subtotal	N/A	N/A	$44,973,431	N/A	N/A
Participant Costs					
Incremental Capital Costs	$15,941,018	N/A	N/A	$15,941,018	$15,941,018
Incremental O&M Costs	$372,278	N/A	N/A	$372,278	$372,278
Subtotal	$16,313,296	N/A	N/A	$16,313,296	$16,313,296
Total Costs	$16,313,296	$9,769,138	$54,742,570	$26,082,434	$26,082,434
Net Benefit (Cost)	$34,740,208	$36,514,843	($8,458,588)	$26,281,620	$27,345,708
Benefit/Cost Ratio	3.13	4.74	0.85	2.01	2.05

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	20.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	90.45%
Gross Load Factor at Customer	E	38.75%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$2,307

Program Summary per Participant

Gross Realized kW Saved at Customer	I	96.35 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	93.71 kW
Gross Realized Annual kWh Saved at Customer	(B x E x I)	327,075 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	350,187 kWh

Program Summary All Participants

Total Participants	J	123
Total Budget	K	**$9,769,138**
Gross kW Saved at Customer	(J x I)	11,851 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**11,526 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	40,230,166 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**43,072,983 kWh**
Societal Net Benefits	(J x I x H)	**$27,345,708**

Utility Program Cost per kWh Lifetime	**$0.0113**
Utility Program Cost per kW at Gen	**$847.56**

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **Xcel Energy**
Project: **Business New Construction**

Input Data	2016
1) Retail Rate ($/Dth) =	$6.60
Escalation Rate =	4.28%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	2.80%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.34
Escalation Rate =	4.28%
4) Demand Cost ($/Unit/Yr) =	$74.00
Escalation Rate =	4.28%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0600
Escalation Rate =	4.28%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.027
Escalation Rate =	2.80%
8) Non-Gas Fuel Loss Factor	5.80%
9) Gas Environmental Damage Factor =	$0.3500
Escalation Rate =	1.73%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0213
Escalation Rate =	1.73%
11) Participant Discount Rate =	2.67%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.67%
14) General Input Data Year =	2012
15a) Project Analysis Year 1 =	2016
15b) Project Analysis Year 2 =	
15c) Project Analysis Year 3 =	

	2016
Administrative & Operating Costs =	$309,127
Incentive Costs =	$110,285
16) Total Utility Project Costs =	$419,412
17) Direct Participant Costs ($/Part.) =	$341,624
18) Participant Non-Energy Costs (Annual $/Part.) =	$0
Escalation Rate =	1.73%
19) Participant Non-Energy Savings (Annual $/Part) =	$0
Escalation Rate =	1.73%
20) Project Life (Years) =	20.0
21) Avg. Dth/Part. Saved =	1,728.27
22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh
23) Number of Participants =	12
24) Total Annual Dth Saved =	20,739
25) Incentive/Participant =	$9,190.42

Cost Summary	2016
Utility Cost per Participant =	$34,951
Cost per Participant per Dth =	$217.89
Lifetime Energy Reduction (Dth)	414,784
Societal Cost per Dth	$6.09

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($984,617)	0.67
Utility Cost Test	$1,570,012	4.74
Societal Test	$551,988	1.22
Participant Test	$4,976,866	2.21

Conservation Improvement Program (CIP) ACTUAL

BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **Xcel Energy**
Project: **Business New Construction**

Input Data	
1) Retail Rate ($/Dth) =	$6.60
Escalation Rate =	4.28%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	2.80%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.34
Escalation Rate =	4.28%
4) Demand Cost ($/Unit/Yr) =	$74.00
Escalation Rate =	4.28%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0600
Escalation Rate =	4.28%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.027
Escalation Rate =	2.80%
8) Non-Gas Fuel Loss Factor	5.80%
9) Gas Environmental Damage Factor =	$0.3500
Escalation Rate =	1.73%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0213
Escalation Rate =	1.73%
11) Participant Discount Rate =	2.67%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.67%
14) General Input Data Year =	2012
15a) Project Analysis Year 1 =	
15b) Project Analysis Year 2 =	
15c) Project Analysis Year 3 =	2016

			2016
Administrative & Operating Costs =	$0	$0	$371,007
Incentive Costs =	$0	$0	$645,101
16) Total Utility Project Costs =	$0	$0	$1,016,108
17) Direct Participant Costs ($/Part.) =	$0	$0	$79,824
18) Participant Non-Energy Costs (Annual $/Part.) =	$0	$0	$0
Escalation Rate =	1.73%	1.73%	1.73%
19) Participant Non-Energy Savings (Annual $/Part) =	$0	$0	$11
Escalation Rate =	1.73%	1.73%	1.73%
20) Project Life (Years) =	0.0	0.0	20.0
21) Avg. Dth/Part. Saved =	-	-	2,263.12
22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh	0 kWh	0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh	0 kWh	0 kWh
23) Number of Participants =	-	-	54
24) Total Annual Dth Saved =	0	0	122,208
25) Incentive/Participant =	$0.00	$0.00	$11,946.31

Cost Summary	**2016**
Utility Cost per Participant =	$18,817
Cost per Participant per Dth =	$43.59
Lifetime Energy Reduction (Dth)	2,444,166
Societal Cost per Dth	$1.92

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($4,209,951)	0.73
Utility Cost Test	$10,225,659	11.06
Societal Test	$12,734,654	3.72
Participant Test	$10,777,843	3.50

COMMERCIAL EFFICIENCY 2016 ELECTRIC GOAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$2,149,645	$2,149,645	$2,149,645	$2,149,645
T & D	N/A	$815,115	$815,115	$815,115	$815,115
Marginal Energy	N/A	$8,105,495	$8,105,495	$8,105,495	$8,105,495
Environmental Externality	N/A	N/A	N/A	N/A	$325,249
Subtotal	N/A	$11,070,255	$11,070,255	$11,070,255	$11,395,504
Participant Benefits					
Bill Reduction - Electric	$13,170,694	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$1,722,616	N/A	N/A	$1,722,616	$1,722,616
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$6,319,619	N/A	N/A	$706,907	$706,907
Subtotal	$21,212,928	N/A	N/A	$2,429,522	$2,429,522
Total Benefits	$21,212,928	$11,070,255	$11,070,255	$13,499,777	$13,825,026
Costs					
Utility Project Costs					
Customer Services	N/A	$1,038,000	$1,038,000	$1,038,000	$1,038,000
Project Administration	N/A	$331,629	$331,629	$331,629	$331,629
Advertising & Promotion	N/A	$30,000	$30,000	$30,000	$30,000
Measurement & Verification	N/A	$28,200	$28,200	$28,200	$28,200
Rebates	N/A	$1,722,616	$1,722,616	$1,722,616	$1,722,616
Other	N/A	$21,533	$21,533	$21,533	$21,533
Subtotal	N/A	$3,171,977	$3,171,977	$3,171,977	$3,171,977
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$13,170,694	N/A	N/A
Subtotal	N/A	N/A	$13,170,694	N/A	N/A
Participant Costs					
Incremental Capital Costs	$6,978,081	N/A	N/A	$4,306,827	$4,306,827
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$6,978,081	N/A	N/A	$4,306,827	$4,306,827
Total Costs	$6,978,081	$3,171,977	$16,342,671	$7,478,804	$7,478,804
Net Benefit (Cost)	$14,234,847	$7,898,277	($5,272,416)	$6,020,973	$6,346,222
Benefit/Cost Ratio	3.04	3.49	0.68	1.81	1.85

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	14.9 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	67.96%
Gross Load Factor at Customer	E	60.03%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$2,215

Program Summary per Participant

Gross kW Saved at Customer	I	78.01 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	57.01 kW
Gross Annual kWh Saved at Customer	(B x E x I)	410,192 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	439,177 kWh

Program Summary All Participants

Total Participants	J	37
Total Budget	K	**$3,171,977**
Gross kW Saved at Customer	(J x I)	2,865 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**2,094 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	15,067,705 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**16,132,446 kWh**
Societal Net Benefits	(J x I x H)	**$6,346,222**

Utility Program Cost per kWh Lifetime	**$0.0132**
Utility Program Cost per kW at Gen	**$1,514.75**

COMMERCIAL EFFICIENCY — 2016 ELECTRIC — ACTUAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$6,928,293	$6,928,293	$6,928,293	$6,928,293
T & D	N/A	$2,626,847	$2,626,847	$2,626,847	$2,626,847
Marginal Energy	N/A	$14,714,251	$14,714,251	$14,714,251	$14,714,251
Environmental Externality	N/A	N/A	N/A	N/A	$588,930
Subtotal	N/A	$24,269,391	$24,269,391	$24,269,391	$24,858,322
Participant Benefits					
Bill Reduction - Electric	$23,593,370	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$3,440,125	N/A	N/A	$3,440,125	$3,440,125
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$46,140	N/A	N/A	$46,140	$46,140
Subtotal	$27,079,635	N/A	N/A	$3,486,265	$3,486,265
Total Benefits	$27,079,635	$24,269,391	$24,269,391	$27,755,656	$28,344,586
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$689,783	$689,783	$689,783	$689,783
Advertising & Promotion	N/A	$16,593	$16,593	$16,593	$16,593
Measurement & Verification	N/A	$49,513	$49,513	$49,513	$49,513
Rebates	N/A	$3,440,125	$3,440,125	$3,440,125	$3,440,125
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$4,196,014	$4,196,014	$4,196,014	$4,196,014
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$23,593,370	N/A	N/A
Subtotal	N/A	N/A	$23,593,370	N/A	N/A
Participant Costs					
Incremental Capital Costs	$9,939,053	N/A	N/A	$9,939,053	$9,939,053
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$9,939,053	N/A	N/A	$9,939,053	$9,939,053
Total Costs	$9,939,053	$4,196,014	$27,789,384	$14,135,067	$14,135,067
Net Benefit (Cost)	$17,140,582	$20,073,377	($3,519,993)	$13,620,589	$14,209,519
Benefit/Cost Ratio	2.72	5.78	0.87	1.96	2.01

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	16.1 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	82.74%
Gross Load Factor at Customer	E	41.99%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$2,036

Program Summary per Participant

Gross Realized kW Saved at Customer	I	29.33 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	26.09 kW
Gross Realized Annual kWh Saved at Customer	(B x E x I)	107,875 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	115,498 kWh

Program Summary All Participants

Total Participants	J	238
Total Budget	K	**$4,196,014**
Gross kW Saved at Customer	(J x I)	6,980 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**6,210 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	25,674,208 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**27,488,445 kWh**
Societal Net Benefits	(J x I x H)	**$14,209,519**

Utility Program Cost per kWh Lifetime	**$0.0095**
Utility Program Cost per kW at Gen	**$675.72**

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **Xcel Energy**
Project: **Commercial Efficiency**

Input Data	2016
1) Retail Rate ($/Dth) =	$6.60
Escalation Rate =	4.28%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	2.80%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.34
Escalation Rate =	4.28%
4) Demand Cost ($/Unit/Yr) =	$74.00
Escalation Rate =	4.28%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0600
Escalation Rate =	4.28%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.027
Escalation Rate =	2.80%
8) Non-Gas Fuel Loss Factor	5.80%
9) Gas Environmental Damage Factor =	$0.3500
Escalation Rate =	1.73%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0213
Escalation Rate =	1.73%
11) Participant Discount Rate =	2.67%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.67%
14) General Input Data Year =	2012
15a) Project Analysis Year 1 =	2016
15b) Project Analysis Year 2 =	
15c) Project Analysis Year 3 =	
Administrative & Operating Costs =	$360,953
Incentive Costs =	$121,286
16) Total Utility Project Costs =	$482,239
17) Direct Participant Costs ($/Part.) =	$102,099
18) Participant Non-Energy Costs (Annual $/Part.) =	$0
Escalation Rate =	1.73%
19) Participant Non-Energy Savings (Annual $/Part) =	$2,190
Escalation Rate =	1.73%
20) Project Life (Years) =	11.4
21) Avg. Dth/Part. Saved =	1,968.52
22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh
23) Number of Participants =	13
24) Total Annual Dth Saved =	25,591
25) Incentive/Participant =	$9,329.69

Cost Summary	2016
Utility Cost per Participant =	$37,095
Cost per Participant per Dth =	$70.71
Lifetime Energy Reduction (Dth)	292,463
Societal Cost per Dth	$3.33

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($915,978)	0.63
Utility Cost Test	$1,044,444	3.17
Societal Test	$1,193,113	2.23
Participant Test	$3,194,381	3.38

Conservation Improvement Program (CIP) ACTUAL

BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **Xcel Energy**
Project: **Commercial Efficiency**

Input Data

1) Retail Rate ($/Dth) =	$6.60
Escalation Rate =	4.28%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	2.80%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.34
Escalation Rate =	4.28%
4) Demand Cost ($/Unit/Yr) =	$74.00
Escalation Rate =	4.28%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0600
Escalation Rate =	4.28%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.027
Escalation Rate =	2.80%
8) Non-Gas Fuel Loss Factor	5.80%
9) Gas Environmental Damage Factor =	$0.3500
Escalation Rate =	1.73%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0213
Escalation Rate =	1.73%
11) Participant Discount Rate =	2.67%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.67%
14) General Input Data Year =	2012
15a) Project Analysis Year 1 =	
15b) Project Analysis Year 2 =	
15c) Project Analysis Year 3 =	2016

			2016
Administrative & Operating Costs =	$0	$0	$139,520
Incentive Costs =	$0	$0	$70,636
16) Total Utility Project Costs =	$0	$0	$210,156
17) Direct Participant Costs ($/Part.) =	$0	$0	$17,341
18) Participant Non-Energy Costs (Annual $/Part.) =	$0	$0	$0
Escalation Rate =	1.73%	1.73%	1.73%
19) Participant Non-Energy Savings (Annual $/Part) =	$0	$0	$121
Escalation Rate =	1.73%	1.73%	1.73%
20) Project Life (Years) =	0.0	0.0	11.7
21) Avg. Dth/Part. Saved =	-	-	2,213.86
22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh	0 kWh	0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh	0 kWh	0 kWh
23) Number of Participants =	-	-	24
24) Total Annual Dth Saved =	0	0	53,133
25) Incentive/Participant =	$0.00	$0.00	$2,943.18

Cost Summary	2016
Utility Cost per Participant =	$8,757
Cost per Participant per Dth =	$11.79
Lifetime Energy Reduction (Dth)	620,545
Societal Cost per Dth	$0.90

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($1,097,723)	0.74
Utility Cost Test	$2,913,922	14.87
Societal Test	$3,661,638	7.59
Participant Test	$3,698,133	9.89

COMPUTER EFFICIENCY 2016 ELECTRIC GOAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$723,608	$723,608	$723,608	$723,608
T & D	N/A	$274,282	$274,282	$274,282	$274,282
Marginal Energy	N/A	$2,338,300	$2,338,300	$2,338,300	$2,338,300
Environmental Externality	N/A	N/A	N/A	N/A	$118,210
Subtotal	N/A	$3,336,190	$3,336,190	$3,336,190	$3,454,400
Participant Benefits					
Bill Reduction - Electric	$4,029,110	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$312,000	N/A	N/A	$312,000	$312,000
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$423,120	N/A	N/A	$685,692	$685,692
Subtotal	$4,764,230	N/A	N/A	$997,692	$997,692
Total Benefits	$4,764,230	$3,336,190	$3,336,190	$4,333,882	$4,452,092
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$690,532	$690,532	$690,532	$690,532
Advertising & Promotion	N/A	$59,861	$59,861	$59,861	$59,861
Measurement & Verification	N/A	$8,600	$8,600	$8,600	$8,600
Rebates	N/A	$312,000	$312,000	$312,000	$312,000
Other	N/A	$420,000	$420,000	$420,000	$420,000
Subtotal	N/A	$1,490,993	$1,490,993	$1,490,993	$1,490,993
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$4,029,110	N/A	N/A
Subtotal	N/A	N/A	$4,029,110	N/A	N/A
Participant Costs					
Incremental Capital Costs	$1,090,240	N/A	N/A	$1,090,240	$1,090,240
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$1,090,240	N/A	N/A	$1,090,240	$1,090,240
Total Costs	$1,090,240	$1,490,993	$5,520,103	$2,581,233	$2,581,233
Net Benefit (Cost)	$3,673,990	$1,845,197	($2,183,913)	$1,752,649	$1,870,859
Benefit/Cost Ratio	4.37	2.24	0.60	1.68	1.72

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	5.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	100.00%
Gross Load Factor at Customer	E	83.46%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$1,178

Program Summary per Participant

Gross kW Saved at Customer	I	0.55 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.59 kW
Gross Annual kWh Saved at Customer	(B x E x I)	3,987 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	4,269 kWh

Program Summary All Participants

Total Participants	J	2,911
Total Budget	K	**$1,490,993**
Gross kW Saved at Customer	(J x I)	1,588 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**1,707 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	11,606,431 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**12,426,585 kWh**
Societal Net Benefits	(J x I x H)	**$1,870,859**

Utility Program Cost per kWh Lifetime	**$0.0240**
Utility Program Cost per kW at Gen	**$873.44**

COMPUTER EFFICIENCY — 2016 ELECTRIC — ACTUAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$585,374	$585,374	$585,374	$585,374
T & D	N/A	$221,953	$221,953	$221,953	$221,953
Marginal Energy	N/A	$2,015,119	$2,015,119	$2,015,119	$2,015,119
Environmental Externality	N/A	N/A	N/A	N/A	$99,469
Subtotal	N/A	$2,822,446	$2,822,446	$2,822,446	$2,921,915
Participant Benefits					
Bill Reduction - Electric	$3,491,235	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$55,756	N/A	N/A	$55,756	$55,756
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$3,546,991	N/A	N/A	$55,756	$55,756
Total Benefits	$3,546,991	$2,822,446	$2,822,446	$2,878,202	$2,977,671
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$449,764	$449,764	$449,764	$449,764
Advertising & Promotion	N/A	$3,356	$3,356	$3,356	$3,356
Measurement & Verification	N/A	$4,603	$4,603	$4,603	$4,603
Rebates	N/A	$55,756	$55,756	$55,756	$55,756
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$513,480	$513,480	$513,480	$513,480
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$3,491,235	N/A	N/A
Subtotal	N/A	N/A	$3,491,235	N/A	N/A
Participant Costs					
Incremental Capital Costs	$898,168	N/A	N/A	$898,168	$898,168
Incremental O&M Costs	$73,829	N/A	N/A	$73,829	$73,829
Subtotal	$971,998	N/A	N/A	$971,998	$971,998
Total Costs	$971,998	$513,480	$4,004,715	$1,485,478	$1,485,478
Net Benefit (Cost)	$2,574,994	$2,308,966	($1,182,269)	$1,392,724	$1,492,193
Benefit/Cost Ratio	3.65	5.50	0.70	1.94	2.00

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	5.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	96.29%
Gross Load Factor at Customer	E	83.20%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$1,121

Program Summary per Participant

Gross Realized kW Saved at Customer	I	0.34 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.35 kW
Gross Realized Annual kWh Saved at Customer	(B x E x I)	2,447 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	2,620 kWh

Program Summary All Participants

Total Participants	J	3,964
Total Budget	K	**$513,480**
Gross kW Saved at Customer	(J x I)	1,331 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**1,378 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	9,700,358 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**10,385,822 kWh**
Societal Net Benefits	(J x I x H)	**$1,492,193**

Utility Program Cost per kWh Lifetime	**$0.0098**
Utility Program Cost per kW at Gen	**$372.64**

COOLING EFFICIENCY — 2016 — ELECTRIC — GOAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$1,955,442	$1,955,442	$1,955,442	$1,955,442
T & D	N/A	$741,378	$741,378	$741,378	$741,378
Marginal Energy	N/A	$4,478,734	$4,478,734	$4,478,734	$4,478,734
Environmental Externality	N/A	N/A	N/A	N/A	$172,359
Subtotal	N/A	$7,175,554	$7,175,554	$7,175,554	$7,347,913
Participant Benefits					
Bill Reduction - Electric	$7,051,665	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$1,417,941	N/A	N/A	$1,417,941	$1,417,941
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$8,469,606	N/A	N/A	$1,417,941	$1,417,941
Total Benefits	$8,469,606	$7,175,554	$7,175,554	$8,593,495	$8,765,854
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$351,366	$351,366	$351,366	$351,366
Advertising & Promotion	N/A	$95,861	$95,861	$95,861	$95,861
Measurement & Verification	N/A	$18,000	$18,000	$18,000	$18,000
Rebates	N/A	$1,417,941	$1,417,941	$1,417,941	$1,417,941
Other	N/A	$80,000	$80,000	$80,000	$80,000
Subtotal	N/A	$1,963,169	$1,963,169	$1,963,169	$1,963,169
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$7,051,665	N/A	N/A
Subtotal	N/A	N/A	$7,051,665	N/A	N/A
Participant Costs					
Incremental Capital Costs	$3,510,310	N/A	N/A	$3,510,310	$3,510,310
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$3,510,310	N/A	N/A	$3,510,310	$3,510,310
Total Costs	$3,510,310	$1,963,169	$9,014,834	$5,473,479	$5,473,479
Net Benefit (Cost)	$4,959,296	$5,212,386	($1,839,280)	$3,120,017	$3,292,376
Benefit/Cost Ratio	2.41	3.66	0.80	1.57	1.60

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	18.7 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	77.20%
Gross Load Factor at Customer	E	38.38%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$1,661

Program Summary per Participant

Gross kW Saved at Customer	I	1.79 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	1.48 kW
Gross Annual kWh Saved at Customer	(B x E x I)	6,009 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	6,433 kWh

Program Summary All Participants

Total Participants	J	1,109
Total Budget	K	**$1,963,169**
Gross kW Saved at Customer	(J x I)	1,982 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**1,645 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	6,663,565 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**7,134,438 kWh**
Societal Net Benefits	(J x I x H)	**$3,292,376**

Utility Program Cost per kWh Lifetime	**$0.0147**
Utility Program Cost per kW at Gen	**$1,193.21**

COOLING EFFICIENCY — 2016 ELECTRIC — ACTUAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$4,282,024	$4,282,024	$4,282,024	$4,282,024
T & D	N/A	$1,623,523	$1,623,523	$1,623,523	$1,623,523
Marginal Energy	N/A	$3,926,600	$3,926,600	$3,926,600	$3,926,600
Environmental Externality	N/A	N/A	N/A	N/A	$148,952
Subtotal	N/A	$9,832,148	$9,832,148	$9,832,148	$9,981,100
Participant Benefits					
Bill Reduction - Electric	$6,300,441	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$2,702,176	N/A	N/A	$2,702,176	$2,702,176
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$9,002,617	N/A	N/A	$2,702,176	$2,702,176
Total Benefits	$9,002,617	$9,832,148	$9,832,148	$12,534,324	$12,683,276
Costs					
Utility Project Costs					
Customer Services	N/A	$409	$409	$409	$409
Project Administration	N/A	$465,123	$465,123	$465,123	$465,123
Advertising & Promotion	N/A	$57,446	$57,446	$57,446	$57,446
Measurement & Verification	N/A	$22,754	$22,754	$22,754	$22,754
Rebates	N/A	$2,702,176	$2,702,176	$2,702,176	$2,702,176
Other	N/A	$100	$100	$100	$100
Subtotal	N/A	$3,248,008	$3,248,008	$3,248,008	$3,248,008
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$6,300,441	N/A	N/A
Subtotal	N/A	N/A	$6,300,441	N/A	N/A
Participant Costs					
Incremental Capital Costs	$3,715,900	N/A	N/A	$3,715,900	$3,715,900
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$3,715,900	N/A	N/A	$3,715,900	$3,715,900
Total Costs	$3,715,900	$3,248,008	$9,548,449	$6,963,908	$6,963,908
Net Benefit (Cost)	$5,286,717	$6,584,139	$283,699	$5,570,415	$5,719,368
Benefit/Cost Ratio	2.42	3.03	1.03	1.80	1.82

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	18.6 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	85.21%
Gross Load Factor at Customer	E	17.26%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$1,480

Program Summary per Participant		
Gross Realized kW Saved at Customer	I	4.66 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	4.27 kW
Gross Realized Annual kWh Saved at Customer	(B x E x I)	7,049 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	7,547 kWh

Program Summary All Participants		
Total Participants	J	829
Total Budget	K	**$3,248,008**
Gross kW Saved at Customer	(J x I)	3,864 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**3,541 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	5,843,921 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**6,256,875 kWh**
Societal Net Benefits	(J x I x H)	**$5,719,368**

Utility Program Cost per kWh Lifetime	**$0.0279**
Utility Program Cost per kW at Gen	**$917.35**

Conservation Improvement Program (CIP) ACTUAL

BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **Xcel Energy**
Project: **Cooling Efficiency**

Input Data

1) Retail Rate ($/Dth) =	$6.60
Escalation Rate =	4.28%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	2.80%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.34
Escalation Rate =	4.28%
4) Demand Cost ($/Unit/Yr) =	$74.00
Escalation Rate =	4.28%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0600
Escalation Rate =	4.28%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.027
Escalation Rate =	2.80%
8) Non-Gas Fuel Loss Factor	5.80%
9) Gas Environmental Damage Factor =	$0.3500
Escalation Rate =	1.73%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0213
Escalation Rate =	1.73%
11) Participant Discount Rate =	2.67%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.67%
14) General Input Data Year =	2012
15a) Project Analysis Year 1 =	
15b) Project Analysis Year 2 =	
15c) Project Analysis Year 3 =	2016

			2016
Administrative & Operating Costs =	$0	$0	$216
Incentive Costs =	$0	$0	$15,500
16) Total Utility Project Costs =	$0	$0	$15,716
17) Direct Participant Costs ($/Part.) =	$0	$0	$5,261
18) Participant Non-Energy Costs (Annual $/Part.) =	$0	$0	$0
Escalation Rate =	1.73%	1.73%	1.73%
19) Participant Non-Energy Savings (Annual $/Part) =	$0	$0	$0
Escalation Rate =	1.73%	1.73%	1.73%
20) Project Life (Years) =	0.0	0.0	20.0
21) Avg. Dth/Part. Saved =	-	-	283.26
22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh	0 kWh	0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh	0 kWh	0 kWh
23) Number of Participants =	-	-	9
24) Total Annual Dth Saved =	0	0	2,549
25) Incentive/Participant =	$0.00	$0.00	$1,722.22

Cost Summary	2016
Utility Cost per Participant =	$1,746
Cost per Participant per Dth =	$24.74
Lifetime Energy Reduction (Dth)	50,986
Societal Cost per Dth	$0.93

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($82,341)	0.74
Utility Cost Test	$218,790	14.92
Societal Test	$315,578	7.63
Participant Test	$269,278	6.69

CUSTOM EFFICIENCY 2016 ELECTRIC GOAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$2,026,069	$2,026,069	$2,026,069	$2,026,069
T & D	N/A	$768,155	$768,155	$768,155	$768,155
Marginal Energy	N/A	$10,345,357	$10,345,357	$10,345,357	$10,345,357
Environmental Externality	N/A	N/A	N/A	N/A	$416,101
Subtotal	N/A	$13,139,581	$13,139,581	$13,139,581	$13,555,683
Participant Benefits					
Bill Reduction - Electric	$16,713,144	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$1,702,991	N/A	N/A	$1,702,991	$1,702,991
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$4,954,931	N/A	N/A	$2,415,241	$2,415,241
Subtotal	$23,371,066	N/A	N/A	$4,118,232	$4,118,232
Total Benefits	$23,371,066	$13,139,581	$13,139,581	$17,257,814	$17,673,915
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$1,312,030	$1,312,030	$1,312,030	$1,312,030
Advertising & Promotion	N/A	$62,638	$62,638	$62,638	$62,638
Measurement & Verification	N/A	$65,000	$65,000	$65,000	$65,000
Rebates	N/A	$1,702,991	$1,702,991	$1,702,991	$1,702,991
Other	N/A	$30,000	$30,000	$30,000	$30,000
Subtotal	N/A	$3,172,659	$3,172,659	$3,172,659	$3,172,659
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$16,713,144	N/A	N/A
Subtotal	N/A	N/A	$16,713,144	N/A	N/A
Participant Costs					
Incremental Capital Costs	$8,394,826	N/A	N/A	$6,730,117	$6,730,117
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$8,394,826	N/A	N/A	$6,730,117	$6,730,117
Total Costs	$8,394,826	$3,172,659	$19,885,803	$9,902,776	$9,902,776
Net Benefit (Cost)	$14,976,240	$9,966,922	($6,746,221)	$7,355,038	$7,771,139
Benefit/Cost Ratio	2.78	4.14	0.66	1.74	1.78

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	17.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	44.83%
Gross Load Factor at Customer	E	49.70%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$2,036

Program Summary per Participant

Gross kW Saved at Customer	I	29.81 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	14.37 kW
Gross Annual kWh Saved at Customer	(B x E x I)	129,790 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	138,961 kWh

Program Summary All Participants

Total Participants	J	128
Total Budget	K	**$3,172,659**
Gross kW Saved at Customer	(J x I)	3,816 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**1,840 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	16,613,079 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**17,787,022 kWh**
Societal Net Benefits	(J x I x H)	**$7,771,139**

Utility Program Cost per kWh Lifetime	**$0.0105**
Utility Program Cost per kW at Gen	**$1,724.70**

CUSTOM EFFICIENCY — 2016 ELECTRIC — ACTUAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$777,319	$777,319	$777,319	$777,319
T & D	N/A	$294,721	$294,721	$294,721	$294,721
Marginal Energy	N/A	$4,551,286	$4,551,286	$4,551,286	$4,551,286
Environmental Externality	N/A	N/A	N/A	N/A	$179,722
Subtotal	N/A	$5,623,327	$5,623,327	$5,623,327	$5,803,048
Participant Benefits					
Bill Reduction - Electric	$7,393,754	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$632,715	N/A	N/A	$632,715	$632,715
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$11,607,318	N/A	N/A	$11,607,318	$11,607,318
Subtotal	$19,633,787	N/A	N/A	$12,240,033	$12,240,033
Total Benefits	$19,633,787	$5,623,327	$5,623,327	$17,863,360	$18,043,081
Costs					
Utility Project Costs					
Customer Services	N/A	$90	$90	$90	$90
Project Administration	N/A	$625,142	$625,142	$625,142	$625,142
Advertising & Promotion	N/A	$74,670	$74,670	$74,670	$74,670
Measurement & Verification	N/A	$17,689	$17,689	$17,689	$17,689
Rebates	N/A	$632,715	$632,715	$632,715	$632,715
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$1,350,306	$1,350,306	$1,350,306	$1,350,306
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$7,393,754	N/A	N/A
Subtotal	N/A	N/A	$7,393,754	N/A	N/A
Participant Costs					
Incremental Capital Costs	$8,168,470	N/A	N/A	$8,168,470	$8,168,470
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$8,168,470	N/A	N/A	$8,168,470	$8,168,470
Total Costs	$8,168,470	$1,350,306	$8,744,060	$9,518,776	$9,518,776
Net Benefit (Cost)	$11,465,317	$4,273,021	($3,120,734)	$8,344,584	$8,524,305
Benefit/Cost Ratio	2.40	4.16	0.64	1.88	1.90

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	17.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	36.49%
Gross Load Factor at Customer	E	47.35%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$4,740

Program Summary per Participant

Gross Realized kW Saved at Customer	I	39.96 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	15.68 kW
Gross Realized Annual kWh Saved at Customer	(B x E x I)	165,757 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	177,471 kWh

Program Summary All Participants

Total Participants	J	45
Total Budget	K	**$1,350,306**
Gross kW Saved at Customer	(J x I)	1,798 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**706 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	7,459,087 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**7,986,175 kWh**
Societal Net Benefits	(J x I x H)	**$8,524,305**

Utility Program Cost per kWh Lifetime	**$0.0099**
Utility Program Cost per kW at Gen	**$1,913.64**

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **Xcel Energy**
Project: **Custom Efficiency**

Input Data	2016
1) Retail Rate ($/Dth) =	$6.60
Escalation Rate =	4.28%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	2.80%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.34
Escalation Rate =	4.28%
4) Demand Cost ($/Unit/Yr) =	$74.00
Escalation Rate =	4.28%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0600
Escalation Rate =	4.28%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.027
Escalation Rate =	2.80%
8) Non-Gas Fuel Loss Factor	5.80%
9) Gas Environmental Damage Factor =	$0.3500
Escalation Rate =	1.73%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0213
Escalation Rate =	1.73%
11) Participant Discount Rate =	2.67%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.67%
14) General Input Data Year =	2012
15a) Project Analysis Year 1 =	2016
15b) Project Analysis Year 2 =	
15c) Project Analysis Year 3 =	

	2016
Administrative & Operating Costs =	$382,042
Incentive Costs =	$337,205
16) Total Utility Project Costs =	$719,247
17) Direct Participant Costs ($/Part.) =	$41,148
18) Participant Non-Energy Costs (Annual $/Part.) =	$0
Escalation Rate =	1.73%
19) Participant Non-Energy Savings (Annual $/Part) =	$2,105
Escalation Rate =	1.73%
20) Project Life (Years) =	18.7
21) Avg. Dth/Part. Saved =	754.42
22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh
23) Number of Participants =	53
24) Total Annual Dth Saved =	39,984
25) Incentive/Participant =	$6,362.36

Cost Summary	2016
Utility Cost per Participant =	$13,571
Cost per Participant per Dth =	$72.53
Lifetime Energy Reduction (Dth)	746,649
Societal Cost per Dth	$3.36

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($1,752,946)	0.67
Utility Cost Test	$2,919,191	5.06
Societal Test	$4,159,254	2.66
Participant Test	$4,357,544	3.00

Conservation Improvement Program (CIP) ACTUAL

BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **Xcel Energy**
Project: **Custom Efficiency**

Input Data

1) Retail Rate ($/Dth) =	$6.60
Escalation Rate =	4.28%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	2.80%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.34
Escalation Rate =	4.28%
4) Demand Cost ($/Unit/Yr) =	$74.00
Escalation Rate =	4.28%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0600
Escalation Rate =	4.28%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.027
Escalation Rate =	2.80%
8) Non-Gas Fuel Loss Factor	5.80%
9) Gas Environmental Damage Factor =	$0.3500
Escalation Rate =	1.73%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0213
Escalation Rate =	1.73%
11) Participant Discount Rate =	2.67%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.67%
14) General Input Data Year =	2012
15a) Project Analysis Year 1 =	
15b) Project Analysis Year 2 =	
15c) Project Analysis Year 3 =	2016

			2016
Administrative & Operating Costs =	$0	$0	$128,092
Incentive Costs =	$0	$0	$275,661
16) Total Utility Project Costs =	$0	$0	$403,753
17) Direct Participant Costs ($/Part.) =	$0	$0	$228,763
18) Participant Non-Energy Costs (Annual $/Part.) =	$0	$0	$0
Escalation Rate =	1.73%	1.73%	1.73%
19) Participant Non-Energy Savings (Annual $/Part) =	$0	$0	$20,149
Escalation Rate =	1.73%	1.73%	1.73%
20) Project Life (Years) =	0.0	0.0	18.7
21) Avg. Dth/Part. Saved =	-	-	2,506.00
22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh	0 kWh	0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh	0 kWh	0 kWh
23) Number of Participants =	-	-	22
24) Total Annual Dth Saved =	0	0	55,132
25) Incentive/Participant =	$0.00	$0.00	$12,530.05

Cost Summary	2016
Utility Cost per Participant =	$18,352
Cost per Participant per Dth =	$98.61
Lifetime Energy Reduction (Dth)	1,029,508
Societal Cost per Dth	$5.01

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($1,770,557)	0.73
Utility Cost Test	$4,407,155	11.92
Societal Test	$7,578,798	2.47
Participant Test	$6,900,824	2.37

DATA CENTER EFFICIENCY 2016 ELECTRIC GOAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$655,100	$655,100	$655,100	$655,100
T & D	N/A	$248,372	$248,372	$248,372	$248,372
Marginal Energy	N/A	$3,986,102	$3,986,102	$3,986,102	$3,986,102
Environmental Externality	N/A	N/A	N/A	N/A	$184,271
Subtotal	N/A	$4,889,574	$4,889,574	$4,889,574	$5,073,845
Participant Benefits					
Bill Reduction - Electric	$6,591,716	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$668,470	N/A	N/A	$668,470	$668,470
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$4,666,661	N/A	N/A	$4,666,661	$4,666,661
Subtotal	$11,926,846	N/A	N/A	$5,335,131	$5,335,131
Total Benefits	$11,926,846	$4,889,574	$4,889,574	$10,224,704	$10,408,975
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$149,377	$149,377	$149,377	$149,377
Advertising & Promotion	N/A	$148,439	$148,439	$148,439	$148,439
Measurement & Verification	N/A	$44,000	$44,000	$44,000	$44,000
Rebates	N/A	$668,470	$668,470	$668,470	$668,470
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$1,010,286	$1,010,286	$1,010,286	$1,010,286
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$6,591,716	N/A	N/A
Subtotal	N/A	N/A	$6,591,716	N/A	N/A
Participant Costs					
Incremental Capital Costs	$2,383,174	N/A	N/A	$2,383,174	$2,383,174
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$2,383,174	N/A	N/A	$2,383,174	$2,383,174
Total Costs	$2,383,174	$1,010,286	$7,602,002	$3,393,460	$3,393,460
Net Benefit (Cost)	$9,543,673	$3,879,288	($2,712,428)	$6,831,245	$7,015,516
Benefit/Cost Ratio	5.00	4.84	0.64	3.01	3.07

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	11.1 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	62.58%
Gross Load Factor at Customer	E	93.59%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$5,932

Program Summary per Participant		
Gross kW Saved at Customer	I	65.70 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	44.21 kW
Gross Annual kWh Saved at Customer	(B x E x I)	538,633 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	576,695 kWh

Program Summary All Participants		
Total Participants	J	18
Total Budget	K	**$1,010,286**
Gross kW Saved at Customer	(J x I)	1,183 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**796 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	9,695,403 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**10,380,517 kWh**
Societal Net Benefits	(J x I x H)	**$7,015,516**

Utility Program Cost per kWh Lifetime	**$0.0087**
Utility Program Cost per kW at Gen	**$1,269.58**

DATA CENTER EFFICIENCY — 2016 ELECTRIC — ACTUAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$457,342	$457,342	$457,342	$457,342
T & D	N/A	$173,405	$173,405	$173,405	$173,405
Marginal Energy	N/A	$2,393,255	$2,393,255	$2,393,255	$2,393,255
Environmental Externality	N/A	N/A	N/A	N/A	$109,648
Subtotal	N/A	$3,024,002	$3,024,002	$3,024,002	$3,133,651
Participant Benefits					
Bill Reduction - Electric	$3,959,357	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$364,593	N/A	N/A	$364,593	$364,593
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$68,577	N/A	N/A	$68,577	$68,577
Subtotal	$4,392,527	N/A	N/A	$433,170	$433,170
Total Benefits	$4,392,527	$3,024,002	$3,024,002	$3,457,173	$3,566,821
Costs					
Utility Project Costs					
Customer Services	N/A	$5,362	$5,362	$5,362	$5,362
Project Administration	N/A	$211,410	$211,410	$211,410	$211,410
Advertising & Promotion	N/A	$24,434	$24,434	$24,434	$24,434
Measurement & Verification	N/A	$24,331	$24,331	$24,331	$24,331
Rebates	N/A	$364,593	$364,593	$364,593	$364,593
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$630,129	$630,129	$630,129	$630,129
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$3,959,357	N/A	N/A
Subtotal	N/A	N/A	$3,959,357	N/A	N/A
Participant Costs					
Incremental Capital Costs	$1,293,374	N/A	N/A	$1,293,374	$1,293,374
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$1,293,374	N/A	N/A	$1,293,374	$1,293,374
Total Costs	$1,293,374	$630,129	$4,589,486	$1,923,503	$1,923,503
Net Benefit (Cost)	$3,099,153	$2,393,873	($1,565,484)	$1,533,669	$1,643,317
Benefit/Cost Ratio	3.40	4.80	0.66	1.80	1.85

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	11.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	83.39%
Gross Load Factor at Customer	E	106.95%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$2,617

Program Summary per Participant		
Gross Realized kW Saved at Customer	I	33.04 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	29.63 kW
Gross Realized Annual kWh Saved at Customer	(B x E x I)	309,601 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	331,479 kWh

Program Summary All Participants		
Total Participants	J	19
Total Budget	K	**$630,129**
Gross kW Saved at Customer	(J x I)	628 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**563 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	5,882,418 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**6,298,092 kWh**
Societal Net Benefits	(J x I x H)	**$1,643,317**

Utility Program Cost per kWh Lifetime	**$0.0091**
Utility Program Cost per kW at Gen	**$1,119.31**

EFFICIENCY CONTROLS 2016 ELECTRIC GOAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$362,897	$362,897	$362,897	$362,897
T & D	N/A	$137,587	$137,587	$137,587	$137,587
Marginal Energy	N/A	$8,246,810	$8,246,810	$8,246,810	$8,246,810
Environmental Externality	N/A	N/A	N/A	N/A	$369,076
Subtotal	N/A	$8,747,295	$8,747,295	$8,747,295	$9,116,371
Participant Benefits					
Bill Reduction - Electric	$12,434,327	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$853,838	N/A	N/A	$853,838	$853,838
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$8,540,445	N/A	N/A	$897,213	$897,213
Subtotal	$21,828,610	N/A	N/A	$1,751,051	$1,751,051
Total Benefits	$21,828,610	$8,747,295	$8,747,295	$10,498,346	$10,867,422
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$392,149	$392,149	$392,149	$392,149
Advertising & Promotion	N/A	$225,739	$225,739	$225,739	$225,739
Measurement & Verification	N/A	$12,000	$12,000	$12,000	$12,000
Rebates	N/A	$853,838	$853,838	$853,838	$853,838
Other	N/A	$7,000	$7,000	$7,000	$7,000
Subtotal	N/A	$1,490,726	$1,490,726	$1,490,726	$1,490,726
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$12,434,327	N/A	N/A
Subtotal	N/A	N/A	$12,434,327	N/A	N/A
Participant Costs					
Incremental Capital Costs	$6,811,030	N/A	N/A	$3,213,094	$3,213,094
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$6,811,030	N/A	N/A	$3,213,094	$3,213,094
Total Costs	$6,811,030	$1,490,726	$13,925,053	$4,703,820	$4,703,820
Net Benefit (Cost)	$15,017,581	$7,256,569	($5,177,758)	$5,794,526	$6,163,602
Benefit/Cost Ratio	3.20	5.87	0.63	2.23	2.31

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	15.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	15.03%
Gross Load Factor at Customer	E	85.08%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$2,785

Program Summary per Participant

Gross kW Saved at Customer	I	24.06 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	3.89 kW
Gross Annual kWh Saved at Customer	(B x E x I)	179,315 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	191,986 kWh

Program Summary All Participants

Total Participants	J	92
Total Budget	K	**$1,490,726**
Gross kW Saved at Customer	(J x I)	2,213 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**358 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	16,496,988 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**17,662,728 kWh**
Societal Net Benefits	(J x I x H)	**$6,163,602**

Utility Program Cost per kWh Lifetime	**$0.0056**
Utility Program Cost per kW at Gen	**$4,166.93**

EFFICIENCY CONTROLS — 2016 ELECTRIC — ACTUAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$274,755	$274,755	$274,755	$274,755
T & D	N/A	$104,173	$104,173	$104,173	$104,173
Marginal Energy	N/A	$3,830,030	$3,830,030	$3,830,030	$3,830,030
Environmental Externality	N/A	N/A	N/A	N/A	$174,264
Subtotal	N/A	$4,208,958	$4,208,958	$4,208,958	$4,383,222
Participant Benefits					
Bill Reduction - Electric	$5,871,627	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$430,219	N/A	N/A	$430,219	$430,219
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$560,623	N/A	N/A	$560,623	$560,623
Subtotal	$6,862,468	N/A	N/A	$990,842	$990,842
Total Benefits	$6,862,468	$4,208,958	$4,208,958	$5,199,800	$5,374,064
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$277,010	$277,010	$277,010	$277,010
Advertising & Promotion	N/A	$17,166	$17,166	$17,166	$17,166
Measurement & Verification	N/A	$1,235	$1,235	$1,235	$1,235
Rebates	N/A	$430,219	$430,219	$430,219	$430,219
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$725,631	$725,631	$725,631	$725,631
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$5,871,627	N/A	N/A
Subtotal	N/A	N/A	$5,871,627	N/A	N/A
Participant Costs					
Incremental Capital Costs	$1,530,363	N/A	N/A	$1,530,363	$1,530,363
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$1,530,363	N/A	N/A	$1,530,363	$1,530,363
Total Costs	$1,530,363	$725,631	$6,597,258	$2,255,994	$2,255,994
Net Benefit (Cost)	$5,332,105	$3,483,327	($2,388,299)	$2,943,806	$3,118,070
Benefit/Cost Ratio	4.48	5.80	0.64	2.30	2.38

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	15.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	21.92%
Gross Load Factor at Customer	E	77.38%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$2,713

Program Summary per Participant		
Gross Realized kW Saved at Customer	I	13.52 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	3.19 kW
Gross Realized Annual kWh Saved at Customer	(B x E x I)	91,648 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	98,124 kWh

Program Summary All Participants		
Total Participants	J	85
Total Budget	K	**$725,631**
Gross kW Saved at Customer	(J x I)	1,149 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**271 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	7,790,060 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**8,340,535 kWh**
Societal Net Benefits	(J x I x H)	**$3,118,070**

Utility Program Cost per kWh Lifetime	**$0.0058**
Utility Program Cost per kW at Gen	**$2,678.99**

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **Xcel Energy**
Project: **Efficiency Controls**

Input Data	2016
1) Retail Rate ($/Dth) =	$6.60
Escalation Rate =	4.28%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	2.80%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.34
Escalation Rate =	4.28%
4) Demand Cost ($/Unit/Yr) =	$74.00
Escalation Rate =	4.28%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0600
Escalation Rate =	4.28%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.027
Escalation Rate =	2.80%
8) Non-Gas Fuel Loss Factor	5.80%
9) Gas Environmental Damage Factor =	$0.3500
Escalation Rate =	1.73%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0213
Escalation Rate =	1.73%
11) Participant Discount Rate =	2.67%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.67%
14) General Input Data Year =	2012
15a) Project Analysis Year 1 =	2016
15b) Project Analysis Year 2 =	
15c) Project Analysis Year 3 =	

	2016
Administrative & Operating Costs =	$99,000
Incentive Costs =	$139,902
16) Total Utility Project Costs =	$238,902
17) Direct Participant Costs ($/Part.) =	$70,929
18) Participant Non-Energy Costs (Annual $/Part.) =	$0
Escalation Rate =	1.73%
19) Participant Non-Energy Savings (Annual $/Part) =	$2,204
Escalation Rate =	1.73%
20) Project Life (Years) =	15.0
21) Avg. Dth/Part. Saved =	757.99
22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh
23) Number of Participants =	33
24) Total Annual Dth Saved =	25,014
25) Incentive/Participant =	$4,239.45

Cost Summary	2016
Utility Cost per Participant =	$7,239
Cost per Participant per Dth =	$103.13
Lifetime Energy Reduction (Dth)	375,206
Societal Cost per Dth	$3.65

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($781,981)	0.71
Utility Cost Test	$1,672,642	8.00
Societal Test	$1,685,309	2.23
Participant Test	$3,726,261	2.59

Conservation Improvement Program (CIP) ACTUAL

BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **Xcel Energy**
Project: **Efficiency Controls**

Input Data

1) Retail Rate ($/Dth) =	$6.60
Escalation Rate =	4.28%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	2.80%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.34
Escalation Rate =	4.28%
4) Demand Cost ($/Unit/Yr) =	$74.00
Escalation Rate =	4.28%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0600
Escalation Rate =	4.28%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.027
Escalation Rate =	2.80%
8) Non-Gas Fuel Loss Factor	5.80%
9) Gas Environmental Damage Factor =	$0.3500
Escalation Rate =	1.73%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0213
Escalation Rate =	1.73%
11) Participant Discount Rate =	2.67%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.67%
14) General Input Data Year =	2012
15a) Project Analysis Year 1 =	
15b) Project Analysis Year 2 =	
15c) Project Analysis Year 3 =	2016

			2016
Administrative & Operating Costs =	$0	$0	$23,939
Incentive Costs =	$0	$0	$67,570
16) Total Utility Project Costs =	$0	$0	$91,509
17) Direct Participant Costs ($/Part.) =	$0	$0	$19,322
18) Participant Non-Energy Costs (Annual $/Part.) =	$0	$0	$0
Escalation Rate =	1.73%	1.73%	1.73%
19) Participant Non-Energy Savings (Annual $/Part) =	$0	$0	$673
Escalation Rate =	1.73%	1.73%	1.73%
20) Project Life (Years) =	0.0	0.0	15.0
21) Avg. Dth/Part. Saved =	-	-	468.10
22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh	0 kWh	0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh	0 kWh	0 kWh
23) Number of Participants =	-	-	32
24) Total Annual Dth Saved =	0	0	14,979
25) Incentive/Participant =	$0.00	$0.00	$2,111.56

Cost Summary	2016
Utility Cost per Participant =	$2,860
Cost per Participant per Dth =	$47.39
Lifetime Energy Reduction (Dth)	224,688
Societal Cost per Dth	$2.86

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($403,378)	0.73
Utility Cost Test	$1,006,214	12.00
Societal Test	$1,130,860	2.76
Participant Test	$1,090,647	2.76

FLUID SYSTEMS OPTIMIZATION 2016 ELECTRIC GOAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$2,492,509	$2,492,509	$2,492,509	$2,492,509
T & D	N/A	$944,999	$944,999	$944,999	$944,999
Marginal Energy	N/A	$7,817,528	$7,817,528	$7,817,528	$7,817,528
Environmental Externality	N/A	N/A	N/A	N/A	$329,745
Subtotal	N/A	$11,255,037	$11,255,037	$11,255,037	$11,584,782
Participant Benefits					
Bill Reduction - Electric	$13,101,728	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$1,180,654	N/A	N/A	$1,180,654	$1,180,654
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$30,141	N/A	N/A	$30,141	$30,141
Subtotal	$14,312,523	N/A	N/A	$1,210,795	$1,210,795
Total Benefits	$14,312,523	$11,255,037	$11,255,037	$12,465,832	$12,795,577
Costs					
Utility Project Costs					
Customer Services	N/A	$57,456	$57,456	$57,456	$57,456
Project Administration	N/A	$496,914	$496,914	$496,914	$496,914
Advertising & Promotion	N/A	$74,562	$74,562	$74,562	$74,562
Measurement & Verification	N/A	$20,273	$20,273	$20,273	$20,273
Rebates	N/A	$1,180,654	$1,180,654	$1,180,654	$1,180,654
Other	N/A	$31,075	$31,075	$31,075	$31,075
Subtotal	N/A	$1,860,934	$1,860,934	$1,860,934	$1,860,934
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$13,101,728	N/A	N/A
Subtotal	N/A	N/A	$13,101,728	N/A	N/A
Participant Costs					
Incremental Capital Costs	$2,736,226	N/A	N/A	$2,736,226	$2,736,226
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$2,736,226	N/A	N/A	$2,736,226	$2,736,226
Total Costs	$2,736,226	$1,860,934	$14,962,662	$4,597,160	$4,597,160
Net Benefit (Cost)	$11,576,297	$9,394,103	($3,707,626)	$7,868,672	$8,198,417
Benefit/Cost Ratio	5.23	6.05	0.75	2.71	2.78

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	14.9 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	90.43%
Gross Load Factor at Customer	E	67.03%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$3,098

Program Summary per Participant

Gross kW Saved at Customer	I	4.80 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	4.67 kW
Gross Annual kWh Saved at Customer	(B x E x I)	28,197 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	30,190 kWh

Program Summary All Participants

Total Participants	J	551
Total Budget	K	**$1,860,934**
Gross kW Saved at Customer	(J x I)	2,646 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**2,573 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	15,536,567 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**16,634,440 kWh**
Societal Net Benefits	(J x I x H)	**$8,198,417**

Utility Program Cost per kWh Lifetime	**$0.0075**
Utility Program Cost per kW at Gen	**$723.26**

FLUID SYSTEMS OPTIMIZATION — 2016 ELECTRIC — ACTUAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$2,162,900	$2,162,900	$2,162,900	$2,162,900
T & D	N/A	$820,062	$820,062	$820,062	$820,062
Marginal Energy	N/A	$7,855,210	$7,855,210	$7,855,210	$7,855,210
Environmental Externality	N/A	N/A	N/A	N/A	$317,452
Subtotal	N/A	$10,838,172	$10,838,172	$10,838,172	$11,155,624
Participant Benefits					
Bill Reduction - Electric	$13,144,036	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$854,401	N/A	N/A	$854,401	$854,401
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$396,868	N/A	N/A	$396,868	$396,868
Subtotal	$14,395,305	N/A	N/A	$1,251,269	$1,251,269
Total Benefits	$14,395,305	$10,838,172	$10,838,172	$12,089,440	$12,406,893
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$537,889	$537,889	$537,889	$537,889
Advertising & Promotion	N/A	$92,546	$92,546	$92,546	$92,546
Measurement & Verification	N/A	$21,541	$21,541	$21,541	$21,541
Rebates	N/A	$854,401	$854,401	$854,401	$854,401
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$1,506,376	$1,506,376	$1,506,376	$1,506,376
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$13,144,036	N/A	N/A
Subtotal	N/A	N/A	$13,144,036	N/A	N/A
Participant Costs					
Incremental Capital Costs	$3,570,309	N/A	N/A	$3,570,309	$3,570,309
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$3,570,309	N/A	N/A	$3,570,309	$3,570,309
Total Costs	$3,570,309	$1,506,376	$14,650,413	$5,076,686	$5,076,686
Net Benefit (Cost)	$10,824,995	$9,331,795	($3,812,241)	$7,012,755	$7,330,207
Benefit/Cost Ratio	4.03	7.19	0.74	2.38	2.44

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	17.7 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	83.22%
Gross Load Factor at Customer	E	69.71%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$3,373

Program Summary per Participant

Gross Realized kW Saved at Customer	I	13.01 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	11.64 kW
Gross Realized Annual kWh Saved at Customer	(B x E x I)	79,468 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	85,083 kWh

Program Summary All Participants

Total Participants	J	167
Total Budget	K	**$1,506,376**
Gross kW Saved at Customer	(J x I)	2,173 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**1,945 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	13,271,088 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**14,208,874 kWh**
Societal Net Benefits	(J x I x H)	**$7,330,207**

Utility Program Cost per kWh Lifetime	**$0.0060**
Utility Program Cost per kW at Gen	**$774.63**

FOODSERVICE EQUIPMENT 2016 ELECTRIC GOAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$108,692	$108,692	$108,692	$108,692
T & D	N/A	$41,209	$41,209	$41,209	$41,209
Marginal Energy	N/A	$383,211	$383,211	$383,211	$383,211
Environmental Externality	N/A	N/A	N/A	N/A	$15,410
Subtotal	N/A	$533,112	$533,112	$533,112	$548,522
Participant Benefits					
Bill Reduction - Electric	$577,235	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$28,506	N/A	N/A	$28,506	$28,506
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$311,972	N/A	N/A	$22,433	$22,433
Subtotal	$917,713	N/A	N/A	$50,939	$50,939
Total Benefits	$917,713	$533,112	$533,112	$584,051	$599,461
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$16,721	$16,721	$16,721	$16,721
Advertising & Promotion	N/A	$7,500	$7,500	$7,500	$7,500
Measurement & Verification	N/A	$6,000	$6,000	$6,000	$6,000
Rebates	N/A	$28,506	$28,506	$28,506	$28,506
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$58,727	$58,727	$58,727	$58,727
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$577,235	N/A	N/A
Subtotal	N/A	N/A	$577,235	N/A	N/A
Participant Costs					
Incremental Capital Costs	$246,479	N/A	N/A	$133,797	$133,797
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$246,479	N/A	N/A	$133,797	$133,797
Total Costs	$246,479	$58,727	$635,962	$192,524	$192,524
Net Benefit (Cost)	$671,234	$474,385	($102,850)	$391,527	$406,937
Benefit/Cost Ratio	3.72	9.08	0.84	3.03	3.11

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	15.1 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	68.31%
Gross Load Factor at Customer	E	52.80%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$2,761

Program Summary per Participant

Gross kW Saved at Customer	I	2.05 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	1.50 kW
Gross Annual kWh Saved at Customer	(B x E x I)	9,469 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	10,138 kWh

Program Summary All Participants

Total Participants	J	72
Total Budget	K	**$58,727**
Gross kW Saved at Customer	(J x I)	147 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**108 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	681,787 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**729,965 kWh**
Societal Net Benefits	(J x I x H)	**$406,937**

Utility Program Cost per kWh Lifetime	**$0.0053**
Utility Program Cost per kW at Gen	**$542.49**

FOODSERVICE EQUIPMENT — 2016 ELECTRIC — ACTUAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$51,940	$51,940	$51,940	$51,940
T & D	N/A	$19,693	$19,693	$19,693	$19,693
Marginal Energy	N/A	$165,449	$165,449	$165,449	$165,449
Environmental Externality	N/A	N/A	N/A	N/A	$7,274
Subtotal	N/A	$237,082	$237,082	$237,082	$244,356
Participant Benefits					
Bill Reduction - Electric	$277,814	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$17,274	N/A	N/A	$17,274	$17,274
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$9,698	N/A	N/A	$9,698	$9,698
Subtotal	$304,786	N/A	N/A	$26,972	$26,972
Total Benefits	$304,786	$237,082	$237,082	$264,054	$271,328
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$14,565	$14,565	$14,565	$14,565
Advertising & Promotion	N/A	$1,261	$1,261	$1,261	$1,261
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$17,274	$17,274	$17,274	$17,274
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$33,099	$33,099	$33,099	$33,099
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$277,814	N/A	N/A
Subtotal	N/A	N/A	$277,814	N/A	N/A
Participant Costs					
Incremental Capital Costs	$107,358	N/A	N/A	$107,358	$107,358
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$107,358	N/A	N/A	$107,358	$107,358
Total Costs	$107,358	$33,099	$310,914	$140,457	$140,457
Net Benefit (Cost)	$197,429	$203,983	($73,831)	$123,597	$130,871
Benefit/Cost Ratio	2.84	7.16	0.76	1.88	1.93

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	17.4 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	59.58%
Gross Load Factor at Customer	E	46.73%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$1,792

Program Summary per Participant		
Gross Realized kW Saved at Customer	I	2.92 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	1.87 kW
Gross Realized Annual kWh Saved at Customer	(B x E x I)	11,957 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	12,802 kWh

Program Summary All Participants		
Total Participants	J	25
Total Budget	K	**$33,099**
Gross kW Saved at Customer	(J x I)	73 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**47 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	298,930 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**320,054 kWh**
Societal Net Benefits	(J x I x H)	**$130,871**

Utility Program Cost per kWh Lifetime	**$0.0059**
Utility Program Cost per kW at Gen	**$707.41**

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **Xcel Energy**
Project: **Foodservice Equipment**

Input Data	2016
1) Retail Rate ($/Dth) =	$6.60
Escalation Rate =	4.28%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	2.80%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.34
Escalation Rate =	4.28%
4) Demand Cost ($/Unit/Yr) =	$74.00
Escalation Rate =	4.28%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0600
Escalation Rate =	4.28%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.027
Escalation Rate =	2.80%
8) Non-Gas Fuel Loss Factor	5.80%
9) Gas Environmental Damage Factor =	$0.3500
Escalation Rate =	1.73%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0213
Escalation Rate =	1.73%
11) Participant Discount Rate =	2.67%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.67%
14) General Input Data Year =	2012
15a) Project Analysis Year 1 =	2016
15b) Project Analysis Year 2 =	
15c) Project Analysis Year 3 =	

	2016
Administrative & Operating Costs =	$70,284
Incentive Costs =	$37,146
16) Total Utility Project Costs =	$107,430
17) Direct Participant Costs ($/Part.) =	$2,602
18) Participant Non-Energy Costs (Annual $/Part.) =	$0
Escalation Rate =	1.73%
19) Participant Non-Energy Savings (Annual $/Part) =	$32
Escalation Rate =	1.73%
20) Project Life (Years) =	12.2
21) Avg. Dth/Part. Saved =	87.89
22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh
23) Number of Participants =	82
24) Total Annual Dth Saved =	7,207
25) Incentive/Participant =	$453.00

Cost Summary	2016
Utility Cost per Participant =	$1,310
Cost per Participant per Dth =	$44.51
Lifetime Energy Reduction (Dth)	87,788
Societal Cost per Dth	$3.02

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($238,060)	0.66
Utility Cost Test	$352,364	4.28
Societal Test	$367,880	2.39
Participant Test	$503,625	3.36

Conservation Improvement Program (CIP) ACTUAL

BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **Xcel Energy**
Project: **Foodservice Equipment**

Input Data

1) Retail Rate ($/Dth) =	$6.60
Escalation Rate =	4.28%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	2.80%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.34
Escalation Rate =	4.28%
4) Demand Cost ($/Unit/Yr) =	$74.00
Escalation Rate =	4.28%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0600
Escalation Rate =	4.28%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.027
Escalation Rate =	2.80%
8) Non-Gas Fuel Loss Factor	5.80%
9) Gas Environmental Damage Factor =	$0.3500
Escalation Rate =	1.73%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0213
Escalation Rate =	1.73%
11) Participant Discount Rate =	2.67%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.67%
14) General Input Data Year =	2012
15a) Project Analysis Year 1 =	
15b) Project Analysis Year 2 =	
15c) Project Analysis Year 3 =	2016

			2016
Administrative & Operating Costs =	$0	$0	$25,253
Incentive Costs =	$0	$0	$40,300
16) Total Utility Project Costs =	$0	$0	$65,553
17) Direct Participant Costs ($/Part.) =	$0	$0	$7,011
18) Participant Non-Energy Costs (Annual $/Part.) =	$0	$0	$0
Escalation Rate =	1.73%	1.73%	1.73%
19) Participant Non-Energy Savings (Annual $/Part) =	$0	$0	$11
Escalation Rate =	1.73%	1.73%	1.73%
20) Project Life (Years) =	0.0	0.0	12.5
21) Avg. Dth/Part. Saved =	-	-	225.80
22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh	0 kWh	0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh	0 kWh	0 kWh
23) Number of Participants =	-	-	29
24) Total Annual Dth Saved =	0	0	6,548
25) Incentive/Participant =	$0.00	$0.00	$1,389.64

Cost Summary	2016
Utility Cost per Participant =	$2,260
Cost per Participant per Dth =	$41.06
Lifetime Energy Reduction (Dth)	82,070
Societal Cost per Dth	$2.79

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($181,869)	0.69
Utility Cost Test	$343,858	6.25
Societal Test	$331,707	2.45
Participant Test	$366,180	2.80

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **Xcel Energy**
Project: **Heating Efficiency**

Input Data	
1) Retail Rate ($/Dth) =	$6.60
Escalation Rate =	4.28%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	2.80%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.34
Escalation Rate =	4.28%
4) Demand Cost ($/Unit/Yr) =	$74.00
Escalation Rate =	4.28%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0600
Escalation Rate =	4.28%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.027
Escalation Rate =	2.80%
8) Non-Gas Fuel Loss Factor	5.80%
9) Gas Environmental Damage Factor =	$0.3500
Escalation Rate =	1.73%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) :	$0.0213
Escalation Rate =	1.73%
11) Participant Discount Rate =	2.67%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.67%
14) General Input Data Year =	2012
15a) Project Analysis Year 1 =	2016
15b) Project Analysis Year 2 =	
15c) Project Analysis Year 3 =	

	2016
Administrative & Operating Costs =	$619,073
Incentive Costs =	$959,126
16) Total Utility Project Costs =	$1,578,199
17) Direct Participant Costs ($/Part.) =	$5,150
18) Participant Non-Energy Costs (Annual $/Part.) =	$36
Escalation Rate =	1.73%
19) Participant Non-Energy Savings (Annual $/Part) =	$0
Escalation Rate =	1.73%
20) Project Life (Years) =	7.8
21) Avg. Dth/Part. Saved =	282.05
22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh
23) Number of Participants =	691
24) Total Annual Dth Saved =	195,006
25) Incentive/Participant =	$1,387.23

Cost Summary	**2016**
Utility Cost per Participant =	$2,283
Cost per Participant per Dth =	$26.48
Lifetime Energy Reduction (Dth)	1,526,189
Societal Cost per Dth	$2.90

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($3,838,169)	0.67
Utility Cost Test	$6,376,497	5.04
Societal Test	$6,382,992	2.44
Participant Test	$7,372,335	2.94

Conservation Improvement Program (CIP) ACTUAL

BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **Xcel Energy**
Project: **Heating Efficiency**

Input Data

1) Retail Rate ($/Dth) =	$6.60
Escalation Rate =	4.28%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	2.80%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.34
Escalation Rate =	4.28%
4) Demand Cost ($/Unit/Yr) =	$74.00
Escalation Rate =	4.28%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0600
Escalation Rate =	4.28%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.027
Escalation Rate =	2.80%
8) Non-Gas Fuel Loss Factor	5.80%
9) Gas Environmental Damage Factor =	$0.3500
Escalation Rate =	1.73%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0213
Escalation Rate =	1.73%
11) Participant Discount Rate =	2.67%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.67%
14) General Input Data Year =	2012
15a) Project Analysis Year 1 =	
15b) Project Analysis Year 2 =	
15c) Project Analysis Year 3 =	2016

			2016
Administrative & Operating Costs =	$0	$0	$446,055
Incentive Costs =	$0	$0	$307,098
16) Total Utility Project Costs =	$0	$0	$753,153
17) Direct Participant Costs ($/Part.) =	$0	$0	$4,777
18) Participant Non-Energy Costs (Annual $/Part.) =	$0	$0	$11
Escalation Rate =	1.73%	1.73%	1.73%
19) Participant Non-Energy Savings (Annual $/Part) =	$0	$0	$0
Escalation Rate =	1.73%	1.73%	1.73%
20) Project Life (Years) =	0.0	0.0	5.7
21) Avg. Dth/Part. Saved =	-	-	309.42
22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh	0 kWh	0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh	0 kWh	0 kWh
23) Number of Participants =	-	-	402
24) Total Annual Dth Saved =	0	0	124,387
25) Incentive/Participant =	$0.00	$0.00	$763.93

Cost Summary	2016
Utility Cost per Participant =	$1,874
Cost per Participant per Dth =	$21.53
Lifetime Energy Reduction (Dth)	713,991
Societal Cost per Dth	$3.38

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($1,814,208)	0.67
Utility Cost Test	$2,981,577	4.96
Societal Test	$2,312,340	1.96
Participant Test	$3,135,345	2.59

LIGHTING EFFICIENCY 2016 ELECTRIC GOAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$4,794,546	$4,794,546	$4,794,546	$4,794,546
T & D	N/A	$1,818,176	$1,818,176	$1,818,176	$1,818,176
Marginal Energy	N/A	$14,741,125	$14,741,125	$14,741,125	$14,741,125
Environmental Externality	N/A	N/A	N/A	N/A	$624,486
Subtotal	N/A	$21,353,847	$21,353,847	$21,353,847	$21,978,333
Participant Benefits					
Bill Reduction - Electric	$24,185,908	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$3,225,615	N/A	N/A	$3,225,615	$3,225,615
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$27,411,523	N/A	N/A	$3,225,615	$3,225,615
Total Benefits	$27,411,523	$21,353,847	$21,353,847	$24,579,462	$25,203,948
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$1,541,024	$1,541,024	$1,541,024	$1,541,024
Advertising & Promotion	N/A	$30,680	$30,680	$30,680	$30,680
Measurement & Verification	N/A	$100,000	$100,000	$100,000	$100,000
Rebates	N/A	$3,225,615	$3,225,615	$3,225,615	$3,225,615
Other	N/A	$20,000	$20,000	$20,000	$20,000
Subtotal	N/A	$4,917,319	$4,917,319	$4,917,319	$4,917,319
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$24,185,908	N/A	N/A
Subtotal	N/A	N/A	$24,185,908	N/A	N/A
Participant Costs					
Incremental Capital Costs	$9,582,135	N/A	N/A	$9,582,135	$9,582,135
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$9,582,135	N/A	N/A	$9,582,135	$9,582,135
Total Costs	$9,582,135	$4,917,319	$29,103,227	$14,499,454	$14,499,454
Net Benefit (Cost)	$17,829,388	$16,436,528	($7,749,380)	$10,080,009	$10,704,494
Benefit/Cost Ratio	2.86	4.34	0.73	1.70	1.74

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	15.1 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	82.35%
Gross Load Factor at Customer	E	56.23%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$1,880

Program Summary per Participant

Gross kW Saved at Customer	I	12.68 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	11.23 kW
Gross Annual kWh Saved at Customer	(B x E x I)	62,469 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	66,883 kWh

Program Summary All Participants

Total Participants	J	449
Total Budget	K	**$4,917,319**
Gross kW Saved at Customer	(J x I)	5,694 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**5,041 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	28,046,101 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**30,027,945 kWh**
Societal Net Benefits	(J x I x H)	**$10,704,494**

Utility Program Cost per kWh Lifetime	**$0.0108**
Utility Program Cost per kW at Gen	**$975.37**

LIGHTING EFFICIENCY — 2016 ELECTRIC — ACTUAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$11,874,797	$11,874,797	$11,874,797	$11,874,797
T & D	N/A	$4,502,324	$4,502,324	$4,502,324	$4,502,324
Marginal Energy	N/A	$35,457,320	$35,457,320	$35,457,320	$35,457,320
Environmental Externality	N/A	N/A	N/A	N/A	$1,452,806
Subtotal	N/A	$51,834,441	$51,834,441	$51,834,441	$53,287,247
Participant Benefits					
Bill Reduction - Electric	$57,328,273	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$6,864,412	N/A	N/A	$6,864,412	$6,864,412
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$64,192,685	N/A	N/A	$6,864,412	$6,864,412
Total Benefits	$64,192,685	$51,834,441	$51,834,441	$58,698,853	$60,151,659
Costs					
Utility Project Costs					
Customer Services	N/A	$14,784	$14,784	$14,784	$14,784
Project Administration	N/A	$1,405,218	$1,405,218	$1,405,218	$1,405,218
Advertising & Promotion	N/A	$233,566	$233,566	$233,566	$233,566
Measurement & Verification	N/A	$78,745	$78,745	$78,745	$78,745
Rebates	N/A	$6,864,412	$6,864,412	$6,864,412	$6,864,412
Other	N/A	$100	$100	$100	$100
Subtotal	N/A	$8,596,825	$8,596,825	$8,596,825	$8,596,825
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$57,328,273	N/A	N/A
Subtotal	N/A	N/A	$57,328,273	N/A	N/A
Participant Costs					
Incremental Capital Costs	$23,580,548	N/A	N/A	$23,580,548	$23,580,548
Incremental O&M Costs	$1,131,356	N/A	N/A	$1,131,356	$1,131,356
Subtotal	$24,711,903	N/A	N/A	$24,711,903	$24,711,903
Total Costs	$24,711,903	$8,596,825	$65,925,098	$33,308,728	$33,308,728
Net Benefit (Cost)	$39,480,782	$43,237,616	($14,090,657)	$25,390,125	$26,842,931
Benefit/Cost Ratio	2.60	6.03	0.79	1.76	1.81

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	14.6 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	72.47%
Gross Load Factor at Customer	E	46.58%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$1,628

Program Summary per Participant

Gross Realized kW Saved at Customer	I	9.05 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	7.05 kW
Gross Realized Annual kWh Saved at Customer	(B x E x I)	36,932 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	39,542 kWh

Program Summary All Participants

Total Participants	J	1,822
Total Budget	K	**$8,596,825**
Gross kW Saved at Customer	(J x I)	16,491 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**12,851 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	67,290,980 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**72,046,017 kWh**
Societal Net Benefits	(J x I x H)	**$26,842,931**

Utility Program Cost per kWh Lifetime	**$0.0082**
Utility Program Cost per kW at Gen	**$668.97**

MOTOR EFFICIENCY 2016 ELECTRIC GOAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$6,185,309	$6,185,309	$6,185,309	$6,185,309
T & D	N/A	$2,345,073	$2,345,073	$2,345,073	$2,345,073
Marginal Energy	N/A	$19,350,744	$19,350,744	$19,350,744	$19,350,744
Environmental Externality	N/A	N/A	N/A	N/A	$759,401
Subtotal	N/A	$27,881,126	$27,881,126	$27,881,126	$28,640,527
Participant Benefits					
Bill Reduction - Electric	$31,777,073	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$3,618,675	N/A	N/A	$3,618,675	$3,618,675
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$35,395,748	N/A	N/A	$3,618,675	$3,618,675
Total Benefits	$35,395,748	$27,881,126	$27,881,126	$31,499,801	$32,259,202
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$665,671	$665,671	$665,671	$665,671
Advertising & Promotion	N/A	$43,950	$43,950	$43,950	$43,950
Measurement & Verification	N/A	$26,686	$26,686	$26,686	$26,686
Rebates	N/A	$3,618,675	$3,618,675	$3,618,675	$3,618,675
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$4,354,982	$4,354,982	$4,354,982	$4,354,982
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$31,777,073	N/A	N/A
Subtotal	N/A	N/A	$31,777,073	N/A	N/A
Participant Costs					
Incremental Capital Costs	$9,280,660	N/A	N/A	$9,280,660	$9,280,660
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$9,280,660	N/A	N/A	$9,280,660	$9,280,660
Total Costs	$9,280,660	$4,354,982	$36,132,055	$13,635,642	$13,635,642
Net Benefit (Cost)	$26,115,088	$23,526,144	($8,250,929)	$17,864,159	$18,623,560
Benefit/Cost Ratio	3.81	6.40	0.77	2.31	2.37

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	15.2 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	78.04%
Gross Load Factor at Customer	E	53.22%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$2,580

Program Summary per Participant

Gross kW Saved at Customer	I	8.23 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	6.91 kW
Gross Annual kWh Saved at Customer	(B x E x I)	38,363 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	41,074 kWh

Program Summary All Participants

Total Participants	J	877
Total Budget	K	**$4,354,982**
Gross kW Saved at Customer	(J x I)	7,217 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**6,057 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	33,644,210 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**36,021,638 kWh**
Societal Net Benefits	(J x I x H)	**$18,623,560**

Utility Program Cost per kWh Lifetime	**$0.0080**
Utility Program Cost per kW at Gen	**$719.05**

MOTOR EFFICIENCY — 2016 ELECTRIC — ACTUAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$3,146,302	$3,146,302	$3,146,302	$3,146,302
T & D	N/A	$1,192,912	$1,192,912	$1,192,912	$1,192,912
Marginal Energy	N/A	$10,362,998	$10,362,998	$10,362,998	$10,362,998
Environmental Externality	N/A	N/A	N/A	N/A	$405,904
Subtotal	N/A	$14,702,213	$14,702,213	$14,702,213	$15,108,116
Participant Benefits					
Bill Reduction - Electric	$17,016,892	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$1,690,325	N/A	N/A	$1,690,325	$1,690,325
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$556,728	N/A	N/A	$556,728	$556,728
Subtotal	$19,263,944	N/A	N/A	$2,247,053	$2,247,053
Total Benefits	$19,263,944	$14,702,213	$14,702,213	$16,949,265	$17,355,169
Costs					
Utility Project Costs					
Customer Services	N/A	$37,277	$37,277	$37,277	$37,277
Project Administration	N/A	$544,687	$544,687	$544,687	$544,687
Advertising & Promotion	N/A	$16,756	$16,756	$16,756	$16,756
Measurement & Verification	N/A	$16,459	$16,459	$16,459	$16,459
Rebates	N/A	$1,690,325	$1,690,325	$1,690,325	$1,690,325
Other	N/A	$100	$100	$100	$100
Subtotal	N/A	$2,305,604	$2,305,604	$2,305,604	$2,305,604
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$17,016,892	N/A	N/A
Subtotal	N/A	N/A	$17,016,892	N/A	N/A
Participant Costs					
Incremental Capital Costs	$5,593,935	N/A	N/A	$5,593,935	$5,593,935
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$5,593,935	N/A	N/A	$5,593,935	$5,593,935
Total Costs	$5,593,935	$2,305,604	$19,322,496	$7,899,539	$7,899,539
Net Benefit (Cost)	$13,670,009	$12,396,609	($4,620,283)	$9,049,726	$9,455,630
Benefit/Cost Ratio	3.44	6.38	0.76	2.15	2.20

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	15.2 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	73.12%
Gross Load Factor at Customer	E	52.49%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$2,417

Program Summary per Participant

Gross Realized kW Saved at Customer	I	10.63 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	8.36 kW
Gross Realized Annual kWh Saved at Customer	(B x E x I)	48,870 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	52,324 kWh

Program Summary All Participants

Total Participants	J	368
Total Budget	K	**$2,305,604**
Gross kW Saved at Customer	(J x I)	3,911 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**3,075 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	17,984,247 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**19,255,082 kWh**
Societal Net Benefits	(J x I x H)	**$9,455,630**

Utility Program Cost per kWh Lifetime	**$0.0079**
Utility Program Cost per kW at Gen	**$749.76**

MN MULTIFAMILY	2016	ELECTRIC	GOAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$102,049	$102,049	$102,049	$102,049
T & D	N/A	$38,660	$38,660	$38,660	$38,660
Marginal Energy	N/A	$562,183	$562,183	$562,183	$562,183
Environmental Externality	N/A	N/A	N/A	N/A	$22,793
Subtotal	N/A	$702,892	$702,892	$702,892	$725,685
Participant Benefits					
Bill Reduction - Electric	$1,549,702	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$101,186	N/A	N/A	$101,186	$101,186
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$19,102	N/A	N/A	$19,102	$19,102
Subtotal	$1,669,990	N/A	N/A	$120,288	$120,288
Total Benefits	$1,669,990	$702,892	$702,892	$823,181	$845,973
Costs					
Utility Project Costs					
Customer Services	N/A	$270,883	$270,883	$270,883	$270,883
Project Administration	N/A	$77,583	$77,583	$77,583	$77,583
Advertising & Promotion	N/A	$2,635	$2,635	$2,635	$2,635
Measurement & Verification	N/A	$15,810	$15,810	$15,810	$15,810
Rebates	N/A	$101,186	$101,186	$101,186	$101,186
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$468,097	$468,097	$468,097	$468,097
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$1,549,702	N/A	N/A
Subtotal	N/A	N/A	$1,549,702	N/A	N/A
Participant Costs					
Incremental Capital Costs	$294,707	N/A	N/A	$294,707	$294,707
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$294,707	N/A	N/A	$294,707	$294,707
Total Costs	$294,707	$468,097	$2,017,799	$762,804	$762,804
Net Benefit (Cost)	$1,375,283	$234,795	($1,314,907)	$60,377	$83,169
Benefit/Cost Ratio	5.67	1.50	0.35	1.08	1.11

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	15.6 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	14.74%
Gross Load Factor at Customer	E	17.46%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$130

Program Summary per Participant

Gross kW Saved at Customer	I	0.31 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.05 kW
Gross Annual kWh Saved at Customer	(B x E x I)	477 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	521 kWh

Program Summary All Participants

Total Participants	J	2,055
Total Budget	K	**$468,097**
Gross kW Saved at Customer	(J x I)	641 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**104 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	980,239 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**1,070,130 kWh**
Societal Net Benefits	(J x I x H)	**$83,169**

Utility Program Cost per kWh Lifetime	**$0.0281**
Utility Program Cost per kW at Gen	**$4,518**

MULTI-FAMILY BUILDING EFFICIENCY — 2016 ELECTRIC — ACTUAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$116,475	$116,475	$116,475	$116,475
T & D	N/A	$44,161	$44,161	$44,161	$44,161
Marginal Energy	N/A	$394,105	$394,105	$394,105	$394,105
Environmental Externality	N/A	N/A	N/A	N/A	$17,099
Subtotal	N/A	$554,741	$554,741	$554,741	$571,840
Participant Benefits					
Bill Reduction - Electric	$1,173,710	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$0	N/A	N/A	$0	$0
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$1,173,710	N/A	N/A	$0	$0
Total Benefits	$1,173,710	$554,741	$554,741	$554,741	$571,840
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$254,499	$254,499	$254,499	$254,499
Advertising & Promotion	N/A	$0	$0	$0	$0
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$0	$0	$0	$0
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$254,499	$254,499	$254,499	$254,499
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$1,173,710	N/A	N/A
Subtotal	N/A	N/A	$1,173,710	N/A	N/A
Participant Costs					
Incremental Capital Costs	$39,928	N/A	N/A	$39,928	$39,928
Incremental O&M Costs	$1,592	N/A	N/A	$1,592	$1,592
Subtotal	$41,521	N/A	N/A	$41,521	$41,521
Total Costs	$41,521	$254,499	$1,428,209	$296,020	$296,020
Net Benefit (Cost)	$1,132,190	$300,242	($873,468)	$258,721	$275,820
Benefit/Cost Ratio	28.27	2.18	0.39	1.87	1.93

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	14.5 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	11.03%
Gross Load Factor at Customer	E	9.00%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$275

Program Summary per Participant		
Gross Realized kW Saved at Customer	I	10.44 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	1.26 kW
Gross Realized Annual kWh Saved at Customer	(B x E x I)	8,231 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	8,986 kWh

Program Summary All Participants		
Total Participants	J	96
Total Budget	K	**$254,499**
Gross kW Saved at Customer	(J x I)	1,002 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**121 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	790,158 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**862,618 kWh**
Societal Net Benefits	(J x I x H)	**$275,820**

Utility Program Cost per kWh Lifetime	**$0.0204**
Utility Program Cost per kW at Gen	**$2,100.52**

Conservation Improvement Program (CIP)

BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **Xcel Energy**
Project: **MN Multifamily**

Input Data

1) Retail Rate ($/Dth) =	$7.23
Escalation Rate =	4.28%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	2.80%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.34
Escalation Rate =	4.28%
4) Demand Cost ($/Unit/Yr) =	$74.00
Escalation Rate =	4.28%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0600
Escalation Rate =	4.28%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.027
Escalation Rate =	2.80%
8) Non-Gas Fuel Loss Factor	5.80%
9) Gas Environmental Damage Factor =	$0.3500
Escalation Rate =	1.73%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0213
Escalation Rate =	1.73%
11) Participant Discount Rate =	2.67%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.67%
14) General Input Data Year =	2012
15a) Project Analysis Year =	
15b) Project Analysis Year 1 =	2015
15c) Project Analysis Year 2 =	2016

		2015 First Year	2016 Second Year
Administrative & Operating Costs =	$0	$70,540	$126,232
Incentive Costs =	$0	$14,334	$30,580
16) Total Utility Project Costs =	$0	$84,875	$156,812
17) Direct Participant Costs ($/Part.) =	$0	$112	$122
18) Participant Non-Energy Costs (Annual $/Part.) =	$0	$0	$0
Escalation Rate =	1.73%	1.73%	1.73%
19) Participant Non-Energy Savings (Annual $/Part) =	$0	$33	$33
Escalation Rate =	1.73%	1.73%	1.73%
20) Project Life (Years) =	0.0	10.8	11.1
21) Avg. Dth/Part. Saved =	-	3.77	3.90
22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh	0 kWh	0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh	0 kWh	0 kWh
23) Number of Participants =	-	349	700
24) Total Annual Dth Saved =	0	1,316	2,727
25) Incentive/Participant =	$0.00	$41.02	$43.72

Cost Summary		1st Yr	2nd Yr
Utility Cost per Participant =	#DIV/0!	$243	$224
Cost per Participant per Dth =	#DIV/0!	$94.13	$88.90
Lifetime Energy Reduction (Dth)	44,503		
Societal Cost per Dth	$7.22		

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($332,425)	0.40
Utility Cost Test	($18,139)	0.92
Societal Test	$179,890	1.56
Participant Test	$699,541	6.61

Supplemental Information

	1st Yr	2nd Yr	3rd Yr	Total
Total Incremental Capital	$0	$39,034	$85,630	$124,664
Total O&M Savings	$0	$61,938	$123,815	$185,752
Societal ARR (does not include rebates)	$0	$159,727	$341,600	$501,326
Societal Costs (does not include rebates)	$0	$109,574	$211,862	$321,436
Societal Net Benefits	$0	$50,152	$129,738	$179,890
Societal Ratio	#DIV/0!	1.46	1.61	1.56

Conservation Improvement Program (CIP) ACTUAL

BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **Xcel Energy**
Project: **Multi-Family Building Efficiency**

Input Data

1) Retail Rate ($/Dth) =	$6.60
Escalation Rate =	4.28%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	2.80%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.34
Escalation Rate =	4.28%
4) Demand Cost ($/Unit/Yr) =	$74.00
Escalation Rate =	4.28%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0600
Escalation Rate =	4.28%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.027
Escalation Rate =	2.80%
8) Non-Gas Fuel Loss Factor	5.80%
9) Gas Environmental Damage Factor =	$0.3500
Escalation Rate =	1.73%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0213
Escalation Rate =	1.73%
11) Participant Discount Rate =	2.67%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.67%
14) General Input Data Year =	2012
15a) Project Analysis Year 1 =	
15b) Project Analysis Year 2 =	
15c) Project Analysis Year 3 =	2016

			2016
Administrative & Operating Costs =	$0	$0	$148,526
Incentive Costs =	$0	$0	$0
16) Total Utility Project Costs =	$0	$0	$148,526
17) Direct Participant Costs ($/Part.) =	$0	$0	$154
18) Participant Non-Energy Costs (Annual $/Part.) =	$0	$0	$0
Escalation Rate =	1.73%	1.73%	1.73%
19) Participant Non-Energy Savings (Annual $/Part) =	$0	$0	$837
Escalation Rate =	1.73%	1.73%	1.73%
20) Project Life (Years) =	0.0	0.0	5.4
21) Avg. Dth/Part. Saved =	-	-	60.44
22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh	0 kWh	0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh	0 kWh	0 kWh
23) Number of Participants =	-	-	40
24) Total Annual Dth Saved =	0	0	2,418
25) Incentive/Participant =	$0.00	$0.00	$0.00

Cost Summary	2016
Utility Cost per Participant =	$3,713
Cost per Participant per Dth =	$63.98
Lifetime Energy Reduction (Dth)	13,005
Societal Cost per Dth	$11.89

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($168,871)	0.30
Utility Cost Test	($76,918)	0.48
Societal Test	$89,931	1.58
Participant Test	$247,232	41.18

PROCESS EFFICIENCY 2016 ELECTRIC GOAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$8,312,587	$8,312,587	$8,312,587	$8,312,587
T & D	N/A	$3,151,280	$3,151,280	$3,151,280	$3,151,280
Marginal Energy	N/A	$35,065,034	$35,065,034	$35,065,034	$35,065,034
Environmental Externality	N/A	N/A	N/A	N/A	$1,410,689
Subtotal	N/A	$46,528,902	$46,528,902	$46,528,902	$47,939,591
Participant Benefits					
Bill Reduction - Electric	$56,741,288	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$4,007,106	N/A	N/A	$4,007,106	$4,007,106
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$19,790,594	N/A	N/A	$8,792,119	$8,792,119
Subtotal	$80,538,989	N/A	N/A	$12,799,225	$12,799,225
Total Benefits	$80,538,989	$46,528,902	$46,528,902	$59,328,127	$60,738,816
Costs					
Utility Project Costs					
Customer Services	N/A	$1,311,000	$1,311,000	$1,311,000	$1,311,000
Project Administration	N/A	$1,166,616	$1,166,616	$1,166,616	$1,166,616
Advertising & Promotion	N/A	$35,746	$35,746	$35,746	$35,746
Measurement & Verification	N/A	$69,000	$69,000	$69,000	$69,000
Rebates	N/A	$4,007,106	$4,007,106	$4,007,106	$4,007,106
Other	N/A	$20,036	$20,036	$20,036	$20,036
Subtotal	N/A	$6,609,504	$6,609,504	$6,609,504	$6,609,504
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$56,741,288	N/A	N/A
Subtotal	N/A	N/A	$56,741,288	N/A	N/A
Participant Costs					
Incremental Capital Costs	$16,985,163	N/A	N/A	$14,657,032	$14,657,032
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$16,985,163	N/A	N/A	$14,657,032	$14,657,032
Total Costs	$16,985,163	$6,609,504	$63,350,792	$21,266,536	$21,266,536
Net Benefit (Cost)	$63,553,826	$39,919,398	($16,821,890)	$38,061,591	$39,472,280
Benefit/Cost Ratio	4.74	7.04	0.73	2.79	2.86

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	14.5 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	68.75%
Gross Load Factor at Customer	E	65.55%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$3,407

Program Summary per Participant

Gross kW Saved at Customer	I	127.32 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	94.12 kW
Gross Annual kWh Saved at Customer	(B x E x I)	731,035 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	782,692 kWh

Program Summary All Participants

Total Participants	J	91
Total Budget	K	**$6,609,504**
Gross kW Saved at Customer	(J x I)	11,586 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**8,565 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	66,524,142 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**71,224,992 kWh**
Societal Net Benefits	(J x I x H)	**$39,472,280**

Utility Program Cost per kWh Lifetime	**$0.0064**
Utility Program Cost per kW at Gen	**$771.69**

PROCESS EFFICIENCY — 2016 ELECTRIC — ACTUAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$5,870,669	$5,870,669	$5,870,669	$5,870,669
T & D	N/A	$2,225,852	$2,225,852	$2,225,852	$2,225,852
Marginal Energy	N/A	$22,470,201	$22,470,201	$22,470,201	$22,470,201
Environmental Externality	N/A	N/A	N/A	N/A	$901,425
Subtotal	N/A	$30,566,721	$30,566,721	$30,566,721	$31,468,147
Participant Benefits					
Bill Reduction - Electric	$35,198,742	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$3,101,810	N/A	N/A	$3,101,810	$3,101,810
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$50,187,368	N/A	N/A	$50,187,368	$50,187,368
Subtotal	$88,487,921	N/A	N/A	$53,289,179	$53,289,179
Total Benefits	$88,487,921	$30,566,721	$30,566,721	$83,855,900	$84,757,325
Costs					
Utility Project Costs					
Customer Services	N/A	$575	$575	$575	$575
Project Administration	N/A	$1,635,493	$1,635,493	$1,635,493	$1,635,493
Advertising & Promotion	N/A	$94,431	$94,431	$94,431	$94,431
Measurement & Verification	N/A	$50,981	$50,981	$50,981	$50,981
Rebates	N/A	$3,101,810	$3,101,810	$3,101,810	$3,101,810
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$4,883,291	$4,883,291	$4,883,291	$4,883,291
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$35,198,742	N/A	N/A
Subtotal	N/A	N/A	$35,198,742	N/A	N/A
Participant Costs					
Incremental Capital Costs	$23,755,305	N/A	N/A	$23,755,305	$23,755,305
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$23,755,305	N/A	N/A	$23,755,305	$23,755,305
Total Costs	$23,755,305	$4,883,291	$40,082,033	$28,638,596	$28,638,596
Net Benefit (Cost)	$64,732,616	$25,683,431	($9,515,312)	$55,217,305	$56,118,730
Benefit/Cost Ratio	3.72	6.26	0.76	2.93	2.96

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	15.9 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	78.26%
Gross Load Factor at Customer	E	67.44%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$8,491

Program Summary per Participant

Gross Realized kW Saved at Customer	I	21.39 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	18.00 kW
Gross Realized Annual kWh Saved at Customer	(B x E x I)	126,362 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	135,291 kWh

Program Summary All Participants

Total Participants	J	309
Total Budget	K	**$4,883,291**
Gross kW Saved at Customer	(J x I)	6,609 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**5,562 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	39,045,853 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**41,804,982 kWh**
Societal Net Benefits	(J x I x H)	**$56,118,730**

Utility Program Cost per kWh Lifetime	**$0.0073**
Utility Program Cost per kW at Gen	**$878.03**

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **Xcel Energy**
Project: **Process Efficiency**

Input Data	2016
1) Retail Rate ($/Dth) =	$6.60
Escalation Rate =	4.28%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	2.80%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.34
Escalation Rate =	4.28%
4) Demand Cost ($/Unit/Yr) =	$74.00
Escalation Rate =	4.28%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0600
Escalation Rate =	4.28%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.027
Escalation Rate =	2.80%
8) Non-Gas Fuel Loss Factor	5.80%
9) Gas Environmental Damage Factor =	$0.3500
Escalation Rate =	1.73%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0213
Escalation Rate =	1.73%
11) Participant Discount Rate =	2.67%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.67%
14) General Input Data Year =	2012
15a) Project Analysis Year 1 =	2016
15b) Project Analysis Year 2 =	
15c) Project Analysis Year 3 =	

	2016
Administrative & Operating Costs =	$525,996
Incentive Costs =	$336,033
16) Total Utility Project Costs =	$862,029
17) Direct Participant Costs ($/Part.) =	$119,703
18) Participant Non-Energy Costs (Annual $/Part.) =	$0
Escalation Rate =	1.73%
19) Participant Non-Energy Savings (Annual $/Part) =	$24,917
Escalation Rate =	1.73%
20) Project Life (Years) =	8.9
21) Avg. Dth/Part. Saved =	5,973.71
22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh
23) Number of Participants =	23
24) Total Annual Dth Saved =	137,395
25) Incentive/Participant =	$14,610.13

Cost Summary	2016
Utility Cost per Participant =	$37,480
Cost per Participant per Dth =	$26.31
Lifetime Energy Reduction (Dth)	1,223,379
Societal Cost per Dth	$2.35

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($2,766,243)	0.71
Utility Cost Test	$5,840,470	7.78
Societal Test	$8,836,459	4.08
Participant Test	$12,001,553	5.25

Conservation Improvement Program (CIP) ACTUAL

BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **Xcel Energy**
Project: **Process Efficiency**

Input Data

1) Retail Rate ($/Dth) =	$6.60
Escalation Rate =	4.28%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	2.80%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.34
Escalation Rate =	4.28%
4) Demand Cost ($/Unit/Yr) =	$74.00
Escalation Rate =	4.28%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0600
Escalation Rate =	4.28%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.027
Escalation Rate =	2.80%
8) Non-Gas Fuel Loss Factor	5.80%
9) Gas Environmental Damage Factor =	$0.3500
Escalation Rate =	1.73%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0213
Escalation Rate =	1.73%
11) Participant Discount Rate =	2.67%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.67%
14) General Input Data Year =	2012
15a) Project Analysis Year 1 =	
15b) Project Analysis Year 2 =	
15c) Project Analysis Year 3 =	2016

			2016
Administrative & Operating Costs =	$0	$0	$236,947
Incentive Costs =	$0	$0	$225,517
16) Total Utility Project Costs =	$0	$0	$462,464
17) Direct Participant Costs ($/Part.) =	$0	$0	$60,912
18) Participant Non-Energy Costs (Annual $/Part.) =	$0	$0	$0
Escalation Rate =	1.73%	1.73%	1.73%
19) Participant Non-Energy Savings (Annual $/Part) =	$0	$0	$959
Escalation Rate =	1.73%	1.73%	1.73%
20) Project Life (Years) =	0.0	0.0	8.5
21) Avg. Dth/Part. Saved =	-	-	7,316.16
22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh	0 kWh	0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh	0 kWh	0 kWh
23) Number of Participants =	-	-	27
24) Total Annual Dth Saved =	0	0	197,536
25) Incentive/Participant =	$0.00	$0.00	$8,352.46

Cost Summary	2016
Utility Cost per Participant =	$17,128
Cost per Participant per Dth =	$10.67
Lifetime Energy Reduction (Dth)	1,680,748
Societal Cost per Dth	$1.12

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($2,988,457)	0.75
Utility Cost Test	$8,428,591	19.23
Societal Test	$9,314,381	5.95
Participant Test	$10,195,511	7.20

RECOMMISSIONING 2016 ELECTRIC GOAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$332,210	$332,210	$332,210	$332,210
T & D	N/A	$125,953	$125,953	$125,953	$125,953
Marginal Energy	N/A	$3,391,611	$3,391,611	$3,391,611	$3,391,611
Environmental Externality	N/A	N/A	N/A	N/A	$149,996
Subtotal	N/A	$3,849,773	$3,849,773	$3,849,773	$3,999,770
Participant Benefits					
Bill Reduction - Electric	$5,629,222	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$795,590	N/A	N/A	$795,590	$795,590
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$2,908,426	N/A	N/A	$0	$0
Subtotal	$9,333,238	N/A	N/A	$795,590	$795,590
Total Benefits	$9,333,238	$3,849,773	$3,849,773	$4,645,363	$4,795,360
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$329,064	$329,064	$329,064	$329,064
Advertising & Promotion	N/A	$16,166	$16,166	$16,166	$16,166
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$795,590	$795,590	$795,590	$795,590
Other	N/A	$10,500	$10,500	$10,500	$10,500
Subtotal	N/A	$1,151,320	$1,151,320	$1,151,320	$1,151,320
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$5,629,222	N/A	N/A
Subtotal	N/A	N/A	$5,629,222	N/A	N/A
Participant Costs					
Incremental Capital Costs	$1,422,568	N/A	N/A	$1,091,859	$1,091,859
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$1,422,568	N/A	N/A	$1,091,859	$1,091,859
Total Costs	$1,422,568	$1,151,320	$6,780,542	$2,243,179	$2,243,179
Net Benefit (Cost)	$7,910,670	$2,698,453	($2,930,768)	$2,402,185	$2,552,181
Benefit/Cost Ratio	6.56	3.34	0.57	2.07	2.14

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	7.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	29.68%
Gross Load Factor at Customer	E	69.26%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$1,389

Program Summary per Participant		
Gross kW Saved at Customer	I	14.82 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	4.73 kW
Gross Annual kWh Saved at Customer	(B x E x I)	89,923 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	96,278 kWh

Program Summary All Participants		
Total Participants	J	124
Total Budget	K	**$1,151,320**
Gross kW Saved at Customer	(J x I)	1,838 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**587 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	11,150,481 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**11,938,416 kWh**
Societal Net Benefits	(J x I x H)	**$2,552,181**

Utility Program Cost per kWh Lifetime	**$0.0138**
Utility Program Cost per kW at Gen	**$1,962.91**

RECOMMISSIONING — 2016 ELECTRIC — ACTUAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$293,010	$293,010	$293,010	$293,010
T & D	N/A	$111,096	$111,096	$111,096	$111,096
Marginal Energy	N/A	$1,984,199	$1,984,199	$1,984,199	$1,984,199
Environmental Externality	N/A	N/A	N/A	N/A	$86,435
Subtotal	N/A	$2,388,305	$2,388,305	$2,388,305	$2,474,740
Participant Benefits					
Bill Reduction - Electric	$3,296,011	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$560,247	N/A	N/A	$560,247	$560,247
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$1,416,539	N/A	N/A	$1,416,539	$1,416,539
Subtotal	$5,272,797	N/A	N/A	$1,976,786	$1,976,786
Total Benefits	$5,272,797	$2,388,305	$2,388,305	$4,365,091	$4,451,526
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$258,146	$258,146	$258,146	$258,146
Advertising & Promotion	N/A	$13,515	$13,515	$13,515	$13,515
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$560,247	$560,247	$560,247	$560,247
Other	N/A	$27,476	$27,476	$27,476	$27,476
Subtotal	N/A	$859,384	$859,384	$859,384	$859,384
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$3,296,011	N/A	N/A
Subtotal	N/A	N/A	$3,296,011	N/A	N/A
Participant Costs					
Incremental Capital Costs	$1,039,077	N/A	N/A	$1,039,077	$1,039,077
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$1,039,077	N/A	N/A	$1,039,077	$1,039,077
Total Costs	$1,039,077	$859,384	$4,155,395	$1,898,461	$1,898,461
Net Benefit (Cost)	$4,233,721	$1,528,921	($1,767,090)	$2,466,631	$2,553,065
Benefit/Cost Ratio	5.07	2.78	0.57	2.30	2.34

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	7.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	39.60%
Gross Load Factor at Customer	E	61.29%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$2,101

Program Summary per Participant

Gross Realized kW Saved at Customer	I	16.42 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	6.99 kW
Gross Realized Annual kWh Saved at Customer	(B x E x I)	88,154 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	94,383 kWh

Program Summary All Participants

Total Participants	J	74
Total Budget	K	**$859,384**
Gross kW Saved at Customer	(J x I)	1,215 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**517 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	6,523,373 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**6,984,339 kWh**
Societal Net Benefits	(J x I x H)	**$2,553,065**

Utility Program Cost per kWh Lifetime	**$0.0176**
Utility Program Cost per kW at Gen	**$1,661.18**

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **Xcel Energy**
Project: **Recommissioning**

Input Data	
1) Retail Rate ($/Dth) =	$6.60
Escalation Rate =	4.28%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	2.80%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.34
Escalation Rate =	4.28%
4) Demand Cost ($/Unit/Yr) =	$74.00
Escalation Rate =	4.28%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0600
Escalation Rate =	4.28%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.027
Escalation Rate =	2.80%
8) Non-Gas Fuel Loss Factor	5.80%
9) Gas Environmental Damage Factor =	$0.3500
Escalation Rate =	1.73%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0213
Escalation Rate =	1.73%
11) Participant Discount Rate =	2.67%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.67%
14) General Input Data Year =	2012
15a) Project Analysis Year 1 =	2016
15b) Project Analysis Year 2 =	
15c) Project Analysis Year 3 =	

	2016
Administrative & Operating Costs =	$33,420
Incentive Costs =	$93,839
16) Total Utility Project Costs =	$127,259
17) Direct Participant Costs ($/Part.) =	$6,498
18) Participant Non-Energy Costs (Annual $/Part.) =	$0
Escalation Rate =	1.73%
19) Participant Non-Energy Savings (Annual $/Part) =	$0
Escalation Rate =	1.73%
20) Project Life (Years) =	7.0
21) Avg. Dth/Part. Saved =	469.03
22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh
23) Number of Participants =	30
24) Total Annual Dth Saved =	14,071
25) Incentive/Participant =	$3,127.97

Cost Summary	**2016**
Utility Cost per Participant =	$4,242
Cost per Participant per Dth =	$22.90
Lifetime Energy Reduction (Dth)	98,496
Societal Cost per Dth	$1.94

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($284,737)	0.66
Utility Cost Test	$427,036	4.36
Societal Test	$472,280	3.47
Participant Test	$1,591,590	9.16

Conservation Improvement Program (CIP) ACTUAL

BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **Xcel Energy**
Project: **Recommissioning**

Input Data

1) Retail Rate ($/Dth) =	$6.60
Escalation Rate =	4.28%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	2.80%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.34
Escalation Rate =	4.28%
4) Demand Cost ($/Unit/Yr) =	$74.00
Escalation Rate =	4.28%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0600
Escalation Rate =	4.28%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.027
Escalation Rate =	2.80%
8) Non-Gas Fuel Loss Factor	5.80%
9) Gas Environmental Damage Factor =	$0.3500
Escalation Rate =	1.73%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0213
Escalation Rate =	1.73%
11) Participant Discount Rate =	2.67%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.67%
14) General Input Data Year =	2012
15a) Project Analysis Year 1 =	
15b) Project Analysis Year 2 =	
15c) Project Analysis Year 3 =	2016

			2016
Administrative & Operating Costs =	$0	$0	$121,107
Incentive Costs =	$0	$0	$33,447
16) Total Utility Project Costs =	$0	$0	$154,554
17) Direct Participant Costs ($/Part.) =	$0	$0	$5,159
18) Participant Non-Energy Costs (Annual $/Part.) =	$0	$0	$0
Escalation Rate =	1.73%	1.73%	1.73%
19) Participant Non-Energy Savings (Annual $/Part) =	$0	$0	$1,262
Escalation Rate =	1.73%	1.73%	1.73%
20) Project Life (Years) =	0.0	0.0	7.0
21) Avg. Dth/Part. Saved =	-	-	570.14
22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh	0 kWh	0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh	0 kWh	0 kWh
23) Number of Participants =	-	-	22
24) Total Annual Dth Saved =	0	0	12,543
25) Incentive/Participant =	$0.00	$0.00	$1,520.30

Cost Summary	2016
Utility Cost per Participant =	$7,025
Cost per Participant per Dth =	$21.37
Lifetime Energy Reduction (Dth)	87,801
Societal Cost per Dth	$2.67

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($289,171)	0.62
Utility Cost Test	$319,277	3.07
Societal Test	$501,060	3.14
Participant Test	$696,111	7.13

SELF-DIRECT 2016 ELECTRIC GOAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$4,784,108	$4,784,108	$4,784,108	$4,784,108
T & D	N/A	$1,813,828	$1,813,828	$1,813,828	$1,813,828
Marginal Energy	N/A	$11,536,616	$11,536,616	$11,536,616	$11,536,616
Environmental Externality	N/A	N/A	N/A	N/A	$449,236
Subtotal	N/A	$18,134,552	$18,134,552	$18,134,552	$18,583,788
Participant Benefits					
Bill Reduction - Electric	$18,510,453	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$3,472,239	N/A	N/A	$3,472,239	$3,472,239
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$21,982,692	N/A	N/A	$3,472,239	$3,472,239
Total Benefits	$21,982,692	$18,134,552	$18,134,552	$21,606,791	$22,056,027
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$143,244	$143,244	$143,244	$143,244
Advertising & Promotion	N/A	$654	$654	$654	$654
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$3,472,239	$3,472,239	$3,472,239	$3,472,239
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$3,616,137	$3,616,137	$3,616,137	$3,616,137
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$18,510,453	N/A	N/A
Subtotal	N/A	N/A	$18,510,453	N/A	N/A
Participant Costs					
Incremental Capital Costs	$10,062,908	N/A	N/A	$10,062,908	$10,062,908
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$10,062,908	N/A	N/A	$10,062,908	$10,062,908
Total Costs	$10,062,908	$3,616,137	$22,126,590	$13,679,045	$13,679,045
Net Benefit (Cost)	$11,919,785	$14,518,415	($3,992,038)	$7,927,746	$8,376,983
Benefit/Cost Ratio	2.18	5.01	0.82	1.58	1.61

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	17.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	62.72%
Gross Load Factor at Customer	E	32.83%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$1,301

Program Summary per Participant

Gross kW Saved at Customer	I	322.05 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	217.18 kW
Gross Annual kWh Saved at Customer	(B x E x I)	926,303 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	991,759 kWh

Program Summary All Participants

Total Participants	J	20
Total Budget	K	**$3,616,137**
Gross kW Saved at Customer	(J x I)	6,441 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**4,344 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	18,526,060 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**19,835,182 kWh**
Societal Net Benefits	(J x I x H)	**$8,376,983**

Utility Program Cost per kWh Lifetime	**$0.0107**
Utility Program Cost per kW at Gen	**$832.51**

SELF-DIRECT **2016 ELECTRIC** **ACTUAL**

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$0	$0	$0	$0
T & D	N/A	$0	$0	$0	$0
Marginal Energy	N/A	$775,273	$775,273	$775,273	$775,273
Environmental Externality	N/A	N/A	N/A	N/A	$30,612
Subtotal	N/A	$775,273	$775,273	$775,273	$805,885
Participant Benefits					
Bill Reduction - Electric	$1,269,667	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$127,074	N/A	N/A	$127,074	$127,074
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$946,606	N/A	N/A	$946,606	$946,606
Subtotal	$2,343,346	N/A	N/A	$1,073,680	$1,073,680
Total Benefits	$2,343,346	$775,273	$775,273	$1,848,953	$1,879,565
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$13,692	$13,692	$13,692	$13,692
Advertising & Promotion	N/A	$2,633	$2,633	$2,633	$2,633
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$127,074	$127,074	$127,074	$127,074
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$143,399	$143,399	$143,399	$143,399
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$1,269,667	N/A	N/A
Subtotal	N/A	N/A	$1,269,667	N/A	N/A
Participant Costs					
Incremental Capital Costs	$1,573,271	N/A	N/A	$1,573,271	$1,573,271
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$1,573,271	N/A	N/A	$1,573,271	$1,573,271
Total Costs	$1,573,271	$143,399	$1,413,066	$1,716,670	$1,716,670
Net Benefit (Cost)	$770,075	$631,874	($637,793)	$132,282	$162,895
Benefit/Cost Ratio	1.49	5.41	0.55	1.08	1.09

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	17.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	0.00%
Gross Load Factor at Customer	E	82.69%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$929

Program Summary per Participant		
Gross Realized kW Saved at Customer	I	175.43 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.00 kW
Gross Realized Annual kWh Saved at Customer	(B x E x I)	1,270,737 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	1,360,532 kWh

Program Summary All Participants		
Total Participants	J	1
Total Budget	K	**$143,399**
Gross kW Saved at Customer	(J x I)	175 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**0 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	1,270,737 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**1,360,532 kWh**
Societal Net Benefits	(J x I x H)	**$162,895**

Utility Program Cost per kWh Lifetime	**$0.0062**
Utility Program Cost per kW at Gen	**N/A**

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **Xcel Energy**
Project: **Self-Direct**

Input Data	2016
1) Retail Rate ($/Dth) =	$6.60
Escalation Rate =	4.28%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	2.80%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.34
Escalation Rate =	4.28%
4) Demand Cost ($/Unit/Yr) =	$74.00
Escalation Rate =	4.28%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0600
Escalation Rate =	4.28%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.027
Escalation Rate =	2.80%
8) Non-Gas Fuel Loss Factor	5.80%
9) Gas Environmental Damage Factor =	$0.3500
Escalation Rate =	1.73%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0213
Escalation Rate =	1.73%
11) Participant Discount Rate =	2.67%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.67%
14) General Input Data Year =	2012
15a) Project Analysis Year 1 =	2016
15b) Project Analysis Year 2 =	
15c) Project Analysis Year 3 =	

	2016
Administrative & Operating Costs =	$7,262
Incentive Costs =	$157,883
16) Total Utility Project Costs =	$165,145
17) Direct Participant Costs ($/Part.) =	$148,656
18) Participant Non-Energy Costs (Annual $/Part.) =	$0
Escalation Rate =	1.73%
19) Participant Non-Energy Savings (Annual $/Part) =	$0
Escalation Rate =	1.73%
20) Project Life (Years) =	17.0
21) Avg. Dth/Part. Saved =	4,933.83
22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh
23) Number of Participants =	4
24) Total Annual Dth Saved =	19,735
25) Incentive/Participant =	$39,470.75

Cost Summary	2016
Utility Cost per Participant =	$41,286
Cost per Participant per Dth =	$38.50
Lifetime Energy Reduction (Dth)	335,500
Societal Cost per Dth	$1.79

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($639,091)	0.72
Utility Cost Test	$1,503,064	10.10
Societal Test	$1,831,300	4.04
Participant Test	$1,705,412	3.87

Conservation Improvement Program (CIP) ACTUAL

BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **Xcel Energy**
Project: **Self-Direct**

Input Data

1) Retail Rate ($/Dth) =	$6.60
Escalation Rate =	4.28%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	2.80%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.34
Escalation Rate =	4.28%
4) Demand Cost ($/Unit/Yr) =	$74.00
Escalation Rate =	4.28%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0600
Escalation Rate =	4.28%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.027
Escalation Rate =	2.80%
8) Non-Gas Fuel Loss Factor	5.80%
9) Gas Environmental Damage Factor =	$0.3500
Escalation Rate =	1.73%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0213
Escalation Rate =	1.73%
11) Participant Discount Rate =	2.67%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.67%
14) General Input Data Year =	2012
15a) Project Analysis Year 1 =	
15b) Project Analysis Year 2 =	
15c) Project Analysis Year 3 =	2016

			2016
Administrative & Operating Costs =	$0	$0	$916
Incentive Costs =	$0	$0	$0
16) Total Utility Project Costs =	$0	$0	$916
17) Direct Participant Costs ($/Part.) =	$0	$0	$0
18) Participant Non-Energy Costs (Annual $/Part.) =	$0	$0	$0
Escalation Rate =	1.73%	1.73%	1.73%
19) Participant Non-Energy Savings (Annual $/Part) =	$0	$0	$0
Escalation Rate =	1.73%	1.73%	1.73%
20) Project Life (Years) =	0.0	0.0	0.0
21) Avg. Dth/Part. Saved =	-	-	-
22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh	0 kWh	0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh	0 kWh	0 kWh
23) Number of Participants =	-	-	-
24) Total Annual Dth Saved =	0	0	0
25) Incentive/Participant =	$0.00	$0.00	$0.00

Cost Summary	2016
Utility Cost per Participant =	#DIV/0!
Cost per Participant per Dth =	#DIV/0!
Lifetime Energy Reduction (Dth)	-
Societal Cost per Dth	#DIV/0!

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($916)	-
Utility Cost Test	($916)	-
Societal Test	($916)	-
Participant Test	$0	INF

TURN KEY SERVICES 2016 ELECTRIC GOAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$634,680	$634,680	$634,680	$634,680
T & D	N/A	$240,629	$240,629	$240,629	$240,629
Marginal Energy	N/A	$3,685,687	$3,685,687	$3,685,687	$3,685,687
Environmental Externality	N/A	N/A	N/A	N/A	$155,391
Subtotal	N/A	$4,560,996	$4,560,996	$4,560,996	$4,716,387
Participant Benefits					
Bill Reduction - Electric	$5,985,351	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$907,449	N/A	N/A	$907,449	$907,449
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$2,323,913	N/A	N/A	$158,881	$158,881
Subtotal	$9,216,713	N/A	N/A	$1,066,330	$1,066,330
Total Benefits	$9,216,713	$4,560,996	$4,560,996	$5,627,325	$5,782,716
Costs					
Utility Project Costs					
Customer Services	N/A	$438,834	$438,834	$438,834	$438,834
Project Administration	N/A	$232,813	$232,813	$232,813	$232,813
Advertising & Promotion	N/A	$13,255	$13,255	$13,255	$13,255
Measurement & Verification	N/A	$13,000	$13,000	$13,000	$13,000
Rebates	N/A	$907,449	$907,449	$907,449	$907,449
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$1,605,351	$1,605,351	$1,605,351	$1,605,351
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$5,985,351	N/A	N/A
Subtotal	N/A	N/A	$5,985,351	N/A	N/A
Participant Costs					
Incremental Capital Costs	$1,847,409	N/A	N/A	$1,396,508	$1,396,508
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$1,847,409	N/A	N/A	$1,396,508	$1,396,508
Total Costs	$1,847,409	$1,605,351	$7,590,702	$3,001,859	$3,001,859
Net Benefit (Cost)	$7,369,304	$2,955,645	($3,029,706)	$2,625,467	$2,780,858
Benefit/Cost Ratio	4.99	2.84	0.60	1.87	1.93

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	12.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	29.38%
Gross Load Factor at Customer	E	38.78%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$1,224

Program Summary per Participant

Gross kW Saved at Customer	I	5.40 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	1.70 kW
Gross Annual kWh Saved at Customer	(B x E x I)	18,333 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	19,629 kWh

Program Summary All Participants

Total Participants	J	421
Total Budget	K	**$1,605,351**
Gross kW Saved at Customer	(J x I)	2,271 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**717 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	7,714,515 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**8,259,652 kWh**
Societal Net Benefits	(J x I x H)	**$2,780,858**

Utility Program Cost per kWh Lifetime	**$0.0162**
Utility Program Cost per kW at Gen	**$2,237.75**

TURN KEY SERVICES **2016 ELECTRIC** **ACTUAL**

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$1,441,976	$1,441,976	$1,441,976	$1,441,976
T & D	N/A	$546,732	$546,732	$546,732	$546,732
Marginal Energy	N/A	$4,505,703	$4,505,703	$4,505,703	$4,505,703
Environmental Externality	N/A	N/A	N/A	N/A	$182,603
Subtotal	N/A	$6,494,411	$6,494,411	$6,494,411	$6,677,013
Participant Benefits					
Bill Reduction - Electric	$7,069,785	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$801,185	N/A	N/A	$801,185	$801,185
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$7,870,970	N/A	N/A	$801,185	$801,185
Total Benefits	$7,870,970	$6,494,411	$6,494,411	$7,295,596	$7,478,199
Costs					
Utility Project Costs					
Customer Services	N/A	$11	$11	$11	$11
Project Administration	N/A	$485,874	$485,874	$485,874	$485,874
Advertising & Promotion	N/A	$31,611	$31,611	$31,611	$31,611
Measurement & Verification	N/A	$9,407	$9,407	$9,407	$9,407
Rebates	N/A	$801,185	$801,185	$801,185	$801,185
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$1,328,088	$1,328,088	$1,328,088	$1,328,088
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$7,069,785	N/A	N/A
Subtotal	N/A	N/A	$7,069,785	N/A	N/A
Participant Costs					
Incremental Capital Costs	$2,416,107	N/A	N/A	$2,416,107	$2,416,107
Incremental O&M Costs	$47,083	N/A	N/A	$47,083	$47,083
Subtotal	$2,463,189	N/A	N/A	$2,463,189	$2,463,189
Total Costs	$2,463,189	$1,328,088	$8,397,873	$3,791,278	$3,791,278
Net Benefit (Cost)	$5,407,781	$5,166,323	($1,903,462)	$3,504,318	$3,686,921
Benefit/Cost Ratio	3.20	4.89	0.77	1.92	1.97

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	13.1 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	79.65%
Gross Load Factor at Customer	E	54.65%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$2,029

Program Summary per Participant		
Gross Realized kW Saved at Customer	I	4.99 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	4.28 kW
Gross Realized Annual kWh Saved at Customer	(B x E x I)	23,896 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	25,584 kWh

Program Summary All Participants		
Total Participants	J	364
Total Budget	K	**$1,328,088**
Gross kW Saved at Customer	(J x I)	1,817 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**1,556 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	8,698,032 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**9,312,668 kWh**
Societal Net Benefits	(J x I x H)	**$3,686,921**

Utility Program Cost per kWh Lifetime	**$0.0109**
Utility Program Cost per kW at Gen	**$853.47**

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **Xcel Energy**
Project: **Turn Key Services**

Input Data	2016
1) Retail Rate ($/Dth) =	$6.60
Escalation Rate =	4.28%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	2.80%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.34
Escalation Rate =	4.28%
4) Demand Cost ($/Unit/Yr) =	$74.00
Escalation Rate =	4.28%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0600
Escalation Rate =	4.28%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.027
Escalation Rate =	2.80%
8) Non-Gas Fuel Loss Factor	5.80%
9) Gas Environmental Damage Factor =	$0.3500
Escalation Rate =	1.73%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0213
Escalation Rate =	1.73%
11) Participant Discount Rate =	2.67%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.67%
14) General Input Data Year =	2012
15a) Project Analysis Year 1 =	2016
15b) Project Analysis Year 2 =	
15c) Project Analysis Year 3 =	
Administrative & Operating Costs =	$49,590
Incentive Costs =	$22,835
16) Total Utility Project Costs =	$72,425
17) Direct Participant Costs ($/Part.) =	$3,329
18) Participant Non-Energy Costs (Annual $/Part.) =	$0
Escalation Rate =	1.73%
19) Participant Non-Energy Savings (Annual $/Part) =	$0
Escalation Rate =	1.73%
20) Project Life (Years) =	8.2
21) Avg. Dth/Part. Saved =	194.17
22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh
23) Number of Participants =	58
24) Total Annual Dth Saved =	11,342
25) Incentive/Participant =	$390.92

Cost Summary	2016
Utility Cost per Participant =	$1,240
Cost per Participant per Dth =	$23.53
Lifetime Energy Reduction (Dth)	92,652
Societal Cost per Dth	$2.43

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($217,967)	0.70
Utility Cost Test	$439,859	7.07
Societal Test	$405,665	2.80
Participant Test	$535,599	3.75

Conservation Improvement Program (CIP) ACTUAL

BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **Xcel Energy**
Project: **Turn Key Services**

Input Data

1) Retail Rate ($/Dth) =	$6.60
Escalation Rate =	4.28%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	2.80%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.34
Escalation Rate =	4.28%
4) Demand Cost ($/Unit/Yr) =	$74.00
Escalation Rate =	4.28%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0600
Escalation Rate =	4.28%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.027
Escalation Rate =	2.80%
8) Non-Gas Fuel Loss Factor	5.80%
9) Gas Environmental Damage Factor =	$0.3500
Escalation Rate =	1.73%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0213
Escalation Rate =	1.73%
11) Participant Discount Rate =	2.67%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.67%
14) General Input Data Year =	2012
15a) Project Analysis Year 1 =	
15b) Project Analysis Year 2 =	
15c) Project Analysis Year 3 =	2016

			2016
Administrative & Operating Costs =	$0	$0	$96,594
Incentive Costs =	$0	$0	$92,359
16) Total Utility Project Costs =	$0	$0	$188,953
17) Direct Participant Costs ($/Part.) =	$0	$0	$3,761
18) Participant Non-Energy Costs (Annual $/Part.) =	$0	$0	$0
Escalation Rate =	1.73%	1.73%	1.73%
19) Participant Non-Energy Savings (Annual $/Part) =	$0	$0	$34
Escalation Rate =	1.73%	1.73%	1.73%
20) Project Life (Years) =	0.0	0.0	9.9
21) Avg. Dth/Part. Saved =	-	-	78.36
22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh	0 kWh	0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh	0 kWh	0 kWh
23) Number of Participants =	-	-	68
24) Total Annual Dth Saved =	0	0	5,328
25) Incentive/Participant =	$0.00	$0.00	$1,358.22

Cost Summary	**2016**
Utility Cost per Participant =	$2,779
Cost per Participant per Dth =	$83.46
Lifetime Energy Reduction (Dth)	52,741
Societal Cost per Dth	$6.68

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($266,921)	0.51
Utility Cost Test	$85,480	1.45
Societal Test	$14,379	1.04
Participant Test	$207,304	1.81

BUSINESS SEGMENT LOAD MANAGEMENT TOTAL — 2016 — ELECTRIC — GOAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$6,764,247	$6,764,247	$6,764,247	$6,764,247
T & D	N/A	$2,564,574	$2,564,574	$2,564,574	$2,564,574
Marginal Energy	N/A	$110,749	$110,749	$110,749	$110,749
Environmental Externality	N/A	N/A	N/A	N/A	$3,390
Subtotal	N/A	$9,439,570	$9,439,570	$9,439,570	$9,442,960
Participant Benefits					
Bill Reduction - Electric	$7,207,035	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$0	N/A	N/A	$0	$0
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$7,207,035	N/A	N/A	$0	$0
Total Benefits	$7,207,035	$9,439,570	$9,439,570	$9,439,570	$9,442,960
Costs					
Utility Project Costs					
Customer Services	N/A	$331,000	$331,000	$331,000	$331,000
Project Administration	N/A	$1,727,897	$1,727,897	$1,727,897	$1,727,897
Advertising & Promotion	N/A	$265,828	$265,828	$265,828	$265,828
Measurement & Verification	N/A	$275,000	$275,000	$275,000	$275,000
Rebates	N/A	$0	$0	$0	$0
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$2,599,725	$2,599,725	$2,599,725	$2,599,725
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$7,207,035	N/A	N/A
Subtotal	N/A	N/A	$7,207,035	N/A	N/A
Participant Costs					
Incremental Capital Costs	$0	N/A	N/A	$0	$0
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$0	N/A	N/A	$0	$0
Total Costs	$0	$2,599,725	$9,806,760	$2,599,725	$2,599,725
Net Benefit (Cost)	$7,207,035	$6,839,845	($367,190)	$6,839,845	$6,843,235
Benefit/Cost Ratio	INF	3.63	0.96	3.63	3.63

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	5.7 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	37.11%
Gross Load Factor at Customer	E	0.12%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$239

Program Summary per Participant

Gross kW Saved at Customer	I	23.25 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	9.28 kW
Gross Annual kWh Saved at Customer	(B x E x I)	246 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	263 kWh

Program Summary All Participants

Total Participants	J	1,231
Total Budget	K	**$2,599,725**
Gross kW Saved at Customer	(J x I)	28,620 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**11,421 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	302,262 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**323,621 kWh**
Societal Net Benefits	(J x I x H)	**$6,843,235**

Utility Program Cost per kWh Lifetime	**$1.4214**
Utility Program Cost per kW at Gen	**$227.63**

BUSINESS SEGMENT LOAD MANAGEMENT TOTAL — 2016 ELECTRIC — ACTUAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$9,337,961	$9,337,961	$9,337,961	$9,337,961
T & D	N/A	$0	$0	$0	$0
Marginal Energy	N/A	$127,547	$127,547	$127,547	$127,547
Environmental Externality	N/A	N/A	N/A	N/A	$3,680
Subtotal	N/A	$9,465,508	$9,465,508	$9,465,508	$9,469,188
Participant Benefits					
Bill Reduction - Electric	$159,075	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$0	N/A	N/A	$0	$0
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$159,075	N/A	N/A	$0	$0
Total Benefits	$159,075	$9,465,508	$9,465,508	$9,465,508	$9,469,188
Costs					
Utility Project Costs					
Customer Services	N/A	$9,393	$9,393	$9,393	$9,393
Project Administration	N/A	$2,516,637	$2,516,637	$2,516,637	$2,516,637
Advertising & Promotion	N/A	$232,711	$232,711	$232,711	$232,711
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$0	$0	$0	$0
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$2,758,741	$2,758,741	$2,758,741	$2,758,741
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$159,075	N/A	N/A
Subtotal	N/A	N/A	$159,075	N/A	N/A
Participant Costs					
Incremental Capital Costs	$0	N/A	N/A	$0	$0
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$0	N/A	N/A	$0	$0
Total Costs	$0	$2,758,741	$2,917,816	$2,758,741	$2,758,741
Net Benefit (Cost)	$159,075	$6,706,767	$6,547,692	$6,706,767	$6,710,447
Benefit/Cost Ratio	INF	3.43	3.24	3.43	3.43

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	5.8 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	36.27%
Gross Load Factor at Customer	E	0.10%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$181

Program Summary per Participant

Gross Realized kW Saved at Customer	I	25.39 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	9.90 kW
Gross Realized Annual kWh Saved at Customer	(B x E x I)	232 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	249 kWh

Program Summary All Participants

Total Participants	J	1,458
Total Budget	K	**$2,758,741**
Gross kW Saved at Customer	(J x I)	37,025 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**14,439 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	338,484 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**362,403 kWh**
Societal Net Benefits	(J x I x H)	**$6,710,447**

Utility Program Cost per kWh Lifetime	**$1.3137**
Utility Program Cost per kW at Gen	**$191.06**

ELECTRIC RATE SAVINGS — 2016 ELECTRIC — GOAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$3,461,782	$3,461,782	$3,461,782	$3,461,782
T & D	N/A	$1,312,486	$1,312,486	$1,312,486	$1,312,486
Marginal Energy	N/A	$93,960	$93,960	$93,960	$93,960
Environmental Externality	N/A	N/A	N/A	N/A	$2,931
Subtotal	N/A	$4,868,228	$4,868,228	$4,868,228	$4,871,159
Participant Benefits					
Bill Reduction - Electric	$3,763,773	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$0	N/A	N/A	$0	$0
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$3,763,773	N/A	N/A	$0	$0
Total Benefits	$3,763,773	$4,868,228	$4,868,228	$4,868,228	$4,871,159
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$476,994	$476,994	$476,994	$476,994
Advertising & Promotion	N/A	$15,828	$15,828	$15,828	$15,828
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$0	$0	$0	$0
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$492,822	$492,822	$492,822	$492,822
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$3,763,773	N/A	N/A
Subtotal	N/A	N/A	$3,763,773	N/A	N/A
Participant Costs					
Incremental Capital Costs	$0	N/A	N/A	$0	$0
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$0	N/A	N/A	$0	$0
Total Costs	$0	$492,822	$4,256,595	$492,822	$492,822
Net Benefit (Cost)	$3,763,773	$4,375,406	$611,633	$4,375,406	$4,378,337
Benefit/Cost Ratio	INF	9.88	1.14	9.88	9.88

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	5.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	47.46%
Gross Load Factor at Customer	E	0.20%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$274

Program Summary per Participant

Gross kW Saved at Customer	I	200.00 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	102.06 kW
Gross Annual kWh Saved at Customer	(B x E x I)	3,532 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	3,782 kWh

Program Summary All Participants

Total Participants	J	80
Total Budget	K	**$492,822**
Gross kW Saved at Customer	(J x I)	16,000 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**8,165 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	282,564 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**302,531 kWh**
Societal Net Benefits	(J x I x H)	**$4,378,337**

Utility Program Cost per kWh Lifetime	**$0.3258**
Utility Program Cost per kW at Gen	**$60.36**

ELECTRIC RATE SAVINGS — 2016 ELECTRIC — ACTUAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$3,812,267	$3,812,267	$3,812,267	$3,812,267
T & D	N/A	$0	$0	$0	$0
Marginal Energy	N/A	$103,616	$103,616	$103,616	$103,616
Environmental Externality	N/A	N/A	N/A	N/A	$3,079
Subtotal	N/A	$3,915,883	$3,915,883	$3,915,883	$3,918,961
Participant Benefits					
Bill Reduction - Electric	$136,435	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$0	N/A	N/A	$0	$0
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$136,435	N/A	N/A	$0	$0
Total Benefits	$136,435	$3,915,883	$3,915,883	$3,915,883	$3,918,961
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$402,679	$402,679	$402,679	$402,679
Advertising & Promotion	N/A	$54,292	$54,292	$54,292	$54,292
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$0	$0	$0	$0
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$456,970	$456,970	$456,970	$456,970
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$136,435	N/A	N/A
Subtotal	N/A	N/A	$136,435	N/A	N/A
Participant Costs					
Incremental Capital Costs	$0	N/A	N/A	$0	$0
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$0	N/A	N/A	$0	$0
Total Costs	$0	$456,970	$593,405	$456,970	$456,970
Net Benefit (Cost)	$136,435	$3,458,912	$3,322,477	$3,458,912	$3,461,991
Benefit/Cost Ratio	INF	8.57	6.60	8.57	8.58

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	5.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	48.52%
Gross Load Factor at Customer	E	0.21%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$201

Program Summary per Participant

Gross Realized kW Saved at Customer	I	297.19 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	155.03 kW
Gross Realized Annual kWh Saved at Customer	(B x E x I)	5,372 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	5,752 kWh

Program Summary All Participants

Total Participants	J	58
Total Budget	K	**$456,970**
Gross kW Saved at Customer	(J x I)	17,237 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**8,992 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	311,595 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**333,614 kWh**
Societal Net Benefits	(J x I x H)	**$3,461,991**

Utility Program Cost per kWh Lifetime	**$0.2740**
Utility Program Cost per kW at Gen	**$50.82**

SAVER'S SWITCH FOR BUSINESS 2016 ELECTRIC GOAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$3,302,466	$3,302,466	$3,302,466	$3,302,466
T & D	N/A	$1,252,087	$1,252,087	$1,252,087	$1,252,087
Marginal Energy	N/A	$16,789	$16,789	$16,789	$16,789
Environmental Externality	N/A	N/A	N/A	N/A	$459
Subtotal	N/A	$4,571,342	$4,571,342	$4,571,342	$4,571,801
Participant Benefits					
Bill Reduction - Electric	$3,443,262	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$0	N/A	N/A	$0	$0
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$3,443,262	N/A	N/A	$0	$0
Total Benefits	$3,443,262	$4,571,342	$4,571,342	$4,571,342	$4,571,801
Costs					
Utility Project Costs					
Customer Services	N/A	$331,000	$331,000	$331,000	$331,000
Project Administration	N/A	$1,250,903	$1,250,903	$1,250,903	$1,250,903
Advertising & Promotion	N/A	$250,000	$250,000	$250,000	$250,000
Measurement & Verification	N/A	$275,000	$275,000	$275,000	$275,000
Rebates	N/A	$0	$0	$0	$0
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$2,106,903	$2,106,903	$2,106,903	$2,106,903
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$3,443,262	N/A	N/A
Subtotal	N/A	N/A	$3,443,262	N/A	N/A
Participant Costs					
Incremental Capital Costs	$0	N/A	N/A	$0	$0
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$0	N/A	N/A	$0	$0
Total Costs	$0	$2,106,903	$5,550,165	$2,106,903	$2,106,903
Net Benefit (Cost)	$3,443,262	$2,464,439	($978,823)	$2,464,439	$2,464,898
Benefit/Cost Ratio	INF	2.17	0.82	2.17	2.17

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	15.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	23.99%
Gross Load Factor at Customer	E	0.02%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$195

Program Summary per Participant

Gross kW Saved at Customer	I	10.96 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	2.83 kW
Gross Annual kWh Saved at Customer	(B x E x I)	17 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	18 kWh

Program Summary All Participants

Total Participants	J	1,151
Total Budget	K	**$2,106,903**
Gross kW Saved at Customer	(J x I)	12,620 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**3,256 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	19,698 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**21,090 kWh**
Societal Net Benefits	(J x I x H)	**$2,464,898**

Utility Program Cost per kWh Lifetime	**$6.6600**
Utility Program Cost per kW at Gen	**$647.16**

SAVER'S SWITCH FOR BUSINESS — 2016 ELECTRIC — ACTUAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$5,525,694	$5,525,694	$5,525,694	$5,525,694
T & D	N/A	$0	$0	$0	$0
Marginal Energy	N/A	$23,931	$23,931	$23,931	$23,931
Environmental Externality	N/A	N/A	N/A	N/A	$602
Subtotal	N/A	$5,549,625	$5,549,625	$5,549,625	$5,550,227
Participant Benefits					
Bill Reduction - Electric	$22,640	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$0	N/A	N/A	$0	$0
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$22,640	N/A	N/A	$0	$0
Total Benefits	$22,640	$5,549,625	$5,549,625	$5,549,625	$5,550,227
Costs					
Utility Project Costs					
Customer Services	N/A	$9,393	$9,393	$9,393	$9,393
Project Administration	N/A	$2,113,958	$2,113,958	$2,113,958	$2,113,958
Advertising & Promotion	N/A	$178,419	$178,419	$178,419	$178,419
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$0	$0	$0	$0
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$2,301,771	$2,301,771	$2,301,771	$2,301,771
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$22,640	N/A	N/A
Subtotal	N/A	N/A	$22,640	N/A	N/A
Participant Costs					
Incremental Capital Costs	$0	N/A	N/A	$0	$0
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$0	N/A	N/A	$0	$0
Total Costs	$0	$2,301,771	$2,324,411	$2,301,771	$2,301,771
Net Benefit (Cost)	$22,640	$3,247,855	$3,225,214	$3,247,855	$3,248,456
Benefit/Cost Ratio	INF	2.41	2.39	2.41	2.41

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	15.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	25.60%
Gross Load Factor at Customer	E	0.02%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$164

Program Summary per Participant

Gross Realized kW Saved at Customer	I	14.13 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	3.89 kW
Gross Realized Annual kWh Saved at Customer	(B x E x I)	19 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	21 kWh

Program Summary All Participants

Total Participants	J	1,400
Total Budget	K	**$2,301,771**
Gross kW Saved at Customer	(J x I)	19,788 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**5,447 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	26,889 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**28,789 kWh**
Societal Net Benefits	(J x I x H)	**$3,248,456**

Utility Program Cost per kWh Lifetime	**$5.3302**
Utility Program Cost per kW at Gen	**$422.55**

RESIDENTIAL SEGMENT TOTAL — 2016 ELECTRIC — GOAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$32,055,150	$32,055,150	$32,055,150	$32,055,150
T & D	N/A	$12,144,906	$12,144,906	$12,144,906	$12,144,906
Marginal Energy	N/A	$31,619,989	$31,619,989	$31,619,989	$31,619,989
Environmental Externality	N/A	N/A	N/A	N/A	$1,426,109
Subtotal	N/A	$75,820,045	$75,820,045	$75,820,045	$77,246,154
Participant Benefits					
Bill Reduction - Electric	$100,270,287	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$7,708,534	N/A	N/A	$7,708,534	$7,708,534
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$6,445,662	N/A	N/A	$313,023	$313,023
Subtotal	$114,424,483	N/A	N/A	$8,021,557	$8,021,557
Total Benefits	$114,424,483	$75,820,045	$75,820,045	$83,841,602	$85,267,712
Costs					
Utility Project Costs					
Customer Services	N/A	$3,492,473	$3,492,473	$3,492,473	$3,492,473
Project Administration	N/A	$6,382,058	$6,382,058	$6,382,058	$6,382,058
Advertising & Promotion	N/A	$3,651,204	$3,651,204	$3,651,204	$3,651,204
Measurement & Verification	N/A	$523,638	$523,638	$523,638	$523,638
Rebates	N/A	$7,708,534	$7,708,534	$7,708,534	$7,708,534
Other	N/A	$4,500	$4,500	$4,500	$4,500
Subtotal	N/A	$21,762,406	$21,762,406	$21,762,406	$21,762,406
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$100,270,287	N/A	N/A
Subtotal	N/A	N/A	$100,270,287	N/A	N/A
Participant Costs					
Incremental Capital Costs	$23,813,854	N/A	N/A	$20,458,168	$20,458,168
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$23,813,854	N/A	N/A	$20,458,168	$20,458,168
Total Costs	$23,813,854	$21,762,406	$122,032,693	$42,220,574	$42,220,574
Net Benefit (Cost)	$90,610,629	$54,057,639	($46,212,648)	$41,621,028	$43,047,137
Benefit/Cost Ratio	4.80	3.48	0.62	1.99	2.02

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	9.1 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	26.71%
Gross Load Factor at Customer	E	7.78%
Transmission Loss Factor (Energy)	F	8.087%
Transmission Loss Factor (Demand)	G	8.743%
Societal Net Benefit (Cost)	H	$318

Program Summary per Participant		
Gross kW Saved at Customer	I	0.08 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.02 kW
Gross Annual kWh Saved at Customer	(B x E x I)	54 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	59 kWh

Program Summary All Participants		
Total Participants	J	1,699,699
Total Budget	K	**$21,762,406**
Gross kW Saved at Customer	(J x I)	135,474 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**39,647 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	92,281,316 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**100,401,037 kWh**
Societal Net Benefits	(J x I x H)	**$43,047,137**

Utility Program Cost per kWh Lifetime	**$0.0238**
Utility Program Cost per kW at Gen	**$548.91**

RESIDENTIAL SEGMENT TOTAL — 2016 ELECTRIC — ACTUAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$42,762,333	$42,762,333	$42,762,333	$42,762,333
T & D	N/A	$9,900,780	$9,900,780	$9,900,780	$9,900,780
Marginal Energy	N/A	$67,973,864	$67,973,864	$67,973,864	$67,973,864
Environmental Externality	N/A	N/A	N/A	N/A	$2,979,949
Subtotal	N/A	$120,636,976	$120,636,976	$120,636,976	$123,616,925
Participant Benefits					
Bill Reduction - Electric	$186,614,934	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$11,927,722	N/A	N/A	$11,927,722	$11,927,722
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$198,542,655	N/A	N/A	$11,927,722	$11,927,722
Total Benefits	$198,542,655	$120,636,976	$120,636,976	$132,564,698	$135,544,647
Costs					
Utility Project Costs					
Customer Services	N/A	$800,773	$800,773	$800,773	$800,773
Project Administration	N/A	$8,058,458	$8,058,458	$8,058,458	$8,058,458
Advertising & Promotion	N/A	$1,805,734	$1,805,734	$1,805,734	$1,805,734
Measurement & Verification	N/A	$441,148	$441,148	$441,148	$441,148
Rebates	N/A	$11,927,722	$11,927,722	$11,927,722	$11,927,722
Other	N/A	$16,990	$16,990	$16,990	$16,990
Subtotal	N/A	$23,050,826	$23,050,826	$23,050,826	$23,050,826
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$186,614,934	N/A	N/A
Subtotal	N/A	N/A	$186,614,934	N/A	N/A
Participant Costs					
Incremental Capital Costs	$47,185,110	N/A	N/A	$47,185,110	$47,185,110
Incremental O&M Costs	$797,635	N/A	N/A	$797,635	$797,635
Subtotal	$47,982,745	N/A	N/A	$47,982,745	$47,982,745
Total Costs	$47,982,745	$23,050,826	$209,665,759	$71,033,570	$71,033,570
Net Benefit (Cost)	$150,559,911	$97,586,151	($89,028,783)	$61,531,128	$64,511,076
Benefit/Cost Ratio	4.14	5.23	0.58	1.87	1.91

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	10.9 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	22.68%
Gross Load Factor at Customer	E	9.02%
Transmission Loss Factor (Energy)	F	8.101%
Transmission Loss Factor (Demand)	G	8.737%
Societal Net Benefit (Cost)	H	$293

Program Summary per Participant

Gross Realized kW Saved at Customer	I	0.06 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.02 kW
Gross Realized Annual kWh Saved at Customer	(B x E x I)	50 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	55 kWh

Program Summary All Participants

Total Participants	J	3,456,638
Total Budget	K	**$23,050,826**
Gross kW Saved at Customer	(J x I)	219,818 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**54,622 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	173,777,514 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**189,097,201 kWh**
Societal Net Benefits	(J x I x H)	**$64,511,076**

Utility Program Cost per kWh Lifetime	**$0.0112**
Utility Program Cost per kW at Gen	**$422.01**

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **Xcel Energy**
Project: **Residential Segment with Indirect Participants**

Input Data	2016
1) Retail Rate ($/Dth) =	$6.60
Escalation Rate =	4.28%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	2.80%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.34
Escalation Rate =	4.28%
4) Demand Cost ($/Unit/Yr) =	$74.00
Escalation Rate =	4.28%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0600
Escalation Rate =	4.28%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.027
Escalation Rate =	2.80%
8) Non-Gas Fuel Loss Factor	5.80%
9) Gas Environmental Damage Factor =	$0.3500
Escalation Rate =	1.73%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0213
Escalation Rate =	1.73%
11) Participant Discount Rate =	2.67%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.67%
14) General Input Data Year =	2012
15a) Project Analysis Year 1 =	2016
15b) Project Analysis Year 2 =	
15c) Project Analysis Year 3 =	

	2016
Administrative & Operating Costs =	$4,120,846
Incentive Costs =	$1,512,082
16) Total Utility Project Costs =	$5,632,928
17) Direct Participant Costs ($/Part.) =	$11
18) Participant Non-Energy Costs (Annual $/Part.) =	$0
Escalation Rate =	1.73%
19) Participant Non-Energy Savings (Annual $/Part) =	$1
Escalation Rate =	1.73%
20) Project Life (Years) =	11.5
21) Avg. Dth/Part. Saved =	0.31
22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh
23) Number of Participants =	566,752
24) Total Annual Dth Saved =	177,115
25) Incentive/Participant =	$2.67

Cost Summary	2016
Utility Cost per Participant =	$10
Cost per Participant per Dth =	$65.85
Lifetime Energy Reduction (Dth)	2,034,079
Societal Cost per Dth	$4.77

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($9,827,795)	0.51
Utility Cost Test	$4,701,784	1.83
Societal Test	$8,469,352	1.87
Participant Test	$21,643,609	4.59

Conservation Improvement Program (CIP) ACTUAL

BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **Xcel Energy**
Project: **Residential Segment with Indirect Participants**

Input Data	
1) Retail Rate ($/Dth) =	$6.60
Escalation Rate =	4.28%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	2.80%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.34
Escalation Rate =	4.28%
4) Demand Cost ($/Unit/Yr) =	$74.00
Escalation Rate =	4.28%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0600
Escalation Rate =	4.28%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.027
Escalation Rate =	2.80%
8) Non-Gas Fuel Loss Factor	5.80%
9) Gas Environmental Damage Factor =	$0.3500
Escalation Rate =	1.73%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0213
Escalation Rate =	1.73%
11) Participant Discount Rate =	2.67%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.67%
14) General Input Data Year =	2012
15a) Project Analysis Year 1 =	
15b) Project Analysis Year 2 =	
15c) Project Analysis Year 3 =	2016

			2016
Administrative & Operating Costs =	$0	$0	$3,910,184
Incentive Costs =	$0	$0	$2,781,032
16) Total Utility Project Costs =	$0	$0	$6,691,216
17) Direct Participant Costs ($/Part.) =	$0	$0	$25
18) Participant Non-Energy Costs (Annual $/Part.) =	$0	$0	$0
Escalation Rate =	1.73%	1.73%	1.73%
19) Participant Non-Energy Savings (Annual $/Part) =	$0	$0	$1
Escalation Rate =	1.73%	1.73%	1.73%
20) Project Life (Years) =	0.0	0.0	13.9
21) Avg. Dth/Part. Saved =	-	-	0.47
22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh	0 kWh	0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh	0 kWh	0 kWh
23) Number of Participants =	-	-	621,060
24) Total Annual Dth Saved =	0	0	290,238
25) Incentive/Participant =	$0.00	$0.00	$4.48

Cost Summary	**2016**
Utility Cost per Participant =	$11
Cost per Participant per Dth =	$76.67
Lifetime Energy Reduction (Dth)	4,032,981
Societal Cost per Dth	$4.83

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($14,539,302)	0.57
Utility Cost Test	$12,643,770	2.89
Societal Test	$12,443,246	1.64
Participant Test	$28,574,951	2.84

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **Xcel Energy**
Project: **Residential Segment Direct Participants Only**

Input Data	2016
1) Retail Rate ($/Dth) =	$6.60
Escalation Rate =	4.28%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	2.80%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.34
Escalation Rate =	4.28%
4) Demand Cost ($/Unit/Yr) =	$74.00
Escalation Rate =	4.28%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0600
Escalation Rate =	4.28%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.027
Escalation Rate =	2.80%
8) Non-Gas Fuel Loss Factor	5.80%
9) Gas Environmental Damage Factor =	$0.3500
Escalation Rate =	1.73%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0213
Escalation Rate =	1.73%
11) Participant Discount Rate =	2.67%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.67%
14) General Input Data Year =	2012
15a) Project Analysis Year 1 =	2016
15b) Project Analysis Year 2 =	
15c) Project Analysis Year 3 =	

	2016
Administrative & Operating Costs =	$3,163,540
Incentive Costs =	$1,512,082
16) Total Utility Project Costs =	$4,675,622
17) Direct Participant Costs ($/Part.) =	$33
18) Participant Non-Energy Costs (Annual $/Part.) =	$0
Escalation Rate =	1.73%
19) Participant Non-Energy Savings (Annual $/Part) =	$3
Escalation Rate =	1.73%
20) Project Life (Years) =	11.5
21) Avg. Dth/Part. Saved =	0.98
22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh
23) Number of Participants =	181,340
24) Total Annual Dth Saved =	177,115
25) Incentive/Participant =	$8.34

Cost Summary	2016
Utility Cost per Participant =	$26
Cost per Participant per Dth =	$60.44
Lifetime Energy Reduction (Dth)	2,034,079
Societal Cost per Dth	$4.30

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($8,870,489)	0.54
Utility Cost Test	$5,659,090	2.21
Societal Test	$9,426,658	2.08
Participant Test	$21,643,609	4.59

Conservation Improvement Program (CIP) ACTUAL

BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **Xcel Energy**
Project: **Residential Segment Direct Participants Only**

Input Data	
1) Retail Rate ($/Dth) =	$6.60
Escalation Rate =	4.28%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	2.80%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.34
Escalation Rate =	4.28%
4) Demand Cost ($/Unit/Yr) =	$74.00
Escalation Rate =	4.28%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0600
Escalation Rate =	4.28%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.027
Escalation Rate =	2.80%
8) Non-Gas Fuel Loss Factor	5.80%
9) Gas Environmental Damage Factor =	$0.3500
Escalation Rate =	1.73%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0213
Escalation Rate =	1.73%
11) Participant Discount Rate =	2.67%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.67%
14) General Input Data Year =	2012
15a) Project Analysis Year 1 =	
15b) Project Analysis Year 2 =	
15c) Project Analysis Year 3 =	2016

			2016
Administrative & Operating Costs =	$0	$0	$3,166,620
Incentive Costs =	$0	$0	$2,781,032
16) Total Utility Project Costs =	$0	$0	$5,947,652
17) Direct Participant Costs ($/Part.) =	$0	$0	$87
18) Participant Non-Energy Costs (Annual $/Part.) =	$0	$0	$0
Escalation Rate =	1.73%	1.73%	1.73%
19) Participant Non-Energy Savings (Annual $/Part) =	$0	$0	$4
Escalation Rate =	1.73%	1.73%	1.73%
20) Project Life (Years) =	0.0	0.0	13.9
21) Avg. Dth/Part. Saved =	-	-	1.63
22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh	0 kWh	0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh	0 kWh	0 kWh
23) Number of Participants =	-	-	178,146
24) Total Annual Dth Saved =	0	0	290,238
25) Incentive/Participant =	$0.00	$0.00	$15.61

Cost Summary	**2016**
Utility Cost per Participant =	$33
Cost per Participant per Dth =	$74.11
Lifetime Energy Reduction (Dth)	4,032,981
Societal Cost per Dth	$4.64

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($13,795,738)	0.58
Utility Cost Test	$13,387,334	3.25
Societal Test	$13,186,810	1.70
Participant Test	$28,574,951	2.84

RESIDENTIAL SEGMENT ENERGY EFFICIENCY TOTAL 2016 ELECTRIC GOAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$14,110,514	$14,110,514	$14,110,514	$14,110,514
T & D	N/A	$5,341,422	$5,341,422	$5,341,422	$5,341,422
Marginal Energy	N/A	$31,505,441	$31,505,441	$31,505,441	$31,505,441
Environmental Externality	N/A	N/A	N/A	N/A	$1,422,271
Subtotal	N/A	$50,957,377	$50,957,377	$50,957,377	$52,379,648
Participant Benefits					
Bill Reduction - Electric	$88,345,444	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$7,708,534	N/A	N/A	$7,708,534	$7,708,534
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$6,445,662	N/A	N/A	$313,023	$313,023
Subtotal	$102,499,640	N/A	N/A	$8,021,557	$8,021,557
Total Benefits	$102,499,640	$50,957,377	$50,957,377	$58,978,934	$60,401,206
Costs					
Utility Project Costs					
Customer Services	N/A	$979,700	$979,700	$979,700	$979,700
Project Administration	N/A	$3,247,358	$3,247,358	$3,247,358	$3,247,358
Advertising & Promotion	N/A	$2,804,782	$2,804,782	$2,804,782	$2,804,782
Measurement & Verification	N/A	$357,203	$357,203	$357,203	$357,203
Rebates	N/A	$7,708,534	$7,708,534	$7,708,534	$7,708,534
Other	N/A	$4,500	$4,500	$4,500	$4,500
Subtotal	N/A	$15,102,077	$15,102,077	$15,102,077	$15,102,077
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$88,345,444	N/A	N/A
Subtotal	N/A	N/A	$88,345,444	N/A	N/A
Participant Costs					
Incremental Capital Costs	$23,813,854	N/A	N/A	$20,458,168	$20,458,168
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$23,813,854	N/A	N/A	$20,458,168	$20,458,168
Total Costs	$23,813,854	$15,102,077	$103,447,521	$35,560,245	$35,560,245
Net Benefit (Cost)	$78,685,785	$35,855,300	($52,490,143)	$23,418,689	$24,840,960
Benefit/Cost Ratio	4.30	3.37	0.49	1.66	1.70

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	9.1 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	26.71%
Gross Load Factor at Customer	E	14.01%
Transmission Loss Factor (Energy)	F	8.087%
Transmission Loss Factor (Demand)	G	8.697%
Societal Net Benefit (Cost)	H	$331

Program Summary per Participant		
Gross kW Saved at Customer	I	0.08 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.02 kW
Gross Annual kWh Saved at Customer	(B x E x I)	100 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	109 kWh

Program Summary All Participants		
Total Participants	J	917,545
Total Budget	K	**$15,102,077**
Gross kW Saved at Customer	(J x I)	75,061 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**21,957 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	92,118,508 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**100,223,299 kWh**
Societal Net Benefits	(J x I x H)	**$24,840,960**

Utility Program Cost per kWh Lifetime	**$0.0166**
Utility Program Cost per kW at Gen	**$687.82**

RESIDENTIAL SEGMENT ENERGY EFFICIENCY TOTAL — 2016 ELECTRIC — ACTUAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$26,112,986	$26,112,986	$26,112,986	$26,112,986
T & D	N/A	$9,900,780	$9,900,780	$9,900,780	$9,900,780
Marginal Energy	N/A	$67,867,544	$67,867,544	$67,867,544	$67,867,544
Environmental Externality	N/A	N/A	N/A	N/A	$2,976,607
Subtotal	N/A	$103,881,309	$103,881,309	$103,881,309	$106,857,917
Participant Benefits					
Bill Reduction - Electric	$186,408,436	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$11,927,722	N/A	N/A	$11,927,722	$11,927,722
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$198,336,157	N/A	N/A	$11,927,722	$11,927,722
Total Benefits	$198,336,157	$103,881,309	$103,881,309	$115,809,031	$118,785,638
Costs					
Utility Project Costs					
Customer Services	N/A	$771,395	$771,395	$771,395	$771,395
Project Administration	N/A	$3,573,906	$3,573,906	$3,573,906	$3,573,906
Advertising & Promotion	N/A	$1,140,783	$1,140,783	$1,140,783	$1,140,783
Measurement & Verification	N/A	$441,148	$441,148	$441,148	$441,148
Rebates	N/A	$11,927,722	$11,927,722	$11,927,722	$11,927,722
Other	N/A	$16,990	$16,990	$16,990	$16,990
Subtotal	N/A	$17,871,944	$17,871,944	$17,871,944	$17,871,944
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$186,408,436	N/A	N/A
Subtotal	N/A	N/A	$186,408,436	N/A	N/A
Participant Costs					
Incremental Capital Costs	$47,185,110	N/A	N/A	$47,185,110	$47,185,110
Incremental O&M Costs	$797,635	N/A	N/A	$797,635	$797,635
Subtotal	$47,982,745	N/A	N/A	$47,982,745	$47,982,745
Total Costs	$47,982,745	$17,871,944	$204,280,380	$65,854,689	$65,854,689
Net Benefit (Cost)	$150,353,413	$86,009,365	($100,399,071)	$49,954,342	$52,930,949
Benefit/Cost Ratio	4.13	5.81	0.51	1.76	1.80

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	10.9 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	21.27%
Gross Load Factor at Customer	E	12.09%
Transmission Loss Factor (Energy)	F	8.101%
Transmission Loss Factor (Demand)	G	8.715%
Societal Net Benefit (Cost)	H	$323

Program Summary per Participant

Gross Realized kW Saved at Customer	I	0.07 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.02 kW
Gross Realized Annual kWh Saved at Customer	(B x E x I)	78 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	85 kWh

Program Summary All Participants

Total Participants	J	2,228,977
Total Budget	K	**$17,871,944**
Gross kW Saved at Customer	(J x I)	163,990 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**38,209 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	173,628,146 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**188,934,135 kWh**
Societal Net Benefits	(J x I x H)	**$52,930,949**

Utility Program Cost per kWh Lifetime	**$0.0087**
Utility Program Cost per kW at Gen	**$467.75**

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **Xcel Energy**
Project: **Residential Segment Energy Efficiency Total**

Input Data	**2016**
1) Retail Rate ($/Dth) =	$6.60
Escalation Rate =	4.28%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	2.80%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.34
Escalation Rate =	4.28%
4) Demand Cost ($/Unit/Yr) =	$74.00
Escalation Rate =	4.28%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0600
Escalation Rate =	4.28%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.027
Escalation Rate =	2.80%
8) Non-Gas Fuel Loss Factor	5.80%
9) Gas Environmental Damage Factor =	$0.3500
Escalation Rate =	1.73%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0213
Escalation Rate =	1.73%
11) Participant Discount Rate =	2.67%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.67%
14) General Input Data Year =	2012
15a) Project Analysis Year 1 =	2016
15b) Project Analysis Year 2 =	
15c) Project Analysis Year 3 =	

	2016
Administrative & Operating Costs =	$3,163,540
Incentive Costs =	$1,512,082
16) Total Utility Project Costs =	$4,675,622
17) Direct Participant Costs ($/Part.) =	$33
18) Participant Non-Energy Costs (Annual $/Part.) =	$0
Escalation Rate =	1.73%
19) Participant Non-Energy Savings (Annual $/Part) =	$3
Escalation Rate =	1.73%
20) Project Life (Years) =	11.5
21) Avg. Dth/Part. Saved =	0.98
22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh
23) Number of Participants =	181,340
24) Total Annual Dth Saved =	177,115
25) Incentive/Participant =	$8.34

Cost Summary	**2016**
Utility Cost per Participant =	$26
Cost per Participant per Dth =	$60.44
Lifetime Energy Reduction (Dth)	2,034,079
Societal Cost per Dth	$4.30

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($8,870,489)	0.54
Utility Cost Test	$5,659,090	2.21
Societal Test	$9,426,658	2.08
Participant Test	$21,643,609	4.59

Conservation Improvement Program (CIP) ACTUAL

BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **Xcel Energy**
Project: **Residential Segment Energy Efficiency Total**

Input Data	
1) Retail Rate ($/Dth) =	$6.60
Escalation Rate =	4.28%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	2.80%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.34
Escalation Rate =	4.28%
4) Demand Cost ($/Unit/Yr) =	$74.00
Escalation Rate =	4.28%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0600
Escalation Rate =	4.28%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.027
Escalation Rate =	2.80%
8) Non-Gas Fuel Loss Factor	5.80%
9) Gas Environmental Damage Factor =	$0.3500
Escalation Rate =	1.73%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0213
Escalation Rate =	1.73%
11) Participant Discount Rate =	2.67%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.67%
14) General Input Data Year =	2012
15a) Project Analysis Year 1 =	
15b) Project Analysis Year 2 =	
15c) Project Analysis Year 3 =	2016

			2016
Administrative & Operating Costs =	$0	$0	$3,166,620
Incentive Costs =	$0	$0	$2,781,032
16) Total Utility Project Costs =	$0	$0	$5,947,652
17) Direct Participant Costs ($/Part.) =	$0	$0	$87
18) Participant Non-Energy Costs (Annual $/Part.) =	$0	$0	$0
Escalation Rate =	1.73%	1.73%	1.73%
19) Participant Non-Energy Savings (Annual $/Part) =	$0	$0	$4
Escalation Rate =	1.73%	1.73%	1.73%
20) Project Life (Years) =	0.0	0.0	13.9
21) Avg. Dth/Part. Saved =	-	-	1.63
22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh	0 kWh	0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh	0 kWh	0 kWh
23) Number of Participants =	-	-	178,146
24) Total Annual Dth Saved =	0	0	290,238
25) Incentive/Participant =	$0.00	$0.00	$15.61

Cost Summary	**2016**
Utility Cost per Participant =	$33
Cost per Participant per Dth =	$74.11
Lifetime Energy Reduction (Dth)	4,032,981
Societal Cost per Dth	$4.64

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($13,795,738)	0.58
Utility Cost Test	$13,387,334	3.25
Societal Test	$13,186,810	1.70
Participant Test	$28,574,951	2.84

ENERGY EFFICIENT SHOWERHEADS — 2016 — ELECTRIC — GOAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$0	$0	$0	$0
T & D	N/A	$0	$0	$0	$0
Marginal Energy	N/A	$79,031	$79,031	$79,031	$79,031
Environmental Externality	N/A	N/A	N/A	N/A	$3,730
Subtotal	N/A	$79,031	$79,031	$79,031	$82,761
Participant Benefits					
Bill Reduction - Electric	$546,903	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$5,030	N/A	N/A	$5,030	$5,030
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$90,686	N/A	N/A	$90,686	$90,686
Subtotal	$642,619	N/A	N/A	$95,716	$95,716
Total Benefits	$642,619	$79,031	$79,031	$174,748	$178,477
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$8,947	$8,947	$8,947	$8,947
Advertising & Promotion	N/A	$1,601	$1,601	$1,601	$1,601
Measurement & Verification	N/A	$169	$169	$169	$169
Rebates	N/A	$5,030	$5,030	$5,030	$5,030
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$15,747	$15,747	$15,747	$15,747
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$546,903	N/A	N/A
Subtotal	N/A	N/A	$546,903	N/A	N/A
Participant Costs					
Incremental Capital Costs	$5,030	N/A	N/A	$5,030	$5,030
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$5,030	N/A	N/A	$5,030	$5,030
Total Costs	$5,030	$15,747	$562,650	$20,777	$20,777
Net Benefit (Cost)	$637,590	$63,284	($483,619)	$153,971	$157,701
Benefit/Cost Ratio	127.77	5.02	0.14	8.41	8.59

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	5.5 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	0.00%
Gross Load Factor at Customer	E	21.58%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$902

Program Summary per Participant		
Gross kW Saved at Customer	I	0.17 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.00 kW
Gross Annual kWh Saved at Customer	(B x E x I)	315 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	344 kWh

Program Summary All Participants		
Total Participants	J	1,050
Total Budget	K	**$15,747**
Gross kW Saved at Customer	(J x I)	175 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**0 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	330,476 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**360,781 kWh**
Societal Net Benefits	(J x I x H)	**$157,701**

Utility Program Cost per kWh Lifetime	**$0.0079**
Utility Program Cost per kW at Gen	**N/A**

ENERGY EFFICIENT SHOWERHEADS — 2016 ELECTRIC — ACTUAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$0	$0	$0	$0
T & D	N/A	$0	$0	$0	$0
Marginal Energy	N/A	$204,965	$204,965	$204,965	$204,965
Environmental Externality	N/A	N/A	N/A	N/A	$9,326
Subtotal	N/A	$204,965	$204,965	$204,965	$214,291
Participant Benefits					
Bill Reduction - Electric	$826,793	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$7,771	N/A	N/A	$7,771	$7,771
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$239,711	N/A	N/A	$239,711	$239,711
Subtotal	$1,074,275	N/A	N/A	$247,482	$247,482
Total Benefits	$1,074,275	$204,965	$204,965	$452,447	$461,773
Costs					
Utility Project Costs					
Customer Services	N/A	$6,489	$6,489	$6,489	$6,489
Project Administration	N/A	$2,727	$2,727	$2,727	$2,727
Advertising & Promotion	N/A	$300	$300	$300	$300
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$7,771	$7,771	$7,771	$7,771
Other	N/A	$8,419	$8,419	$8,419	$8,419
Subtotal	N/A	$25,706	$25,706	$25,706	$25,706
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$826,793	N/A	N/A
Subtotal	N/A	N/A	$826,793	N/A	N/A
Participant Costs					
Incremental Capital Costs	$7,771	N/A	N/A	$7,771	$7,771
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$7,771	N/A	N/A	$7,771	$7,771
Total Costs	$7,771	$25,706	$852,499	$33,478	$33,478
Net Benefit (Cost)	$1,066,503	$179,259	($647,534)	$418,970	$428,295
Benefit/Cost Ratio	138.24	7.97	0.24	13.51	13.79

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	5.7 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	0.00%
Gross Load Factor at Customer	E	1.85%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$83

Program Summary per Participant		
Gross Realized kW Saved at Customer	I	3.53 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.00 kW
Gross Realized Annual kWh Saved at Customer	(B x E x I)	572 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	625 kWh

Program Summary All Participants		
Total Participants	J	1,458
Total Budget	K	**$25,706**
Gross kW Saved at Customer	(J x I)	5,140 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**0 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	834,337 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**910,849 kWh**
Societal Net Benefits	(J x I x H)	**$428,295**

Utility Program Cost per kWh Lifetime	**$0.0049**
Utility Program Cost per kW at Gen	**N/A**

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **Xcel Energy**
Project: **Energy Efficient Showerheads**

Input Data	
1) Retail Rate ($/Dth) =	$7.23
Escalation Rate =	4.28%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	2.80%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.34
Escalation Rate =	4.28%
4) Demand Cost ($/Unit/Yr) =	$74.00
Escalation Rate =	4.28%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0600
Escalation Rate =	4.28%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.027
Escalation Rate =	2.80%
8) Non-Gas Fuel Loss Factor	5.80%
9) Gas Environmental Damage Factor =	$0.3500
Escalation Rate =	1.73%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0213
Escalation Rate =	1.73%
11) Participant Discount Rate =	2.67%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.67%
14) General Input Data Year =	2012
15a) Project Analysis Year 1 =	2016
15b) Project Analysis Year 2 =	
15c) Project Analysis Year 3 =	

	2016
Administrative & Operating Costs =	$124,305
Incentive Costs =	$66,821
16) Total Utility Project Costs =	$191,126
17) Direct Participant Costs ($/Part.) =	$5
18) Participant Non-Energy Costs (Annual $/Part.) =	$0
Escalation Rate =	1.73%
19) Participant Non-Energy Savings (Annual $/Part) =	$18
Escalation Rate =	1.73%
20) Project Life (Years) =	5.5
21) Avg. Dth/Part. Saved =	1.64
22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh
23) Number of Participants =	13,950
24) Total Annual Dth Saved =	22,852
25) Incentive/Participant =	$4.79

Cost Summary	**2016**
Utility Cost per Participant =	$14
Cost per Participant per Dth =	$11.29
Lifetime Energy Reduction (Dth)	126,709
Societal Cost per Dth	$1.51

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($485,802)	0.60
Utility Cost Test	$534,854	3.80
Societal Test	$1,985,326	11.39
Participant Test	$2,454,010	37.73

Conservation Improvement Program (CIP) ACTUAL

BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **Xcel Energy**
Project: **Energy Efficient Showerheads**

Input Data

1) Retail Rate ($/Dth) =	$7.23
Escalation Rate =	4.28%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	2.80%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.34
Escalation Rate =	4.28%
4) Demand Cost ($/Unit/Yr) =	$74.00
Escalation Rate =	4.28%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0600
Escalation Rate =	4.28%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.027
Escalation Rate =	2.80%
8) Non-Gas Fuel Loss Factor	5.80%
9) Gas Environmental Damage Factor =	$0.3500
Escalation Rate =	1.73%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0213
Escalation Rate =	1.73%
11) Participant Discount Rate =	2.67%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.67%
14) General Input Data Year =	2012
15a) Project Analysis Year 1 =	
15b) Project Analysis Year 2 =	
15c) Project Analysis Year 3 =	2016

			2016
Administrative & Operating Costs =	$0	$0	$84,129
Incentive Costs =	$0	$0	$57,451
16) Total Utility Project Costs =	$0	$0	$141,580
17) Direct Participant Costs ($/Part.) =	$0	$0	$5
18) Participant Non-Energy Costs (Annual $/Part.) =	$0	$0	$0
Escalation Rate =	1.73%	1.73%	1.73%
19) Participant Non-Energy Savings (Annual $/Part) =	$0	$0	$31
Escalation Rate =	1.73%	1.73%	1.73%
20) Project Life (Years) =	0.0	0.0	5.7
21) Avg. Dth/Part. Saved =	-	-	2.69
22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh	0 kWh	0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh	0 kWh	0 kWh
23) Number of Participants =	-	-	11,853
24) Total Annual Dth Saved =	0	0	31,906
25) Incentive/Participant =	$0.00	$0.00	$4.85

Cost Summary	2016
Utility Cost per Participant =	$12
Cost per Participant per Dth =	$6.23
Lifetime Energy Reduction (Dth)	181,868
Societal Cost per Dth	$0.78

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($546,413)	0.65
Utility Cost Test	$855,788	7.04
Societal Test	$3,060,362	22.63
Participant Test	$3,582,936	63.50

ENERGY FEEDBACK — 2016 ELECTRIC — GOAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$271,240	$271,240	$271,240	$271,240
T & D	N/A	$102,668	$102,668	$102,668	$102,668
Marginal Energy	N/A	$1,565,654	$1,565,654	$1,565,654	$1,565,654
Environmental Externality	N/A	N/A	N/A	N/A	$82,793
Subtotal	N/A	$1,939,561	$1,939,561	$1,939,561	$2,022,354
Participant Benefits					
Bill Reduction - Electric	$4,560,652	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$0	N/A	N/A	$0	$0
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$506,954	N/A	N/A	$0	$0
Subtotal	$5,067,606	N/A	N/A	$0	$0
Total Benefits	$5,067,606	$1,939,561	$1,939,561	$1,939,561	$2,022,354
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$1,488,293	$1,488,293	$1,488,293	$1,488,293
Advertising & Promotion	N/A	$2,500	$2,500	$2,500	$2,500
Measurement & Verification	N/A	$39,263	$39,263	$39,263	$39,263
Rebates	N/A	$0	$0	$0	$0
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$1,530,056	$1,530,056	$1,530,056	$1,530,056
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$4,560,652	N/A	N/A
Subtotal	N/A	N/A	$4,560,652	N/A	N/A
Participant Costs					
Incremental Capital Costs	$0	N/A	N/A	$0	$0
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$0	N/A	N/A	$0	$0
Total Costs	$0	$1,530,056	$6,090,708	$1,530,056	$1,530,056
Net Benefit (Cost)	$5,067,606	$409,505	($4,151,147)	$409,505	$492,297
Benefit/Cost Ratio	INF	1.27	0.32	1.27	1.32

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	3.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	68.00%
Gross Load Factor at Customer	E	100.00%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$379

Program Summary per Participant

Gross kW Saved at Customer	I	0.01 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.01 kW
Gross Annual kWh Saved at Customer	(B x E x I)	60 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	65 kWh

Program Summary All Participants

Total Participants	J	190,375
Total Budget	K	**$1,530,056**
Gross kW Saved at Customer	(J x I)	1,297 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**967 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	11,364,489 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**12,406,647 kWh**
Societal Net Benefits	(J x I x H)	**$492,297**

Utility Program Cost per kWh Lifetime	**$0.0411**
Utility Program Cost per kW at Gen	**$1,581.79**

ENERGY FEEDBACK — 2016 ELECTRIC — ACTUAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$1,039,252	$1,039,252	$1,039,252	$1,039,252
T & D	N/A	$394,065	$394,065	$394,065	$394,065
Marginal Energy	N/A	$1,996,429	$1,996,429	$1,996,429	$1,996,429
Environmental Externality	N/A	N/A	N/A	N/A	$98,527
Subtotal	N/A	$3,429,745	$3,429,745	$3,429,745	$3,528,272
Participant Benefits					
Bill Reduction - Electric	$5,993,140	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$0	N/A	N/A	$0	$0
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$5,993,140	N/A	N/A	$0	$0
Total Benefits	$5,993,140	$3,429,745	$3,429,745	$3,429,745	$3,528,272
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$1,278,941	$1,278,941	$1,278,941	$1,278,941
Advertising & Promotion	N/A	$4,700	$4,700	$4,700	$4,700
Measurement & Verification	N/A	$2,000	$2,000	$2,000	$2,000
Rebates	N/A	$0	$0	$0	$0
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$1,285,641	$1,285,641	$1,285,641	$1,285,641
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$5,993,140	N/A	N/A
Subtotal	N/A	N/A	$5,993,140	N/A	N/A
Participant Costs					
Incremental Capital Costs	$0	N/A	N/A	$0	$0
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$0	N/A	N/A	$0	$0
Total Costs	$0	$1,285,641	$7,278,780	$1,285,641	$1,285,641
Net Benefit (Cost)	$5,993,140	$2,144,104	($3,849,035)	$2,144,104	$2,242,631
Benefit/Cost Ratio	INF	2.67	0.47	2.67	2.74

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	3.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	93.12%
Gross Load Factor at Customer	E	46.89%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$617

Program Summary per Participant		
Gross Realized kW Saved at Customer	I	0.02 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.02 kW
Gross Realized Annual kWh Saved at Customer	(B x E x I)	80 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	87 kWh

Program Summary All Participants		
Total Participants	J	187,770
Total Budget	K	**$1,285,641**
Gross kW Saved at Customer	(J x I)	3,634 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**3,711 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	14,928,335 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**16,297,309 kWh**
Societal Net Benefits	(J x I x H)	**$2,242,631**

Utility Program Cost per kWh Lifetime	**$0.0263**
Utility Program Cost per kW at Gen	**$346.45**

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **Xcel Energy**
Project: **Energy Feedback**

Input Data	
1) Retail Rate ($/Dth) =	$7.23
Escalation Rate =	4.28%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	2.80%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.34
Escalation Rate =	4.28%
4) Demand Cost ($/Unit/Yr) =	$74.00
Escalation Rate =	4.28%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0600
Escalation Rate =	4.28%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.027
Escalation Rate =	2.80%
8) Non-Gas Fuel Loss Factor	5.80%
9) Gas Environmental Damage Factor =	$0.3500
Escalation Rate =	1.73%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0213
Escalation Rate =	1.73%
11) Participant Discount Rate =	2.67%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.67%
14) General Input Data Year =	2012
15a) Project Analysis Year 1 =	2016
15b) Project Analysis Year 2 =	
15c) Project Analysis Year 3 =	

	2016
Administrative & Operating Costs =	$399,534
Incentive Costs =	$0
16) Total Utility Project Costs =	$399,534
17) Direct Participant Costs ($/Part.) =	$0
18) Participant Non-Energy Costs (Annual $/Part.) =	$0
Escalation Rate =	1.73%
19) Participant Non-Energy Savings (Annual $/Part) =	$0
Escalation Rate =	1.73%
20) Project Life (Years) =	3.0
21) Avg. Dth/Part. Saved =	0.18
22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh
23) Number of Participants =	135,375
24) Total Annual Dth Saved =	24,566
25) Incentive/Participant =	$0.00

Cost Summary	**2016**
Utility Cost per Participant =	$3
Cost per Participant per Dth =	$16.26
Lifetime Energy Reduction (Dth)	73,697
Societal Cost per Dth	$5.42

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($581,352)	0.44
Utility Cost Test	$48,404	1.12
Societal Test	$76,030	1.19
Participant Test	$2,890,270	INF

Conservation Improvement Program (CIP) ACTUAL

BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **Xcel Energy**
Project: **Energy Feedback**

Input Data

1) Retail Rate ($/Dth) =	$7.23
Escalation Rate =	4.28%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	2.80%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.34
Escalation Rate =	4.28%
4) Demand Cost ($/Unit/Yr) =	$74.00
Escalation Rate =	4.28%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0600
Escalation Rate =	4.28%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.027
Escalation Rate =	2.80%
8) Non-Gas Fuel Loss Factor	5.80%
9) Gas Environmental Damage Factor =	$0.3500
Escalation Rate =	1.73%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0213
Escalation Rate =	1.73%
11) Participant Discount Rate =	2.67%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.67%
14) General Input Data Year =	2012
15a) Project Analysis Year 1 =	
15b) Project Analysis Year 2 =	
15c) Project Analysis Year 3 =	2016

			2016
Administrative & Operating Costs =	$0	$0	$553,267
Incentive Costs =	$0	$0	$0
16) Total Utility Project Costs =	$0	$0	$553,267
17) Direct Participant Costs ($/Part.) =	$0	$0	$0
18) Participant Non-Energy Costs (Annual $/Part.) =	$0	$0	$0
Escalation Rate =	1.73%	1.73%	1.73%
19) Participant Non-Energy Savings (Annual $/Part) =	$0	$0	$0
Escalation Rate =	1.73%	1.73%	1.73%
20) Project Life (Years) =	0.0	0.0	3.0
21) Avg. Dth/Part. Saved =	-	-	0.20
22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh	0 kWh	0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh	0 kWh	0 kWh
23) Number of Participants =	-	-	137,215
24) Total Annual Dth Saved =	0	0	27,717
25) Incentive/Participant =	$0.00	$0.00	$0.00

Cost Summary	2016
Utility Cost per Participant =	$4
Cost per Participant per Dth =	$19.96
Lifetime Energy Reduction (Dth)	83,150
Societal Cost per Dth	$6.65

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($749,987)	0.39
Utility Cost Test	($68,616)	0.88
Societal Test	($37,977)	0.93
Participant Test	$681,371	INF

ENERGY STAR HOMES — 2016 — ELECTRIC — GOAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$119,188	$119,188	$119,188	$119,188
T & D	N/A	$45,194	$45,194	$45,194	$45,194
Marginal Energy	N/A	$496,323	$496,323	$496,323	$496,323
Environmental Externality	N/A	N/A	N/A	N/A	$20,893
Subtotal	N/A	$660,705	$660,705	$660,705	$681,598
Participant Benefits					
Bill Reduction - Electric	$1,362,800	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$59,872	N/A	N/A	$59,872	$59,872
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$3,625,566	N/A	N/A	$2,860	$2,860
Subtotal	$5,048,238	N/A	N/A	$62,732	$62,732
Total Benefits	$5,048,238	$660,705	$660,705	$723,437	$744,330
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$52,773	$52,773	$52,773	$52,773
Advertising & Promotion	N/A	$60,000	$60,000	$60,000	$60,000
Measurement & Verification	N/A	$26,500	$26,500	$26,500	$26,500
Rebates	N/A	$59,872	$59,872	$59,872	$59,872
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$199,145	$199,145	$199,145	$199,145
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$1,362,800	N/A	N/A
Subtotal	N/A	N/A	$1,362,800	N/A	N/A
Participant Costs					
Incremental Capital Costs	$1,763,690	N/A	N/A	$211,450	$211,450
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$1,763,690	N/A	N/A	$211,450	$211,450
Total Costs	$1,763,690	$199,145	$1,561,945	$410,595	$410,595
Net Benefit (Cost)	$3,284,548	$461,560	($901,239)	$312,842	$333,735
Benefit/Cost Ratio	2.86	3.32	0.42	1.76	1.81

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	18.3 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	33.98%
Gross Load Factor at Customer	E	32.93%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$1,187

Program Summary per Participant

Gross kW Saved at Customer	I	0.33 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.12 kW
Gross Annual kWh Saved at Customer	(B x E x I)	943 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	1,030 kWh

Program Summary All Participants

Total Participants	J	860
Total Budget	K	**$199,145**
Gross kW Saved at Customer	(J x I)	281 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**105 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	811,370 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**885,775 kWh**
Societal Net Benefits	(J x I x H)	**$333,735**

Utility Program Cost per kWh Lifetime	**$0.0123**
Utility Program Cost per kW at Gen	**$1,900.67**

ENERGY STAR HOMES — 2016 ELECTRIC — ACTUAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$1,267,649	$1,267,649	$1,267,649	$1,267,649
T & D	N/A	$480,627	$480,627	$480,627	$480,627
Marginal Energy	N/A	$576,641	$576,641	$576,641	$576,641
Environmental Externality	N/A	N/A	N/A	N/A	$23,008
Subtotal	N/A	$2,324,917	$2,324,917	$2,324,917	$2,347,925
Participant Benefits					
Bill Reduction - Electric	$1,567,957	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$90,835	N/A	N/A	$90,835	$90,835
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$6,847	N/A	N/A	$6,847	$6,847
Subtotal	$1,665,639	N/A	N/A	$97,682	$97,682
Total Benefits	$1,665,639	$2,324,917	$2,324,917	$2,422,599	$2,445,607
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$29,416	$29,416	$29,416	$29,416
Advertising & Promotion	N/A	$65,937	$65,937	$65,937	$65,937
Measurement & Verification	N/A	$424,660	$424,660	$424,660	$424,660
Rebates	N/A	$90,835	$90,835	$90,835	$90,835
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$610,848	$610,848	$610,848	$610,848
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$1,567,957	N/A	N/A
Subtotal	N/A	N/A	$1,567,957	N/A	N/A
Participant Costs					
Incremental Capital Costs	$50,953	N/A	N/A	$50,953	$50,953
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$50,953	N/A	N/A	$50,953	$50,953
Total Costs	$50,953	$610,848	$2,178,805	$661,801	$661,801
Net Benefit (Cost)	$1,614,686	$1,714,069	$146,112	$1,760,798	$1,783,806
Benefit/Cost Ratio	32.69	3.81	1.07	3.66	3.70

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	19.3 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	82.55%
Gross Load Factor at Customer	E	8.79%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$1,544

Program Summary per Participant		
Gross Realized kW Saved at Customer	I	0.44 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.40 kW
Gross Realized Annual kWh Saved at Customer	(B x E x I)	341 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	372 kWh

Program Summary All Participants		
Total Participants	J	2,612
Total Budget	K	**$610,848**
Gross kW Saved at Customer	(J x I)	1,156 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**1,046 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	889,820 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**971,419 kWh**
Societal Net Benefits	(J x I x H)	**$1,783,806**

Utility Program Cost per kWh Lifetime	**$0.0326**
Utility Program Cost per kW at Gen	**$584.03**

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **Xcel Energy**
Project: **ENERGY STAR Homes**

Input Data	2016
1) Retail Rate ($/Dth) =	$7.23
Escalation Rate =	4.28%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	2.80%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.34
Escalation Rate =	4.28%
4) Demand Cost ($/Unit/Yr) =	$74.00
Escalation Rate =	4.28%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0600
Escalation Rate =	4.28%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.027
Escalation Rate =	2.80%
8) Non-Gas Fuel Loss Factor	5.80%
9) Gas Environmental Damage Factor =	$0.3500
Escalation Rate =	1.73%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0213
Escalation Rate =	1.73%
11) Participant Discount Rate =	2.67%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.67%
14) General Input Data Year =	2012
15a) Project Analysis Year 1 =	2016
15b) Project Analysis Year 2 =	
15c) Project Analysis Year 3 =	

	2016
Administrative & Operating Costs =	$751,745
Incentive Costs =	$23,378
16) Total Utility Project Costs =	$775,123
17) Direct Participant Costs ($/Part.) =	$2,874
18) Participant Non-Energy Costs (Annual $/Part.) =	$0
Escalation Rate =	1.73%
19) Participant Non-Energy Savings (Annual $/Part) =	$17
Escalation Rate =	1.73%
20) Project Life (Years) =	19.2
21) Avg. Dth/Part. Saved =	70.97
22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh
23) Number of Participants =	500
24) Total Annual Dth Saved =	35,485
25) Incentive/Participant =	$46.76

Cost Summary	2016
Utility Cost per Participant =	$1,550
Cost per Participant per Dth =	$62.34
Lifetime Energy Reduction (Dth)	680,077
Societal Cost per Dth	$3.12

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($2,107,275)	0.61
Utility Cost Test	$2,506,842	4.23
Societal Test	$2,968,645	2.40
Participant Test	$5,917,276	5.12

Conservation Improvement Program (CIP) ACTUAL

BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **Xcel Energy**
Project: **ENERGY STAR Homes**

Input Data

1) Retail Rate ($/Dth) =	$7.23
Escalation Rate =	4.28%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	2.80%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.34
Escalation Rate =	4.28%
4) Demand Cost ($/Unit/Yr) =	$74.00
Escalation Rate =	4.28%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0600
Escalation Rate =	4.28%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.027
Escalation Rate =	2.80%
8) Non-Gas Fuel Loss Factor	5.80%
9) Gas Environmental Damage Factor =	$0.3500
Escalation Rate =	1.73%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0213
Escalation Rate =	1.73%
11) Participant Discount Rate =	2.67%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.67%
14) General Input Data Year =	2012
15a) Project Analysis Year 1 =	
15b) Project Analysis Year 2 =	
15c) Project Analysis Year 3 =	2016

			2016
Administrative & Operating Costs =	$0	$0	$1,332,209
Incentive Costs =	$0	$0	$196,725
16) Total Utility Project Costs =	$0	$0	$1,528,934
17) Direct Participant Costs ($/Part.) =	$0	$0	$2,615
18) Participant Non-Energy Costs (Annual $/Part.) =	$0	$0	$0
Escalation Rate =	1.73%	1.73%	1.73%
19) Participant Non-Energy Savings (Annual $/Part) =	$0	$0	$1
Escalation Rate =	1.73%	1.73%	1.73%
20) Project Life (Years) =	0.0	0.0	20.0
21) Avg. Dth/Part. Saved =	-	-	27.98
22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh	0 kWh	0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh	0 kWh	0 kWh
23) Number of Participants =	-	-	1,503
24) Total Annual Dth Saved =	0	0	42,053
25) Incentive/Participant =	$0.00	$0.00	$130.89

Cost Summary	2016
Utility Cost per Participant =	$1,017
Cost per Participant per Dth =	$129.82
Lifetime Energy Reduction (Dth)	840,317
Societal Cost per Dth	$6.26

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($3,097,926)	0.56
Utility Cost Test	$2,336,523	2.53
Societal Test	$740,370	1.14
Participant Test	$4,299,031	2.09

HEATING SYSTEM REBATES — 2016 — ELECTRIC — GOAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$1,533,630	$1,533,630	$1,533,630	$1,533,630
T & D	N/A	$581,490	$581,490	$581,490	$581,490
Marginal Energy	N/A	$3,240,090	$3,240,090	$3,240,090	$3,240,090
Environmental Externality	N/A	N/A	N/A	N/A	$112,070
Subtotal	N/A	$5,355,210	$5,355,210	$5,355,210	$5,467,280
Participant Benefits					
Bill Reduction - Electric	$8,047,970	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$700,000	N/A	N/A	$700,000	$700,000
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$8,747,970	N/A	N/A	$700,000	$700,000
Total Benefits	$8,747,970	$5,355,210	$5,355,210	$6,055,210	$6,167,280
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$37,870	$37,870	$37,870	$37,870
Advertising & Promotion	N/A	$1,600	$1,600	$1,600	$1,600
Measurement & Verification	N/A	$20,000	$20,000	$20,000	$20,000
Rebates	N/A	$700,000	$700,000	$700,000	$700,000
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$759,470	$759,470	$759,470	$759,470
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$8,047,970	N/A	N/A
Subtotal	N/A	N/A	$8,047,970	N/A	N/A
Participant Costs					
Incremental Capital Costs	$3,250,320	N/A	N/A	$3,250,320	$3,250,320
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$3,250,320	N/A	N/A	$3,250,320	$3,250,320
Total Costs	$3,250,320	$759,470	$8,807,440	$4,009,790	$4,009,790
Net Benefit (Cost)	$5,497,650	$4,595,740	($3,452,230)	$2,045,420	$2,157,490
Benefit/Cost Ratio	2.69	7.05	0.61	1.51	1.54

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	18.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	70.00%
Gross Load Factor at Customer	E	28.35%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$1,233

Program Summary per Participant		
Gross kW Saved at Customer	I	0.25 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.19 kW
Gross Annual kWh Saved at Customer	(B x E x I)	621 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	678 kWh

Program Summary All Participants		
Total Participants	J	7,000
Total Budget	K	**$759,470**
Gross kW Saved at Customer	(J x I)	1,750 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**1,343 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	4,346,661 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**4,745,263 kWh**
Societal Net Benefits	(J x I x H)	**$2,157,490**

Utility Program Cost per kWh Lifetime	**$0.0089**
Utility Program Cost per kW at Gen	**$565.42**

HEATING SYSTEM REBATES — 2016 ELECTRIC — ACTUAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$2,121,965	$2,121,965	$2,121,965	$2,121,965
T & D	N/A	$804,536	$804,536	$804,536	$804,536
Marginal Energy	N/A	$5,873,890	$5,873,890	$5,873,890	$5,873,890
Environmental Externality	N/A	N/A	N/A	N/A	$196,027
Subtotal	N/A	$8,800,391	$8,800,391	$8,800,391	$8,996,418
Participant Benefits					
Bill Reduction - Electric	$14,588,020	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$1,123,650	N/A	N/A	$1,123,650	$1,123,650
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$15,711,670	N/A	N/A	$1,123,650	$1,123,650
Total Benefits	$15,711,670	$8,800,391	$8,800,391	$9,924,041	$10,120,068
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$38,798	$38,798	$38,798	$38,798
Advertising & Promotion	N/A	$4,957	$4,957	$4,957	$4,957
Measurement & Verification	N/A	$12,587	$12,587	$12,587	$12,587
Rebates	N/A	$1,123,650	$1,123,650	$1,123,650	$1,123,650
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$1,179,993	$1,179,993	$1,179,993	$1,179,993
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$14,588,020	N/A	N/A
Subtotal	N/A	N/A	$14,588,020	N/A	N/A
Participant Costs					
Incremental Capital Costs	$3,017,469	N/A	N/A	$3,017,469	$3,017,469
Incremental O&M Costs	$1,239,946	N/A	N/A	$1,239,946	$1,239,946
Subtotal	$4,257,415	N/A	N/A	$4,257,415	$4,257,415
Total Costs	$4,257,415	$1,179,993	$15,768,013	$5,437,408	$5,437,408
Net Benefit (Cost)	$11,454,255	$7,620,398	($6,967,622)	$4,486,633	$4,682,660
Benefit/Cost Ratio	3.69	7.46	0.56	1.83	1.86

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	18.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	80.33%
Gross Load Factor at Customer	E	42.80%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$2,222

Program Summary per Participant		
Gross Realized kW Saved at Customer	I	0.19 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.17 kW
Gross Realized Annual kWh Saved at Customer	(B x E x I)	704 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	768 kWh

Program Summary All Participants		
Total Participants	J	11,231
Total Budget	K	**$1,179,993**
Gross kW Saved at Customer	(J x I)	2,108 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**1,857 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	7,902,541 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**8,627,228 kWh**
Societal Net Benefits	(J x I x H)	**$4,682,660**

Utility Program Cost per kWh Lifetime	**$0.0076**
Utility Program Cost per kW at Gen	**$635.57**

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **Xcel Energy**
Project: **Heating System Rebates**

Input Data	2016
1) Retail Rate ($/Dth) =	$7.23
Escalation Rate =	4.28%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	2.80%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.34
Escalation Rate =	4.28%
4) Demand Cost ($/Unit/Yr) =	$74.00
Escalation Rate =	4.28%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0600
Escalation Rate =	4.28%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.027
Escalation Rate =	2.80%
8) Non-Gas Fuel Loss Factor	5.80%
9) Gas Environmental Damage Factor =	$0.3500
Escalation Rate =	1.73%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0213
Escalation Rate =	1.73%
11) Participant Discount Rate =	2.67%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.67%
14) General Input Data Year =	2012
15a) Project Analysis Year 1 =	2016
15b) Project Analysis Year 2 =	
15c) Project Analysis Year 3 =	

	2016
Administrative & Operating Costs =	$433,809
Incentive Costs =	$766,350
16) Total Utility Project Costs =	$1,200,159
17) Direct Participant Costs ($/Part.) =	$243
18) Participant Non-Energy Costs (Annual $/Part.) =	$0
Escalation Rate =	1.73%
19) Participant Non-Energy Savings (Annual $/Part) =	$0
Escalation Rate =	1.73%
20) Project Life (Years) =	18.2
21) Avg. Dth/Part. Saved =	3.07
22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh
23) Number of Participants =	5,777
24) Total Annual Dth Saved =	17,736
25) Incentive/Participant =	$132.66

Cost Summary	2016
Utility Cost per Participant =	$208
Cost per Participant per Dth =	$146.80
Lifetime Energy Reduction (Dth)	323,205
Societal Cost per Dth	$5.68

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($1,842,778)	0.46
Utility Cost Test	$383,032	1.32
Societal Test	$528,804	1.29
Participant Test	$2,531,852	2.80

Conservation Improvement Program (CIP) ACTUAL

BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **Xcel Energy**
Project: **Heating System Rebates**

Input Data

1) Retail Rate ($/Dth) =	$7.23
Escalation Rate =	4.28%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	2.80%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.34
Escalation Rate =	4.28%
4) Demand Cost ($/Unit/Yr) =	$74.00
Escalation Rate =	4.28%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0600
Escalation Rate =	4.28%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.027
Escalation Rate =	2.80%
8) Non-Gas Fuel Loss Factor	5.80%
9) Gas Environmental Damage Factor =	$0.3500
Escalation Rate =	1.73%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0213
Escalation Rate =	1.73%
11) Participant Discount Rate =	2.67%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.67%
14) General Input Data Year =	2012
15a) Project Analysis Year 1 =	
15b) Project Analysis Year 2 =	
15c) Project Analysis Year 3 =	2016

			2016
Administrative & Operating Costs =	$0	$0	$187,769
Incentive Costs =	$0	$0	$1,986,550
16) Total Utility Project Costs =	$0	$0	$2,174,319
17) Direct Participant Costs ($/Part.) =	$0	$0	$1,194
18) Participant Non-Energy Costs (Annual $/Part.) =	$0	$0	$0
Escalation Rate =	1.73%	1.73%	1.73%
19) Participant Non-Energy Savings (Annual $/Part) =	$0	$0	$0
Escalation Rate =	1.73%	1.73%	1.73%
20) Project Life (Years) =	0.0	0.0	18.1
21) Avg. Dth/Part. Saved =	-	-	16.71
22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh	0 kWh	0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh	0 kWh	0 kWh
23) Number of Participants =	-	-	7,617
24) Total Annual Dth Saved =	0	0	127,284
25) Incentive/Participant =	$0.00	$0.00	$260.80

Cost Summary	**2016**
Utility Cost per Participant =	$285
Cost per Participant per Dth =	$88.54
Lifetime Energy Reduction (Dth)	2,301,572
Societal Cost per Dth	$4.03

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($6,570,653)	0.62
Utility Cost Test	$8,656,738	4.98
Societal Test	$6,875,552	1.74
Participant Test	$14,505,039	2.59

HOME ENERGY SQUAD 2016 ELECTRIC GOAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$440,556	$440,556	$440,556	$440,556
T & D	N/A	$166,772	$166,772	$166,772	$166,772
Marginal Energy	N/A	$963,023	$963,023	$963,023	$963,023
Environmental Externality	N/A	N/A	N/A	N/A	$43,512
Subtotal	N/A	$1,570,352	$1,570,352	$1,570,352	$1,613,864
Participant Benefits					
Bill Reduction - Electric	$2,586,502	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$0	N/A	N/A	$0	$0
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$129,366	N/A	N/A	$126,002	$126,002
Subtotal	$2,715,868	N/A	N/A	$126,002	$126,002
Total Benefits	$2,715,868	$1,570,352	$1,570,352	$1,696,354	$1,739,866
Costs					
Utility Project Costs					
Customer Services	N/A	$589,700	$589,700	$589,700	$589,700
Project Administration	N/A	$195,052	$195,052	$195,052	$195,052
Advertising & Promotion	N/A	$403,000	$403,000	$403,000	$403,000
Measurement & Verification	N/A	$51,806	$51,806	$51,806	$51,806
Rebates	N/A	$0	$0	$0	$0
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$1,239,558	$1,239,558	$1,239,558	$1,239,558
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$2,586,502	N/A	N/A
Subtotal	N/A	N/A	$2,586,502	N/A	N/A
Participant Costs					
Incremental Capital Costs	$186,212	N/A	N/A	$185,954	$185,954
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$186,212	N/A	N/A	$185,954	$185,954
Total Costs	$186,212	$1,239,558	$3,826,060	$1,425,512	$1,425,512
Net Benefit (Cost)	$2,529,655	$330,794	($2,255,708)	$270,842	$314,354
Benefit/Cost Ratio	14.58	1.27	0.41	1.19	1.22

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	11.5 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	16.75%
Gross Load Factor at Customer	E	8.52%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$107

Program Summary per Participant		
Gross kW Saved at Customer	I	0.53 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.10 kW
Gross Annual kWh Saved at Customer	(B x E x I)	397 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	434 kWh

Program Summary All Participants		
Total Participants	J	5,499
Total Budget	K	**$1,239,558**
Gross kW Saved at Customer	(J x I)	2,925 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**537 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	2,184,390 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**2,384,706 kWh**
Societal Net Benefits	(J x I x H)	**$314,354**

Utility Program Cost per kWh Lifetime	**$0.0453**
Utility Program Cost per kW at Gen	**$2,306.90**

HOME ENERGY SQUAD — 2016 ELECTRIC — ACTUAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$1,721,938	$1,721,938	$1,721,938	$1,721,938
T & D	N/A	$652,877	$652,877	$652,877	$652,877
Marginal Energy	N/A	$1,702,277	$1,702,277	$1,702,277	$1,702,277
Environmental Externality	N/A	N/A	N/A	N/A	$73,369
Subtotal	N/A	$4,077,092	$4,077,092	$4,077,092	$4,150,461
Participant Benefits					
Bill Reduction - Electric	$4,419,601	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$0	N/A	N/A	$0	$0
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$131,308	N/A	N/A	$131,308	$131,308
Subtotal	$4,550,910	N/A	N/A	$131,308	$131,308
Total Benefits	$4,550,910	$4,077,092	$4,077,092	$4,208,400	$4,281,769
Costs					
Utility Project Costs					
Customer Services	N/A	$264	$264	$264	$264
Project Administration	N/A	$1,010,615	$1,010,615	$1,010,615	$1,010,615
Advertising & Promotion	N/A	$255,691	$255,691	$255,691	$255,691
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$0	$0	$0	$0
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$1,266,570	$1,266,570	$1,266,570	$1,266,570
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$4,419,601	N/A	N/A
Subtotal	N/A	N/A	$4,419,601	N/A	N/A
Participant Costs					
Incremental Capital Costs	$309,764	N/A	N/A	$309,764	$309,764
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$309,764	N/A	N/A	$309,764	$309,764
Total Costs	$309,764	$1,266,570	$5,686,171	$1,576,334	$1,576,334
Net Benefit (Cost)	$4,241,146	$2,810,521	($1,609,080)	$2,632,066	$2,705,436
Benefit/Cost Ratio	14.69	3.22	0.72	2.67	2.72

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	11.9 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	30.09%
Gross Load Factor at Customer	E	6.90%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$436

Program Summary per Participant		
Gross Realized kW Saved at Customer	I	1.33 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.44 kW
Gross Realized Annual kWh Saved at Customer	(B x E x I)	802 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	875 kWh

Program Summary All Participants		
Total Participants	J	4,680
Total Budget	K	**$1,266,570**
Gross kW Saved at Customer	(J x I)	6,205 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**2,047 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	3,751,131 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**4,095,121 kWh**
Societal Net Benefits	(J x I x H)	**$2,705,436**

Utility Program Cost per kWh Lifetime	**$0.0259**
Utility Program Cost per kW at Gen	**$618.77**

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **Xcel Energy**
Project: **Home Energy Squad**

Input Data	2016
1) Retail Rate ($/Dth) =	$7.23
Escalation Rate =	4.28%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	2.80%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.34
Escalation Rate =	4.28%
4) Demand Cost ($/Unit/Yr) =	$74.00
Escalation Rate =	4.28%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0600
Escalation Rate =	4.28%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.027
Escalation Rate =	2.80%
8) Non-Gas Fuel Loss Factor	5.80%
9) Gas Environmental Damage Factor =	$0.3500
Escalation Rate =	1.73%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0213
Escalation Rate =	1.73%
11) Participant Discount Rate =	2.67%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.67%
14) General Input Data Year =	2012
15a) Project Analysis Year 1 =	2016
15b) Project Analysis Year 2 =	
15c) Project Analysis Year 3 =	

	2016
Administrative & Operating Costs =	$808,680
Incentive Costs =	$0
16) Total Utility Project Costs =	$808,680
17) Direct Participant Costs ($/Part.) =	$55
18) Participant Non-Energy Costs (Annual $/Part.) =	$0
Escalation Rate =	1.73%
19) Participant Non-Energy Savings (Annual $/Part) =	$37
Escalation Rate =	1.73%
20) Project Life (Years) =	7.9
21) Avg. Dth/Part. Saved =	9.44
22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh
23) Number of Participants =	3,000
24) Total Annual Dth Saved =	28,328
25) Incentive/Participant =	$0.00

Cost Summary	2016
Utility Cost per Participant =	$270
Cost per Participant per Dth =	$34.37
Lifetime Energy Reduction (Dth)	224,284
Societal Cost per Dth	$4.34

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($1,314,984)	0.49
Utility Cost Test	$438,678	1.54
Societal Test	$1,341,758	2.38
Participant Test	$2,662,130	17.15

Conservation Improvement Program (CIP) ACTUAL

BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **Xcel Energy**
Project: **Home Energy Squad**

Input Data

1) Retail Rate ($/Dth) =	$7.23
Escalation Rate =	4.28%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	2.80%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.34
Escalation Rate =	4.28%
4) Demand Cost ($/Unit/Yr) =	$74.00
Escalation Rate =	4.28%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0600
Escalation Rate =	4.28%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.027
Escalation Rate =	2.80%
8) Non-Gas Fuel Loss Factor	5.80%
9) Gas Environmental Damage Factor =	$0.3500
Escalation Rate =	1.73%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0213
Escalation Rate =	1.73%
11) Participant Discount Rate =	2.67%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.67%
14) General Input Data Year =	2012
15a) Project Analysis Year 1 =	
15b) Project Analysis Year 2 =	
15c) Project Analysis Year 3 =	2016

			2016
Administrative & Operating Costs =	$0	$0	$568,235
Incentive Costs =	$0	$0	$0
16) Total Utility Project Costs =	$0	$0	$568,235
17) Direct Participant Costs ($/Part.) =	$0	$0	$39
18) Participant Non-Energy Costs (Annual $/Part.) =	$0	$0	$0
Escalation Rate =	1.73%	1.73%	1.73%
19) Participant Non-Energy Savings (Annual $/Part) =	$0	$0	$45
Escalation Rate =	1.73%	1.73%	1.73%
20) Project Life (Years) =	0.0	0.0	8.3
21) Avg. Dth/Part. Saved =	-	-	10.99
22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh	0 kWh	0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh	0 kWh	0 kWh
23) Number of Participants =	-	-	2,313
24) Total Annual Dth Saved =	0	0	25,409
25) Incentive/Participant =	$0.00	$0.00	$0.00

Cost Summary	2016
Utility Cost per Participant =	$246
Cost per Participant per Dth =	$25.93
Lifetime Energy Reduction (Dth)	211,962
Societal Cost per Dth	$3.11

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($1,024,176)	0.52
Utility Cost Test	$555,046	1.98
Societal Test	$1,519,299	3.31
Participant Test	$2,543,833	29.06

HOME LIGHTING 2016 ELECTRIC GOAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$4,470,498	$4,470,498	$4,470,498	$4,470,498
T & D	N/A	$1,686,839	$1,686,839	$1,686,839	$1,686,839
Marginal Energy	N/A	$19,877,916	$19,877,916	$19,877,916	$19,877,916
Environmental Externality	N/A	N/A	N/A	N/A	$933,061
Subtotal	N/A	$26,035,252	$26,035,252	$26,035,252	$26,968,313
Participant Benefits					
Bill Reduction - Electric	$55,706,446	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$3,001,312	N/A	N/A	$3,001,312	$3,001,312
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$58,707,757	N/A	N/A	$3,001,312	$3,001,312
Total Benefits	$58,707,757	$26,035,252	$26,035,252	$29,036,564	$29,969,625
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$534,564	$534,564	$534,564	$534,564
Advertising & Promotion	N/A	$1,296,557	$1,296,557	$1,296,557	$1,296,557
Measurement & Verification	N/A	$25,000	$25,000	$25,000	$25,000
Rebates	N/A	$3,001,312	$3,001,312	$3,001,312	$3,001,312
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$4,857,433	$4,857,433	$4,857,433	$4,857,433
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$55,706,446	N/A	N/A
Subtotal	N/A	N/A	$55,706,446	N/A	N/A
Participant Costs					
Incremental Capital Costs	$7,850,057	N/A	N/A	$7,850,057	$7,850,057
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$7,850,057	N/A	N/A	$7,850,057	$7,850,057
Total Costs	$7,850,057	$4,857,433	$60,563,878	$12,707,490	$12,707,490
Net Benefit (Cost)	$50,857,700	$21,177,820	($34,528,626)	$16,329,074	$17,262,135
Benefit/Cost Ratio	7.48	5.36	0.43	2.28	2.36

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	9.4 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	13.98%
Gross Load Factor at Customer	E	12.16%
Transmission Loss Factor (Energy)	F	7.912%
Transmission Loss Factor (Demand)	G	8.661%
Societal Net Benefit (Cost)	H	$310

Program Summary per Participant

Gross kW Saved at Customer	I	0.08 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.01 kW
Gross Annual kWh Saved at Customer	(B x E x I)	88 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	95 kWh

Program Summary All Participants

Total Participants	J	675,611
Total Budget	K	**$4,857,433**
Gross kW Saved at Customer	(J x I)	55,664 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**8,520 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	59,282,645 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**64,376,286 kWh**
Societal Net Benefits	(J x I x H)	**$17,262,135**

Utility Program Cost per kWh Lifetime	**$0.0080**
Utility Program Cost per kW at Gen	**$570.13**

HOME LIGHTING — 2016 ELECTRIC — ACTUAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$12,286,144	$12,286,144	$12,286,144	$12,286,144
T & D	N/A	$4,658,270	$4,658,270	$4,658,270	$4,658,270
Marginal Energy	N/A	$52,407,169	$52,407,169	$52,407,169	$52,407,169
Environmental Externality	N/A	N/A	N/A	N/A	$2,374,682
Subtotal	N/A	$69,351,582	$69,351,582	$69,351,582	$71,726,264
Participant Benefits					
Bill Reduction - Electric	$144,589,084	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$6,489,779	N/A	N/A	$6,489,779	$6,489,779
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$151,078,863	N/A	N/A	$6,489,779	$6,489,779
Total Benefits	$151,078,863	$69,351,582	$69,351,582	$75,841,362	$78,216,043
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$565,780	$565,780	$565,780	$565,780
Advertising & Promotion	N/A	$662,347	$662,347	$662,347	$662,347
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$6,489,779	$6,489,779	$6,489,779	$6,489,779
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$7,717,907	$7,717,907	$7,717,907	$7,717,907
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$144,589,084	N/A	N/A
Subtotal	N/A	N/A	$144,589,084	N/A	N/A
Participant Costs					
Incremental Capital Costs	$35,128,205	N/A	N/A	$35,128,205	$35,128,205
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$35,128,205	N/A	N/A	$35,128,205	$35,128,205
Total Costs	$35,128,205	$7,717,907	$152,306,991	$42,846,112	$42,846,112
Net Benefit (Cost)	$115,950,659	$61,633,676	($82,955,408)	$32,995,250	$35,369,932
Benefit/Cost Ratio	4.30	8.99	0.46	1.77	1.83

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	11.5 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	12.56%
Gross Load Factor at Customer	E	11.54%
Transmission Loss Factor (Energy)	F	8.008%
Transmission Loss Factor (Demand)	G	8.694%
Societal Net Benefit (Cost)	H	$270

Program Summary per Participant

Gross Realized kW Saved at Customer	I	0.07 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.01 kW
Gross Realized Annual kWh Saved at Customer	(B x E x I)	67 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	72 kWh

Program Summary All Participants

Total Participants	J	1,990,497
Total Budget	K	**$7,717,907**
Gross kW Saved at Customer	(J x I)	131,167 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**18,045 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	132,625,447 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**144,171,363 kWh**
Societal Net Benefits	(J x I x H)	**$35,369,932**

Utility Program Cost per kWh Lifetime	**$0.0046**
Utility Program Cost per kW at Gen	**$427.71**

HOME PERFORMANCE WITH ENERGY STAR® 2016 ELECTRIC GOAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$139,934	$139,934	$139,934	$139,934
T & D	N/A	$53,049	$53,049	$53,049	$53,049
Marginal Energy	N/A	$81,796	$81,796	$81,796	$81,796
Environmental Externality	N/A	N/A	N/A	N/A	$3,222
Subtotal	N/A	$274,779	$274,779	$274,779	$278,001
Participant Benefits					
Bill Reduction - Electric	$218,823	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$34,377	N/A	N/A	$34,377	$34,377
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$748,814	N/A	N/A	$1,693	$1,693
Subtotal	$1,002,014	N/A	N/A	$36,070	$36,070
Total Benefits	$1,002,014	$274,779	$274,779	$310,849	$314,070
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$32,932	$32,932	$32,932	$32,932
Advertising & Promotion	N/A	$10,186	$10,186	$10,186	$10,186
Measurement & Verification	N/A	$18,000	$18,000	$18,000	$18,000
Rebates	N/A	$34,377	$34,377	$34,377	$34,377
Other	N/A	$4,500	$4,500	$4,500	$4,500
Subtotal	N/A	$99,995	$99,995	$99,995	$99,995
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$218,823	N/A	N/A
Subtotal	N/A	N/A	$218,823	N/A	N/A
Participant Costs					
Incremental Capital Costs	$735,590	N/A	N/A	$132,982	$132,982
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$735,590	N/A	N/A	$132,982	$132,982
Total Costs	$735,590	$99,995	$318,818	$232,977	$232,977
Net Benefit (Cost)	$266,424	$174,784	($44,039)	$77,871	$81,093
Benefit/Cost Ratio	1.36	2.75	0.86	1.33	1.35

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	14.8 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	62.91%
Gross Load Factor at Customer	E	8.18%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$406

Program Summary per Participant

Gross kW Saved at Customer	I	0.89 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.61 kW
Gross Annual kWh Saved at Customer	(B x E x I)	636 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	695 kWh

Program Summary All Participants

Total Participants	J	225
Total Budget	K	**$99,995**
Gross kW Saved at Customer	(J x I)	200 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**138 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	143,194 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**156,325 kWh**
Societal Net Benefits	(J x I x H)	**$81,093**

Utility Program Cost per kWh Lifetime	**$0.0432**
Utility Program Cost per kW at Gen	**$725.27**

HOME PERFORMANCE WITH ENERGY STAR® 2016 ELECTRIC ACTUAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$61,064	$61,064	$61,064	$61,064
T & D	N/A	$23,152	$23,152	$23,152	$23,152
Marginal Energy	N/A	$51,405	$51,405	$51,405	$51,405
Environmental Externality	N/A	N/A	N/A	N/A	$1,955
Subtotal	N/A	$135,621	$135,621	$135,621	$137,576
Participant Benefits					
Bill Reduction - Electric	$140,194	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$17,849	N/A	N/A	$17,849	$17,849
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$158,043	N/A	N/A	$17,849	$17,849
Total Benefits	$158,043	$135,621	$135,621	$153,470	$155,425
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$28,172	$28,172	$28,172	$28,172
Advertising & Promotion	N/A	$6,385	$6,385	$6,385	$6,385
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$17,849	$17,849	$17,849	$17,849
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$52,407	$52,407	$52,407	$52,407
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$140,194	N/A	N/A
Subtotal	N/A	N/A	$140,194	N/A	N/A
Participant Costs					
Incremental Capital Costs	$72,220	N/A	N/A	$72,220	$72,220
Incremental O&M Costs	$1,572	N/A	N/A	$1,572	$1,572
Subtotal	$73,792	N/A	N/A	$73,792	$73,792
Total Costs	$73,792	$52,407	$192,600	$126,199	$126,199
Net Benefit (Cost)	$84,251	$83,215	($56,979)	$27,272	$29,227
Benefit/Cost Ratio	2.14	2.59	0.70	1.22	1.23

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	17.4 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	47.03%
Gross Load Factor at Customer	E	8.35%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$265

Program Summary per Participant		
Gross Realized kW Saved at Customer	I	0.91 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.47 kW
Gross Realized Annual kWh Saved at Customer	(B x E x I)	667 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	728 kWh

Program Summary All Participants		
Total Participants	J	121
Total Budget	K	**$52,407**
Gross kW Saved at Customer	(J x I)	110 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**57 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	80,742 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**88,146 kWh**
Societal Net Benefits	(J x I x H)	**$29,227**

Utility Program Cost per kWh Lifetime	**$0.0341**
Utility Program Cost per kW at Gen	**$920.94**

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **Xcel Energy**
Project: **Home Performance with ENERGY STAR®**

Input Data		**2016**
1) Retail Rate ($/Dth) =	$7.23	
Escalation Rate =	4.28%	
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000	
Escalation Rate =	2.80%	
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh	
3) Commodity Cost ($/Dth) =	$4.34	
Escalation Rate =	4.28%	
4) Demand Cost ($/Unit/Yr) =	$74.00	
Escalation Rate =	4.28%	
5) Peak Reduction Factor =	1.00%	
6) Variable O&M ($/Dth) =	$0.0600	
Escalation Rate =	4.28%	
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.027	
Escalation Rate =	2.80%	
8) Non-Gas Fuel Loss Factor	5.80%	
9) Gas Environmental Damage Factor =	$0.3500	
Escalation Rate =	1.73%	
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) :	$0.0213	
Escalation Rate =	1.73%	
11) Participant Discount Rate =	2.67%	
12) Utility Discount Rate =	7.04%	
13) Societal Discount Rate =	2.67%	
14) General Input Data Year =	2012	
15a) Project Analysis Year 1 =	2016	
15b) Project Analysis Year 2 =		
15c) Project Analysis Year 3 =		
Administrative & Operating Costs =		$166,267
Incentive Costs =		$110,926
16) Total Utility Project Costs =		$277,193
17) Direct Participant Costs ($/Part.) =		$2,773
18) Participant Non-Energy Costs (Annual $/Part.) =		$0
Escalation Rate =		1.73%
19) Participant Non-Energy Savings (Annual $/Part) =		$5
Escalation Rate =		1.73%
20) Project Life (Years) =		17.0
21) Avg. Dth/Part. Saved =		32.26
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =		0 kWh
23) Number of Participants =		225
24) Total Annual Dth Saved =		7,259
25) Incentive/Participant =		$493.00

Cost Summary	**2016**
Utility Cost per Participant =	$1,232
Cost per Participant per Dth =	$124.13
Lifetime Energy Reduction (Dth)	123,489
Societal Cost per Dth	$5.68

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($521,682)	0.54
Utility Cost Test	$325,143	2.17
Societal Test	$215,295	1.31
Participant Test	$778,398	2.25

Conservation Improvement Program (CIP) ACTUAL

BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **Xcel Energy**
Project: **Home Performance with ENERGY STAR®**

Input Data	
1) Retail Rate ($/Dth) =	$7.23
Escalation Rate =	4.28%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	2.80%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.34
Escalation Rate =	4.28%
4) Demand Cost ($/Unit/Yr) =	$74.00
Escalation Rate =	4.28%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0600
Escalation Rate =	4.28%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.027
Escalation Rate =	2.80%
8) Non-Gas Fuel Loss Factor	5.80%
9) Gas Environmental Damage Factor =	$0.3500
Escalation Rate =	1.73%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0213
Escalation Rate =	1.73%
11) Participant Discount Rate =	2.67%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.67%
14) General Input Data Year =	2012
15a) Project Analysis Year 1 =	
15b) Project Analysis Year 2 =	
15c) Project Analysis Year 3 =	2016

			2016
Administrative & Operating Costs =	$0	$0	$100,456
Incentive Costs =	$0	$0	$56,280
16) Total Utility Project Costs =	$0	$0	$156,737
17) Direct Participant Costs ($/Part.) =	$0	$0	$3,236
18) Participant Non-Energy Costs (Annual $/Part.) =	$0	$0	$0
Escalation Rate =	1.73%	1.73%	1.73%
19) Participant Non-Energy Savings (Annual $/Part) =	$0	$0	$4
Escalation Rate =	1.73%	1.73%	1.73%
20) Project Life (Years) =	0.0	0.0	17.9
21) Avg. Dth/Part. Saved =	-	-	34.78
22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh	0 kWh	0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh	0 kWh	0 kWh
23) Number of Participants =	-	-	121
24) Total Annual Dth Saved =	0	0	4,209
25) Incentive/Participant =	$0.00	$0.00	$465.13

Cost Summary	**2016**
Utility Cost per Participant =	$1,295
Cost per Participant per Dth =	$130.28
Lifetime Energy Reduction (Dth)	75,303
Societal Cost per Dth	$6.53

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($299,089)	0.54
Utility Cost Test	$193,970	2.24
Societal Test	$45,602	1.09
Participant Test	$382,578	1.98

INSULATION REBATE — 2016 ELECTRIC — GOAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$304,482	$304,482	$304,482	$304,482
T & D	N/A	$115,442	$115,442	$115,442	$115,442
Marginal Energy	N/A	$248,133	$248,133	$248,133	$248,133
Environmental Externality	N/A	N/A	N/A	N/A	$8,913
Subtotal	N/A	$668,058	$668,058	$668,058	$676,971
Participant Benefits					
Bill Reduction - Electric	$636,437	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$87,571	N/A	N/A	$87,571	$87,571
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$1,252,493	N/A	N/A	$0	$0
Subtotal	$1,976,501	N/A	N/A	$87,571	$87,571
Total Benefits	$1,976,501	$668,058	$668,058	$755,629	$764,542
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$3,828	$3,828	$3,828	$3,828
Advertising & Promotion	N/A	$757	$757	$757	$757
Measurement & Verification	N/A	$1,000	$1,000	$1,000	$1,000
Rebates	N/A	$87,571	$87,571	$87,571	$87,571
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$93,156	$93,156	$93,156	$93,156
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$636,437	N/A	N/A
Subtotal	N/A	N/A	$636,437	N/A	N/A
Participant Costs					
Incremental Capital Costs	$1,617,077	N/A	N/A	$416,498	$416,498
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$1,617,077	N/A	N/A	$416,498	$416,498
Total Costs	$1,617,077	$93,156	$729,593	$509,654	$509,654
Net Benefit (Cost)	$359,423	$574,902	($61,535)	$245,975	$254,888
Benefit/Cost Ratio	1.22	7.17	0.92	1.48	1.50

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	19.3 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	46.31%
Gross Load Factor at Customer	E	7.67%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$517

Program Summary per Participant

Gross kW Saved at Customer	I	1.58 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.80 kW
Gross Annual kWh Saved at Customer	(B x E x I)	1,064 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	1,162 kWh

Program Summary All Participants

Total Participants	J	311
Total Budget	K	**$93,156**
Gross kW Saved at Customer	(J x I)	493 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**250 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	330,919 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**361,265 kWh**
Societal Net Benefits	(J x I x H)	**$254,888**

Utility Program Cost per kWh Lifetime	**$0.0133**
Utility Program Cost per kW at Gen	**$372.30**

INSULATION REBATE — 2016 ELECTRIC — ACTUAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$126,343	$126,343	$126,343	$126,343
T & D	N/A	$47,903	$47,903	$47,903	$47,903
Marginal Energy	N/A	$95,491	$95,491	$95,491	$95,491
Environmental Externality	N/A	N/A	N/A	N/A	$3,276
Subtotal	N/A	$269,737	$269,737	$269,737	$273,013
Participant Benefits					
Bill Reduction - Electric	$244,970	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$24,829	N/A	N/A	$24,829	$24,829
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$269,799	N/A	N/A	$24,829	$24,829
Total Benefits	$269,799	$269,737	$269,737	$294,566	$297,842
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$7,377	$7,377	$7,377	$7,377
Advertising & Promotion	N/A	$2,448	$2,448	$2,448	$2,448
Measurement & Verification	N/A	$1,901	$1,901	$1,901	$1,901
Rebates	N/A	$24,829	$24,829	$24,829	$24,829
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$36,554	$36,554	$36,554	$36,554
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$244,970	N/A	N/A
Subtotal	N/A	N/A	$244,970	N/A	N/A
Participant Costs					
Incremental Capital Costs	$201,668	N/A	N/A	$201,668	$201,668
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$201,668	N/A	N/A	$201,668	$201,668
Total Costs	$201,668	$36,554	$281,525	$238,222	$238,222
Net Benefit (Cost)	$68,131	$233,183	($11,787)	$56,344	$59,620
Benefit/Cost Ratio	1.34	7.38	0.96	1.24	1.25

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	19.6 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	50.03%
Gross Load Factor at Customer	E	7.60%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$315

Program Summary per Participant		
Gross Realized kW Saved at Customer	I	0.57 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.31 kW
Gross Realized Annual kWh Saved at Customer	(B x E x I)	382 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	417 kWh

Program Summary All Participants		
Total Participants	J	330
Total Budget	K	**$36,554**
Gross kW Saved at Customer	(J x I)	189 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**104 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	125,981 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**137,534 kWh**
Societal Net Benefits	(J x I x H)	**$59,620**

Utility Program Cost per kWh Lifetime	**$0.0136**
Utility Program Cost per kW at Gen	**$352.06**

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **Xcel Energy**
Project: **Insulation Rebate**

Input Data

1) Retail Rate ($/Dth) =	$7.23
Escalation Rate =	4.28%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	2.80%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.34
Escalation Rate =	4.28%
4) Demand Cost ($/Unit/Yr) =	$74.00
Escalation Rate =	4.28%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0600
Escalation Rate =	4.28%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.027
Escalation Rate =	2.80%
8) Non-Gas Fuel Loss Factor	5.80%
9) Gas Environmental Damage Factor =	$0.3500
Escalation Rate =	1.73%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) :	$0.0213
Escalation Rate =	1.73%
11) Participant Discount Rate =	2.67%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.67%
14) General Input Data Year =	2012
15a) Project Analysis Year 1 =	2016
15b) Project Analysis Year 2 =	
15c) Project Analysis Year 3 =	

	2016
Administrative & Operating Costs =	$71,541
Incentive Costs =	$273,329
16) Total Utility Project Costs =	$344,870
17) Direct Participant Costs ($/Part.) =	$1,463
18) Participant Non-Energy Costs (Annual $/Part.) =	$0
Escalation Rate =	1.73%
19) Participant Non-Energy Savings (Annual $/Part) =	$0
Escalation Rate =	1.73%
20) Project Life (Years) =	19.1
21) Avg. Dth/Part. Saved =	13.78
22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh
23) Number of Participants =	1,133
24) Total Annual Dth Saved =	15,615
25) Incentive/Participant =	$241.24

Cost Summary	2016
Utility Cost per Participant =	$304
Cost per Participant per Dth =	$128.23
Lifetime Energy Reduction (Dth)	297,732
Societal Cost per Dth	$4.80

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($927,147)	0.61
Utility Cost Test	$1,089,660	4.16
Societal Test	$774,173	1.54
Participant Test	$1,772,318	2.07

Conservation Improvement Program (CIP) ACTUAL

BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **Xcel Energy**
Project: **Insulation Rebate**

Input Data

1) Retail Rate ($/Dth) =	$7.23
Escalation Rate =	4.28%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	2.80%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.34
Escalation Rate =	4.28%
4) Demand Cost ($/Unit/Yr) =	$74.00
Escalation Rate =	4.28%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0600
Escalation Rate =	4.28%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.027
Escalation Rate =	2.80%
8) Non-Gas Fuel Loss Factor	5.80%
9) Gas Environmental Damage Factor =	$0.3500
Escalation Rate =	1.73%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0213
Escalation Rate =	1.73%
11) Participant Discount Rate =	2.67%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.67%
14) General Input Data Year =	2012
15a) Project Analysis Year 1 =	
15b) Project Analysis Year 2 =	
15c) Project Analysis Year 3 =	2016

			2016
Administrative & Operating Costs =	$0	$0	$34,624
Incentive Costs =	$0	$0	$103,609
16) Total Utility Project Costs =	$0	$0	$138,233
17) Direct Participant Costs ($/Part.) =	$0	$0	$2,002
18) Participant Non-Energy Costs (Annual $/Part.) =	$0	$0	$0
Escalation Rate =	1.73%	1.73%	1.73%
19) Participant Non-Energy Savings (Annual $/Part) =	$0	$0	$0
Escalation Rate =	1.73%	1.73%	1.73%
20) Project Life (Years) =	0.0	0.0	19.0
21) Avg. Dth/Part. Saved =	-	-	16.31
22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh	0 kWh	0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh	0 kWh	0 kWh
23) Number of Participants =	-	-	421
24) Total Annual Dth Saved =	0	0	6,867
25) Incentive/Participant =	$0.00	$0.00	$246.10

Cost Summary	2016
Utility Cost per Participant =	$328
Cost per Participant per Dth =	$142.89
Lifetime Energy Reduction (Dth)	130,486
Societal Cost per Dth	$6.73

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($383,030)	0.61
Utility Cost Test	$464,864	4.36
Societal Test	$49,399	1.06
Participant Test	$501,755	1.60

REFRIGERATOR RECYCLING — 2016 ELECTRIC — GOAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$541,437	$541,437	$541,437	$541,437
T & D	N/A	$205,270	$205,270	$205,270	$205,270
Marginal Energy	N/A	$2,194,439	$2,194,439	$2,194,439	$2,194,439
Environmental Externality	N/A	N/A	N/A	N/A	$104,312
Subtotal	N/A	$2,941,146	$2,941,146	$2,941,146	$3,045,458
Participant Benefits					
Bill Reduction - Electric	$6,137,950	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$227,500	N/A	N/A	$227,500	$227,500
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$6,365,450	N/A	N/A	$227,500	$227,500
Total Benefits	$6,365,450	$2,941,146	$2,941,146	$3,168,646	$3,272,958
Costs					
Utility Project Costs					
Customer Services	N/A	$390,000	$390,000	$390,000	$390,000
Project Administration	N/A	$13,341	$13,341	$13,341	$13,341
Advertising & Promotion	N/A	$245,109	$245,109	$245,109	$245,109
Measurement & Verification	N/A	$45,000	$45,000	$45,000	$45,000
Rebates	N/A	$227,500	$227,500	$227,500	$227,500
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$920,950	$920,950	$920,950	$920,950
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$6,137,950	N/A	N/A
Subtotal	N/A	N/A	$6,137,950	N/A	N/A
Participant Costs					
Incremental Capital Costs	$0	N/A	N/A	$0	$0
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$0	N/A	N/A	$0	$0
Total Costs	$0	$920,950	$7,058,900	$920,950	$920,950
Net Benefit (Cost)	$6,365,450	$2,020,196	($4,117,754)	$2,247,696	$2,352,008
Benefit/Cost Ratio	INF	3.19	0.42	3.44	3.55

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	8.3 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	55.00%
Gross Load Factor at Customer	E	55.00%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$1,683

Program Summary per Participant

Gross kW Saved at Customer	I	0.22 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.13 kW
Gross Annual kWh Saved at Customer	(B x E x I)	1,036 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	1,131 kWh

Program Summary All Participants

Total Participants	J	6,500
Total Budget	K	**$920,950**
Gross kW Saved at Customer	(J x I)	1,398 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**843 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	6,734,976 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**7,352,594 kWh**
Societal Net Benefits	(J x I x H)	**$2,352,008**

Utility Program Cost per kWh Lifetime	**$0.0152**
Utility Program Cost per kW at Gen	**$1,092.44**

REFRIGERATOR RECYCLING — 2016 ELECTRIC — ACTUAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$290,650	$290,650	$290,650	$290,650
T & D	N/A	$110,201	$110,201	$110,201	$110,201
Marginal Energy	N/A	$1,157,244	$1,157,244	$1,157,244	$1,157,244
Environmental Externality	N/A	N/A	N/A	N/A	$54,093
Subtotal	N/A	$1,558,095	$1,558,095	$1,558,095	$1,612,188
Participant Benefits					
Bill Reduction - Electric	$3,230,359	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$145,045	N/A	N/A	$145,045	$145,045
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$3,375,404	N/A	N/A	$145,045	$145,045
Total Benefits	$3,375,404	$1,558,095	$1,558,095	$1,703,140	$1,757,233
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$263,464	$263,464	$263,464	$263,464
Advertising & Promotion	N/A	$97,393	$97,393	$97,393	$97,393
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$145,045	$145,045	$145,045	$145,045
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$505,902	$505,902	$505,902	$505,902
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$3,230,359	N/A	N/A
Subtotal	N/A	N/A	$3,230,359	N/A	N/A
Participant Costs					
Incremental Capital Costs	$0	N/A	N/A	$0	$0
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$0	N/A	N/A	$0	$0
Total Costs	$0	$505,902	$3,736,260	$505,902	$505,902
Net Benefit (Cost)	$3,375,404	$1,052,193	($2,178,166)	$1,197,238	$1,251,331
Benefit/Cost Ratio	INF	3.08	0.42	3.37	3.47

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	8.4 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	55.06%
Gross Load Factor at Customer	E	55.02%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$1,704

Program Summary per Participant

Gross Realized kW Saved at Customer	I	0.22 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.13 kW
Gross Realized Annual kWh Saved at Customer	(B x E x I)	1,044 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	1,140 kWh

Program Summary All Participants

Total Participants	J	3,389
Total Budget	K	**$505,902**
Gross kW Saved at Customer	(J x I)	734 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**443 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	3,539,406 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**3,863,980 kWh**
Societal Net Benefits	(J x I x H)	**$1,251,331**

Utility Program Cost per kWh Lifetime	**$0.0156**
Utility Program Cost per kW at Gen	**$1,141.09**

RESIDENTIAL COOLING — 2016 — ELECTRIC — GOAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$6,182,750	$6,182,750	$6,182,750	$6,182,750
T & D	N/A	$2,344,138	$2,344,138	$2,344,138	$2,344,138
Marginal Energy	N/A	$2,148,618	$2,148,618	$2,148,618	$2,148,618
Environmental Externality	N/A	N/A	N/A	N/A	$81,390
Subtotal	N/A	$10,675,506	$10,675,506	$10,675,506	$10,756,896
Participant Benefits					
Bill Reduction - Electric	$5,431,403	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$3,407,650	N/A	N/A	$3,407,650	$3,407,650
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$8,839,053	N/A	N/A	$3,407,650	$3,407,650
Total Benefits	$8,839,053	$10,675,506	$10,675,506	$14,083,156	$14,164,546
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$483,095	$483,095	$483,095	$483,095
Advertising & Promotion	N/A	$777,472	$777,472	$777,472	$777,472
Measurement & Verification	N/A	$100,000	$100,000	$100,000	$100,000
Rebates	N/A	$3,407,650	$3,407,650	$3,407,650	$3,407,650
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$4,768,217	$4,768,217	$4,768,217	$4,768,217
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$5,431,403	N/A	N/A
Subtotal	N/A	N/A	$5,431,403	N/A	N/A
Participant Costs					
Incremental Capital Costs	$8,220,656	N/A	N/A	$8,220,656	$8,220,656
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$8,220,656	N/A	N/A	$8,220,656	$8,220,656
Total Costs	$8,220,656	$4,768,217	$10,199,620	$12,988,873	$12,988,873
Net Benefit (Cost)	$618,398	$5,907,289	$475,886	$1,094,283	$1,175,673
Benefit/Cost Ratio	1.08	2.24	1.05	1.08	1.09

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	9.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	89.90%
Gross Load Factor at Customer	E	6.19%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$127

Program Summary per Participant

Gross kW Saved at Customer	I	0.91 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.90 kW
Gross Annual kWh Saved at Customer	(B x E x I)	496 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	542 kWh

Program Summary All Participants

Total Participants	J	10,114
Total Budget	K	**$4,768,217**
Gross kW Saved at Customer	(J x I)	9,254 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**9,121 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	5,019,044 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**5,479,306 kWh**
Societal Net Benefits	(J x I x H)	**$1,175,673**

Utility Program Cost per kWh Lifetime	**$0.0967**
Utility Program Cost per kW at Gen	**$522.75**

RESIDENTIAL COOLING — 2016 ELECTRIC — ACTUAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$7,125,788	$7,125,788	$7,125,788	$7,125,788
T & D	N/A	$2,701,777	$2,701,777	$2,701,777	$2,701,777
Marginal Energy	N/A	$3,397,624	$3,397,624	$3,397,624	$3,397,624
Environmental Externality	N/A	N/A	N/A	N/A	$123,947
Subtotal	N/A	$13,225,188	$13,225,188	$13,225,188	$13,349,135
Participant Benefits					
Bill Reduction - Electric	$8,581,446	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$3,927,034	N/A	N/A	$3,927,034	$3,927,034
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$12,508,480	N/A	N/A	$3,927,034	$3,927,034
Total Benefits	$12,508,480	$13,225,188	$13,225,188	$17,152,222	$17,276,169
Costs					
Utility Project Costs					
Customer Services	N/A	$764,039	$764,039	$764,039	$764,039
Project Administration	N/A	$179,403	$179,403	$179,403	$179,403
Advertising & Promotion	N/A	$39,283	$39,283	$39,283	$39,283
Measurement & Verification	N/A	($0)	($0)	($0)	($0)
Rebates	N/A	$3,927,034	$3,927,034	$3,927,034	$3,927,034
Other	N/A	$8,295	$8,295	$8,295	$8,295
Subtotal	N/A	$4,918,054	$4,918,054	$4,918,054	$4,918,054
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$8,581,446	N/A	N/A
Subtotal	N/A	N/A	$8,581,446	N/A	N/A
Participant Costs					
Incremental Capital Costs	$8,296,131	N/A	N/A	$8,296,131	$8,296,131
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$8,296,131	N/A	N/A	$8,296,131	$8,296,131
Total Costs	$8,296,131	$4,918,054	$13,499,501	$13,214,185	$13,214,185
Net Benefit (Cost)	$4,212,349	$8,307,134	($274,312)	$3,938,037	$4,061,984
Benefit/Cost Ratio	1.51	2.69	0.98	1.30	1.31

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	9.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	90.00%
Gross Load Factor at Customer	E	8.23%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$371

Program Summary per Participant		
Gross Realized kW Saved at Customer	I	0.82 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.81 kW
Gross Realized Annual kWh Saved at Customer	(B x E x I)	589 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	643 kWh

Program Summary All Participants		
Total Participants	J	13,404
Total Budget	K	**$4,918,054**
Gross kW Saved at Customer	(J x I)	10,958 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**10,814 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	7,896,022 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**8,620,111 kWh**
Societal Net Benefits	(J x I x H)	**$4,061,984**

Utility Program Cost per kWh Lifetime	**$0.0631**
Utility Program Cost per kW at Gen	**$454.79**

SCHOOL EDUCATION KITS — 2016 ELECTRIC — GOAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$106,800	$106,800	$106,800	$106,800
T & D	N/A	$40,560	$40,560	$40,560	$40,560
Marginal Energy	N/A	$610,417	$610,417	$610,417	$610,417
Environmental Externality	N/A	N/A	N/A	N/A	$28,377
Subtotal	N/A	$757,777	$757,777	$757,777	$786,154
Participant Benefits					
Bill Reduction - Electric	$3,109,558	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$185,222	N/A	N/A	$185,222	$185,222
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$91,783	N/A	N/A	$91,783	$91,783
Subtotal	$3,386,563	N/A	N/A	$277,005	$277,005
Total Benefits	$3,386,563	$757,777	$757,777	$1,034,781	$1,063,158
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$396,663	$396,663	$396,663	$396,663
Advertising & Promotion	N/A	$6,000	$6,000	$6,000	$6,000
Measurement & Verification	N/A	$30,465	$30,465	$30,465	$30,465
Rebates	N/A	$185,222	$185,222	$185,222	$185,222
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$618,350	$618,350	$618,350	$618,350
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$3,109,558	N/A	N/A
Subtotal	N/A	N/A	$3,109,558	N/A	N/A
Participant Costs					
Incremental Capital Costs	$185,222	N/A	N/A	$185,222	$185,222
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$185,222	N/A	N/A	$185,222	$185,222
Total Costs	$185,222	$618,350	$3,727,908	$803,572	$803,572
Net Benefit (Cost)	$3,201,341	$139,427	($2,970,131)	$231,209	$259,586
Benefit/Cost Ratio	18.28	1.23	0.20	1.29	1.32

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	10.4 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	7.39%
Gross Load Factor at Customer	E	11.04%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$160

Program Summary per Participant

Gross kW Saved at Customer	I	0.08 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.01 kW
Gross Annual kWh Saved at Customer	(B x E x I)	79 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	86 kWh

Program Summary All Participants

Total Participants	J	20,000
Total Budget	K	**$618,350**
Gross kW Saved at Customer	(J x I)	1,624 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**131 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	1,570,345 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**1,714,351 kWh**
Societal Net Benefits	(J x I x H)	**$259,586**

Utility Program Cost per kWh Lifetime	**$0.0346**
Utility Program Cost per kW at Gen	**$4,702.31**

SCHOOL EDUCATION KITS — 2016 ELECTRIC — ACTUAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$72,193	$72,193	$72,193	$72,193
T & D	N/A	$27,372	$27,372	$27,372	$27,372
Marginal Energy	N/A	$404,409	$404,409	$404,409	$404,409
Environmental Externality	N/A	N/A	N/A	N/A	$18,398
Subtotal	N/A	$503,975	$503,975	$503,975	$522,373
Participant Benefits					
Bill Reduction - Electric	$2,226,871	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$100,930	N/A	N/A	$100,930	$100,930
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$66,018	N/A	N/A	$66,018	$66,018
Subtotal	$2,393,819	N/A	N/A	$166,947	$166,947
Total Benefits	$2,393,819	$503,975	$503,975	$670,922	$689,320
Costs					
Utility Project Costs					
Customer Services	N/A	$604	$604	$604	$604
Project Administration	N/A	$169,212	$169,212	$169,212	$169,212
Advertising & Promotion	N/A	$1,341	$1,341	$1,341	$1,341
Measurement & Verification	N/A	($0)	($0)	($0)	($0)
Rebates	N/A	$100,930	$100,930	$100,930	$100,930
Other	N/A	$276	$276	$276	$276
Subtotal	N/A	$272,363	$272,363	$272,363	$272,363
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$2,226,871	N/A	N/A
Subtotal	N/A	N/A	$2,226,871	N/A	N/A
Participant Costs					
Incremental Capital Costs	$100,930	N/A	N/A	$100,930	$100,930
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$100,930	N/A	N/A	$100,930	$100,930
Total Costs	$100,930	$272,363	$2,499,234	$373,293	$373,293
Net Benefit (Cost)	$2,292,889	$231,612	($1,995,259)	$297,629	$316,027
Benefit/Cost Ratio	23.72	1.85	0.20	1.80	1.85

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	10.2 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	3.02%
Gross Load Factor at Customer	E	4.65%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$122

Program Summary per Participant		
Gross Realized kW Saved at Customer	I	0.19 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.01 kW
Gross Realized Annual kWh Saved at Customer	(B x E x I)	78 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	85 kWh

Program Summary All Participants		
Total Participants	J	13,485
Total Budget	K	**$272,363**
Gross kW Saved at Customer	(J x I)	2,589 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**86 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	1,054,385 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**1,151,075 kWh**
Societal Net Benefits	(J x I x H)	**$316,027**

Utility Program Cost per kWh Lifetime	**$0.0231**
Utility Program Cost per kW at Gen	**$3,182.46**

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **Xcel Energy**
Project: **School Education Kits**

Input Data	**2016**
1) Retail Rate ($/Dth) =	$7.23
Escalation Rate =	4.28%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	2.80%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.34
Escalation Rate =	4.28%
4) Demand Cost ($/Unit/Yr) =	$74.00
Escalation Rate =	4.28%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0600
Escalation Rate =	4.28%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.027
Escalation Rate =	2.80%
8) Non-Gas Fuel Loss Factor	5.80%
9) Gas Environmental Damage Factor =	$0.3500
Escalation Rate =	1.73%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0213
Escalation Rate =	1.73%
11) Participant Discount Rate =	2.67%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.67%
14) General Input Data Year =	2012
15a) Project Analysis Year 1 =	2016
15b) Project Analysis Year 2 =	
15c) Project Analysis Year 3 =	

Administrative & Operating Costs =	$340,245
Incentive Costs =	$143,778
16) Total Utility Project Costs =	$484,023
17) Direct Participant Costs ($/Part.) =	$7
18) Participant Non-Energy Costs (Annual $/Part.) =	$0
Escalation Rate =	1.73%
19) Participant Non-Energy Savings (Annual $/Part) =	$12
Escalation Rate =	1.73%
20) Project Life (Years) =	5.8
21) Avg. Dth/Part. Saved =	1.08
22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh
23) Number of Participants =	20,000
24) Total Annual Dth Saved =	21,597
25) Incentive/Participant =	$7.19

Cost Summary	**2016**
Utility Cost per Participant =	$24
Cost per Participant per Dth =	$29.07
Lifetime Energy Reduction (Dth)	124,471
Societal Cost per Dth	$3.89

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($772,736)	0.48
Utility Cost Test	$227,268	1.47
Societal Test	$1,697,650	4.51
Participant Test	$2,454,887	18.07

Conservation Improvement Program (CIP) ACTUAL

BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **Xcel Energy**
Project: **School Education Kits**

Input Data

1) Retail Rate ($/Dth) =	$7.23
Escalation Rate =	4.28%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	2.80%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.34
Escalation Rate =	4.28%
4) Demand Cost ($/Unit/Yr) =	$74.00
Escalation Rate =	4.28%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0600
Escalation Rate =	4.28%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.027
Escalation Rate =	2.80%
8) Non-Gas Fuel Loss Factor	5.80%
9) Gas Environmental Damage Factor =	$0.3500
Escalation Rate =	1.73%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0213
Escalation Rate =	1.73%
11) Participant Discount Rate =	2.67%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.67%
14) General Input Data Year =	2012
15a) Project Analysis Year 1 =	
15b) Project Analysis Year 2 =	
15c) Project Analysis Year 3 =	2016

			2016
Administrative & Operating Costs =	$0	$0	$230,148
Incentive Costs =	$0	$0	$59,946
16) Total Utility Project Costs =	$0	$0	$290,095
17) Direct Participant Costs ($/Part.) =	$0	$0	$4
18) Participant Non-Energy Costs (Annual $/Part.) =	$0	$0	$0
Escalation Rate =	1.73%	1.73%	1.73%
19) Participant Non-Energy Savings (Annual $/Part) =	$0	$0	$14
Escalation Rate =	1.73%	1.73%	1.73%
20) Project Life (Years) =	0.0	0.0	5.6
21) Avg. Dth/Part. Saved =	-	-	1.21
22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh	0 kWh	0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh	0 kWh	0 kWh
23) Number of Participants =	-	-	13,485
24) Total Annual Dth Saved =	0	0	16,340
25) Incentive/Participant =	$0.00	$0.00	$4.45

Cost Summary	2016
Utility Cost per Participant =	$22
Cost per Participant per Dth =	$21.42
Lifetime Energy Reduction (Dth)	91,585
Societal Cost per Dth	$3.17

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($494,194)	0.50
Utility Cost Test	$212,736	1.73
Societal Test	$1,307,609	5.51
Participant Test	$1,789,393	30.85

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **Xcel Energy**
Project: **Water Heater Rebate**

Input Data	2016
1) Retail Rate ($/Dth) =	$7.23
Escalation Rate =	4.28%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	2.80%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.34
Escalation Rate =	4.28%
4) Demand Cost ($/Unit/Yr) =	$74.00
Escalation Rate =	4.28%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0600
Escalation Rate =	4.28%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.027
Escalation Rate =	2.80%
8) Non-Gas Fuel Loss Factor	5.80%
9) Gas Environmental Damage Factor =	$0.3500
Escalation Rate =	1.73%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0213
Escalation Rate =	1.73%
11) Participant Discount Rate =	2.67%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.67%
14) General Input Data Year =	2012
15a) Project Analysis Year 1 =	2016
15b) Project Analysis Year 2 =	
15c) Project Analysis Year 3 =	

	2016
Administrative & Operating Costs =	$67,414
Incentive Costs =	$127,500
16) Total Utility Project Costs =	$194,914
17) Direct Participant Costs ($/Part.) =	$386
18) Participant Non-Energy Costs (Annual $/Part.) =	$0
Escalation Rate =	1.73%
19) Participant Non-Energy Savings (Annual $/Part) =	$0
Escalation Rate =	1.73%
20) Project Life (Years) =	16.4
21) Avg. Dth/Part. Saved =	2.66
22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh
23) Number of Participants =	1,380
24) Total Annual Dth Saved =	3,677
25) Incentive/Participant =	$92.39

Cost Summary	2016
Utility Cost per Participant =	$141
Cost per Participant per Dth =	$197.84
Lifetime Energy Reduction (Dth)	60,415
Societal Cost per Dth	$9.93

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($316,734)	0.49
Utility Cost Test	$105,209	1.54
Societal Test	($161,023)	0.73
Participant Test	$182,468	1.34

Conservation Improvement Program (CIP) ACTUAL

BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **Xcel Energy**
Project: **Water Heater Rebate**

Input Data

1) Retail Rate ($/Dth) =	$7.23
Escalation Rate =	4.28%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	2.80%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.34
Escalation Rate =	4.28%
4) Demand Cost ($/Unit/Yr) =	$74.00
Escalation Rate =	4.28%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0600
Escalation Rate =	4.28%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.027
Escalation Rate =	2.80%
8) Non-Gas Fuel Loss Factor	5.80%
9) Gas Environmental Damage Factor =	$0.3500
Escalation Rate =	1.73%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0213
Escalation Rate =	1.73%
11) Participant Discount Rate =	2.67%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.67%
14) General Input Data Year =	2012
15a) Project Analysis Year 1 =	
15b) Project Analysis Year 2 =	
15c) Project Analysis Year 3 =	2016

			2016
Administrative & Operating Costs =	$0	$0	$75,783
Incentive Costs =	$0	$0	$320,470
16) Total Utility Project Costs =	$0	$0	$396,253
17) Direct Participant Costs ($/Part.) =	$0	$0	$302
18) Participant Non-Energy Costs (Annual $/Part.) =	$0	$0	$0
Escalation Rate =	1.73%	1.73%	1.73%
19) Participant Non-Energy Savings (Annual $/Part) =	$0	$0	$0
Escalation Rate =	1.73%	1.73%	1.73%
20) Project Life (Years) =	0.0	0.0	13.8
21) Avg. Dth/Part. Saved =	-	-	2.34
22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh	0 kWh	0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh	0 kWh	0 kWh
23) Number of Participants =	-	-	3,618
24) Total Annual Dth Saved =	0	0	8,454
25) Incentive/Participant =	$0.00	$0.00	$88.58

Cost Summary	2016
Utility Cost per Participant =	$110
Cost per Participant per Dth =	$176.24
Lifetime Energy Reduction (Dth)	116,737
Societal Cost per Dth	$10.02

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($630,270)	0.48
Utility Cost Test	$180,286	1.45
Societal Test	($373,407)	0.68
Participant Test	$289,014	1.26

RESIDENTIAL SEGMENT LOAD MANAGEMENT - SAVER'S SWITCH 2016 ELECTRIC GOAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$17,944,636	$17,944,636	$17,944,636	$17,944,636
T & D	N/A	$6,803,484	$6,803,484	$6,803,484	$6,803,484
Marginal Energy	N/A	$114,548	$114,548	$114,548	$114,548
Environmental Externality	N/A	N/A	N/A	N/A	$3,838
Subtotal	N/A	$24,862,668	$24,862,668	$24,862,668	$24,866,506
Participant Benefits					
Bill Reduction - Electric	$11,924,843	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$0	N/A	N/A	$0	$0
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$11,924,843	N/A	N/A	$0	$0
Total Benefits	$11,924,843	$24,862,668	$24,862,668	$24,862,668	$24,866,506
Costs					
Utility Project Costs					
Customer Services	N/A	$1,996,188	$1,996,188	$1,996,188	$1,996,188
Project Administration	N/A	$2,776,092	$2,776,092	$2,776,092	$2,776,092
Advertising & Promotion	N/A	$151,270	$151,270	$151,270	$151,270
Measurement & Verification	N/A	$160,000	$160,000	$160,000	$160,000
Rebates	N/A	$0	$0	$0	$0
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$5,083,549	$5,083,549	$5,083,549	$5,083,549
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$11,924,843	N/A	N/A
Subtotal	N/A	N/A	$11,924,843	N/A	N/A
Participant Costs					
Incremental Capital Costs	$0	N/A	N/A	$0	$0
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$0	N/A	N/A	$0	$0
Total Costs	$0	$5,083,549	$17,008,392	$5,083,549	$5,083,549
Net Benefit (Cost)	$11,924,843	$19,779,119	$7,854,276	$19,779,119	$19,782,957
Benefit/Cost Ratio	INF	4.89	1.46	4.89	4.89

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	15.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	26.71%
Gross Load Factor at Customer	E	0.03%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$327

Program Summary per Participant

Gross kW Saved at Customer	I	3.02 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.88 kW
Gross Annual kWh Saved at Customer	(B x E x I)	8 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	9 kWh

Program Summary All Participants

Total Participants	J	20,000
Total Budget	K	**$5,083,549**
Gross kW Saved at Customer	(J x I)	60,413 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**17,690 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	162,808 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**177,738 kWh**
Societal Net Benefits	(J x I x H)	**$19,782,957**

Utility Program Cost per kWh Lifetime	**$1.9068**
Utility Program Cost per kW at Gen	**$287.36**

RESIDENTIAL SEGMENT LOAD MANAGEMENT - SAVER'S SWITCH 2016 ELECTRIC ACTUAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$16,649,347	$16,649,347	$16,649,347	$16,649,347
T & D	N/A	$0	$0	$0	$0
Marginal Energy	N/A	$106,320	$106,320	$106,320	$106,320
Environmental Externality	N/A	N/A	N/A	N/A	$3,341
Subtotal	N/A	$16,755,667	$16,755,667	$16,755,667	$16,759,008
Participant Benefits					
Bill Reduction - Electric	$206,495	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$0	N/A	N/A	$0	$0
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$206,495	N/A	N/A	$0	$0
Total Benefits	$206,495	$16,755,667	$16,755,667	$16,755,667	$16,759,008
Costs					
Utility Project Costs					
Customer Services	N/A	$8,301	$8,301	$8,301	$8,301
Project Administration	N/A	$3,660,792	$3,660,792	$3,660,792	$3,660,792
Advertising & Promotion	N/A	$109,599	$109,599	$109,599	$109,599
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$0	$0	$0	$0
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$3,778,692	$3,778,692	$3,778,692	$3,778,692
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$206,495	N/A	N/A
Subtotal	N/A	N/A	$206,495	N/A	N/A
Participant Costs					
Incremental Capital Costs	$0	N/A	N/A	$0	$0
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$0	N/A	N/A	$0	$0
Total Costs	$0	$3,778,692	$3,985,187	$3,778,692	$3,778,692
Net Benefit (Cost)	$206,495	$12,976,975	$12,770,480	$12,976,975	$12,980,316
Benefit/Cost Ratio	INF	4.43	4.20	4.43	4.44

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	15.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	26.81%
Gross Load Factor at Customer	E	0.03%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$233

Program Summary per Participant

Gross Realized kW Saved at Customer	I	3.04 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.89 kW
Gross Realized Annual kWh Saved at Customer	(B x E x I)	8 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	9 kWh

Program Summary All Participants

Total Participants	J	18,354
Total Budget	K	**$3,778,692**
Gross kW Saved at Customer	(J x I)	55,828 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**16,413 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	149,368 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**163,066 kWh**
Societal Net Benefits	(J x I x H)	**$12,980,316**

Utility Program Cost per kWh Lifetime	**$1.5449**
Utility Program Cost per kW at Gen	**$230.22**

LOW-INCOME SEGMENT TOTAL 2016 ELECTRIC GOAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$405,120	$405,120	$405,120	$405,120
T & D	N/A	$153,699	$153,699	$153,699	$153,699
Marginal Energy	N/A	$1,030,295	$1,030,295	$1,030,295	$1,030,295
Environmental Externality	N/A	N/A	N/A	N/A	$45,625
Subtotal	N/A	$1,589,115	$1,589,115	$1,589,115	$1,634,740
Participant Benefits					
Bill Reduction - Electric	$2,814,389	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$1,151,598	N/A	N/A	$1,151,598	$1,151,598
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$425,243	N/A	N/A	$0	$0
Subtotal	$4,391,230	N/A	N/A	$1,151,598	$1,151,598
Total Benefits	$4,391,230	$1,589,115	$1,589,115	$2,740,713	$2,786,338
Costs					
Utility Project Costs					
Customer Services	N/A	$670,567	$670,567	$670,567	$670,567
Project Administration	N/A	$451,028	$451,028	$451,028	$451,028
Advertising & Promotion	N/A	$119,394	$119,394	$119,394	$119,394
Measurement & Verification	N/A	$128,000	$128,000	$128,000	$128,000
Rebates	N/A	$1,151,598	$1,151,598	$1,151,598	$1,151,598
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$2,520,587	$2,520,587	$2,520,587	$2,520,587
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$2,814,389	N/A	N/A
Subtotal	N/A	N/A	$2,814,389	N/A	N/A
Participant Costs					
Incremental Capital Costs	$1,151,598	N/A	N/A	$1,113,374	$1,113,374
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$1,151,598	N/A	N/A	$1,113,374	$1,113,374
Total Costs	$1,151,598	$2,520,587	$5,334,976	$3,633,961	$3,633,961
Net Benefit (Cost)	$3,239,632	($931,472)	($3,745,861)	($893,248)	($847,623)
Benefit/Cost Ratio	3.81	0.63	0.30	0.75	0.77

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	12.2 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	20.90%
Gross Load Factor at Customer	E	12.32%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	($408)

Program Summary per Participant		
Gross kW Saved at Customer	I	0.49 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.11 kW
Gross Annual kWh Saved at Customer	(B x E x I)	528 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	576 kWh

Program Summary All Participants		
Total Participants	J	4,246
Total Budget	K	**$2,520,587**
Gross kW Saved at Customer	(J x I)	2,076 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**476 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	2,239,918 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**2,445,325 kWh**
Societal Net Benefits	(J x I x H)	**($847,623)**

Utility Program Cost per kWh Lifetime	**$0.0848**
Utility Program Cost per kW at Gen	**$5,297.69**

LOW-INCOME SEGMENT TOTAL — 2016 ELECTRIC — ACTUAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$533,559	$533,559	$533,559	$533,559
T & D	N/A	$202,300	$202,300	$202,300	$202,300
Marginal Energy	N/A	$941,818	$941,818	$941,818	$941,818
Environmental Externality	N/A	N/A	N/A	N/A	$40,333
Subtotal	N/A	$1,677,678	$1,677,678	$1,677,678	$1,718,011
Participant Benefits					
Bill Reduction - Electric	$2,530,798	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$1,432,704	N/A	N/A	$1,432,704	$1,432,704
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$20,419	N/A	N/A	$20,419	$20,419
Subtotal	$3,983,921	N/A	N/A	$1,453,123	$1,453,123
Total Benefits	$3,983,921	$1,677,678	$1,677,678	$3,130,801	$3,171,134
Costs					
Utility Project Costs					
Customer Services	N/A	$52,535	$52,535	$52,535	$52,535
Project Administration	N/A	$766,624	$766,624	$766,624	$766,624
Advertising & Promotion	N/A	$49,155	$49,155	$49,155	$49,155
Measurement & Verification	N/A	$11,803	$11,803	$11,803	$11,803
Rebates	N/A	$1,432,704	$1,432,704	$1,432,704	$1,432,704
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$2,312,820	$2,312,820	$2,312,820	$2,312,820
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$2,530,798	N/A	N/A
Subtotal	N/A	N/A	$2,530,798	N/A	N/A
Participant Costs					
Incremental Capital Costs	$1,463,500	N/A	N/A	$1,463,500	$1,463,500
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$1,463,500	N/A	N/A	$1,463,500	$1,463,500
Total Costs	$1,463,500	$2,312,820	$4,843,618	$3,776,320	$3,776,320
Net Benefit (Cost)	$2,520,421	($635,142)	($3,165,940)	($645,519)	($605,186)
Benefit/Cost Ratio	2.72	0.73	0.35	0.83	0.84

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	12.3 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	32.36%
Gross Load Factor at Customer	E	12.96%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.799%
Societal Net Benefit (Cost)	H	($342)

Program Summary per Participant		
Gross Realized kW Saved at Customer	I	0.35 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.12 kW
Gross Realized Annual kWh Saved at Customer	(B x E x I)	393 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	429 kWh

Program Summary All Participants		
Total Participants	J	5,108
Total Budget	K	**$2,312,820**
Gross kW Saved at Customer	(J x I)	1,767 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**627 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	2,005,531 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**2,189,433 kWh**
Societal Net Benefits	(J x I x H)	**($605,186)**

Utility Program Cost per kWh Lifetime	**$0.0860**
Utility Program Cost per kW at Gen	**$3,689.01**

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **Xcel Energy**
Project: **Low-Income Segment Total**

Input Data	**2016**
1) Retail Rate ($/Dth) =	$6.60
Escalation Rate =	4.28%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	2.80%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.34
Escalation Rate =	4.28%
4) Demand Cost ($/Unit/Yr) =	$74.00
Escalation Rate =	4.28%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0600
Escalation Rate =	4.28%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.027
Escalation Rate =	2.80%
8) Non-Gas Fuel Loss Factor	5.80%
9) Gas Environmental Damage Factor =	$0.3500
Escalation Rate =	1.73%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0213
Escalation Rate =	1.73%
11) Participant Discount Rate =	2.67%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.67%
14) General Input Data Year =	2012
15a) Project Analysis Year 1 =	2016
15b) Project Analysis Year 2 =	
15c) Project Analysis Year 3 =	

	2016
Administrative & Operating Costs =	$802,222
Incentive Costs =	$833,999
16) Total Utility Project Costs =	$1,636,221
17) Direct Participant Costs ($/Part.) =	$407
18) Participant Non-Energy Costs (Annual $/Part.) =	$0
Escalation Rate =	1.73%
19) Participant Non-Energy Savings (Annual $/Part) =	$28
Escalation Rate =	1.73%
20) Project Life (Years) =	12.4
21) Avg. Dth/Part. Saved =	11.35
22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh
23) Number of Participants =	2,050
24) Total Annual Dth Saved =	23,275
25) Incentive/Participant =	$406.83

Cost Summary	**2016**
Utility Cost per Participant =	$798
Cost per Participant per Dth =	$106.13
Lifetime Energy Reduction (Dth)	289,334
Societal Cost per Dth	$5.42

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($2,235,787)	0.40
Utility Cost Test	($159,098)	0.90
Societal Test	$920,308	1.59
Participant Test	$3,274,905	4.93

Conservation Improvement Program (CIP) ACTUAL

BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **Xcel Energy**
Project: **Low-Income Segment Total**

Input Data

1) Retail Rate ($/Dth) =	$6.60
Escalation Rate =	4.28%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	2.80%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.34
Escalation Rate =	4.28%
4) Demand Cost ($/Unit/Yr) =	$74.00
Escalation Rate =	4.28%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0600
Escalation Rate =	4.28%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.027
Escalation Rate =	2.80%
8) Non-Gas Fuel Loss Factor	5.80%
9) Gas Environmental Damage Factor =	$0.3500
Escalation Rate =	1.73%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0213
Escalation Rate =	1.73%
11) Participant Discount Rate =	2.67%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.67%
14) General Input Data Year =	2012
15a) Project Analysis Year 1 =	
15b) Project Analysis Year 2 =	
15c) Project Analysis Year 3 =	2016

			2016
Administrative & Operating Costs =	$0	$0	$505,118
Incentive Costs =	$0	$0	$1,143,364
16) Total Utility Project Costs =	$0	$0	$1,648,482
17) Direct Participant Costs ($/Part.) =	$0	$0	$886
18) Participant Non-Energy Costs (Annual $/Part.) =	$0	$0	$0
Escalation Rate =	1.73%	1.73%	1.73%
19) Participant Non-Energy Savings (Annual $/Part) =	$0	$0	$23
Escalation Rate =	1.73%	1.73%	1.73%
20) Project Life (Years) =	0.0	0.0	13.8
21) Avg. Dth/Part. Saved =	-	-	12.55
22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh	0 kWh	0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh	0 kWh	0 kWh
23) Number of Participants =	-	-	1,186
24) Total Annual Dth Saved =	0	0	14,882
25) Incentive/Participant =	$0.00	$0.00	$964.05

Cost Summary	**2016**
Utility Cost per Participant =	$1,390
Cost per Participant per Dth =	$181.41
Lifetime Energy Reduction (Dth)	205,633
Societal Cost per Dth	$7.57

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($2,051,200)	0.33
Utility Cost Test	($656,324)	0.60
Societal Test	$74,481	1.05
Participant Test	$2,202,176	3.09

HOME ENERGY SAVINGS PROGRAM 2016 ELECTRIC GOAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$166,859	$166,859	$166,859	$166,859
T & D	N/A	$63,282	$63,282	$63,282	$63,282
Marginal Energy	N/A	$381,902	$381,902	$381,902	$381,902
Environmental Externality	N/A	N/A	N/A	N/A	$16,402
Subtotal	N/A	$612,043	$612,043	$612,043	$628,445
Participant Benefits					
Bill Reduction - Electric	$1,044,861	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$658,336	N/A	N/A	$658,336	$658,336
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$425,243	N/A	N/A	$0	$0
Subtotal	$2,128,440	N/A	N/A	$658,336	$658,336
Total Benefits	$2,128,440	$612,043	$612,043	$1,270,379	$1,286,781
Costs					
Utility Project Costs					
Customer Services	N/A	$344,723	$344,723	$344,723	$344,723
Project Administration	N/A	$151,884	$151,884	$151,884	$151,884
Advertising & Promotion	N/A	$75,099	$75,099	$75,099	$75,099
Measurement & Verification	N/A	$77,000	$77,000	$77,000	$77,000
Rebates	N/A	$658,336	$658,336	$658,336	$658,336
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$1,307,042	$1,307,042	$1,307,042	$1,307,042
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$1,044,861	N/A	N/A
Subtotal	N/A	N/A	$1,044,861	N/A	N/A
Participant Costs					
Incremental Capital Costs	$658,336	N/A	N/A	$620,112	$620,112
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$658,336	N/A	N/A	$620,112	$620,112
Total Costs	$658,336	$1,307,042	$2,351,903	$1,927,154	$1,927,154
Net Benefit (Cost)	$1,470,103	($694,999)	($1,739,860)	($656,775)	($640,373)
Benefit/Cost Ratio	3.23	0.47	0.26	0.66	0.67

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	13.2 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	31.49%
Gross Load Factor at Customer	E	17.44%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	($1,268)

Program Summary per Participant

Gross kW Saved at Customer	I	0.25 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.09 kW
Gross Annual kWh Saved at Customer	(B x E x I)	386 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	421 kWh

Program Summary All Participants

Total Participants	J	2,000
Total Budget	K	**$1,307,042**
Gross kW Saved at Customer	(J x I)	505 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**174 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	771,304 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**842,035 kWh**
Societal Net Benefits	(J x I x H)	**($640,373)**

Utility Program Cost per kWh Lifetime	**$0.1180**
Utility Program Cost per kW at Gen	**$7,496.92**

HOME ENERGY SAVINGS PROGRAM — 2016 ELECTRIC — ACTUAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$175,913	$175,913	$175,913	$175,913
T & D	N/A	$66,698	$66,698	$66,698	$66,698
Marginal Energy	N/A	$421,290	$421,290	$421,290	$421,290
Environmental Externality	N/A	N/A	N/A	N/A	$17,673
Subtotal	N/A	$663,901	$663,901	$663,901	$681,574
Participant Benefits					
Bill Reduction - Electric	$1,137,682	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$811,131	N/A	N/A	$811,131	$811,131
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$1,948,813	N/A	N/A	$811,131	$811,131
Total Benefits	$1,948,813	$663,901	$663,901	$1,475,031	$1,492,704
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$480,793	$480,793	$480,793	$480,793
Advertising & Promotion	N/A	$0	$0	$0	$0
Measurement & Verification	N/A	$7,283	$7,283	$7,283	$7,283
Rebates	N/A	$811,131	$811,131	$811,131	$811,131
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$1,299,207	$1,299,207	$1,299,207	$1,299,207
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$1,137,682	N/A	N/A
Subtotal	N/A	N/A	$1,137,682	N/A	N/A
Participant Costs					
Incremental Capital Costs	$756,517	N/A	N/A	$756,517	$756,517
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$756,517	N/A	N/A	$756,517	$756,517
Total Costs	$756,517	$1,299,207	$2,436,889	$2,055,723	$2,055,723
Net Benefit (Cost)	$1,192,296	($635,306)	($1,772,988)	($580,692)	($563,019)
Benefit/Cost Ratio	2.58	0.51	0.27	0.72	0.73

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	12.7 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	28.46%
Gross Load Factor at Customer	E	16.02%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	($909)

Program Summary per Participant

Gross Realized kW Saved at Customer	I	0.24 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.08 kW
Gross Realized Annual kWh Saved at Customer	(B x E x I)	341 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	373 kWh

Program Summary All Participants

Total Participants	J	2,548
Total Budget	K	**$1,299,207**
Gross kW Saved at Customer	(J x I)	620 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**193 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	869,417 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**949,145 kWh**
Societal Net Benefits	(J x I x H)	**($563,019)**

Utility Program Cost per kWh Lifetime	**$0.1081**
Utility Program Cost per kW at Gen	**$6,719.00**

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **Xcel Energy**
Project: **Home Energy Savings Program**

Input Data	**2016**
1) Retail Rate ($/Dth) =	$7.23
Escalation Rate =	4.28%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	2.80%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.34
Escalation Rate =	4.28%
4) Demand Cost ($/Unit/Yr) =	$74.00
Escalation Rate =	4.28%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0600
Escalation Rate =	4.28%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.027
Escalation Rate =	2.80%
8) Non-Gas Fuel Loss Factor	5.80%
9) Gas Environmental Damage Factor =	$0.3500
Escalation Rate =	1.73%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0213
Escalation Rate =	1.73%
11) Participant Discount Rate =	2.67%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.67%
14) General Input Data Year =	2012
15a) Project Analysis Year 1 =	2016
15b) Project Analysis Year 2 =	
15c) Project Analysis Year 3 =	

	2016
Administrative & Operating Costs =	$333,852
Incentive Costs =	$833,999
16) Total Utility Project Costs =	$1,167,851
17) Direct Participant Costs ($/Part.) =	$2,085
18) Participant Non-Energy Costs (Annual $/Part.) =	$0
Escalation Rate =	1.73%
19) Participant Non-Energy Savings (Annual $/Part) =	$0
Escalation Rate =	1.73%
20) Project Life (Years) =	19.7
21) Avg. Dth/Part. Saved =	22.50
22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh
23) Number of Participants =	400
24) Total Annual Dth Saved =	9,001
25) Incentive/Participant =	$2,085.00

Cost Summary	**2016**
Utility Cost per Participant =	$2,920
Cost per Participant per Dth =	$222.40
Lifetime Energy Reduction (Dth)	177,036
Societal Cost per Dth	$6.22

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($1,513,695)	0.36
Utility Cost Test	($315,811)	0.73
Societal Test	$210,220	1.19
Participant Test	$1,844,807	3.21

Conservation Improvement Program (CIP) ACTUAL

BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **Xcel Energy**
Project: **Home Energy Savings Program**

Input Data

1) Retail Rate ($/Dth) =	$7.23
Escalation Rate =	4.28%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	2.80%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.34
Escalation Rate =	4.28%
4) Demand Cost ($/Unit/Yr) =	$74.00
Escalation Rate =	4.28%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0600
Escalation Rate =	4.28%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.027
Escalation Rate =	2.80%
8) Non-Gas Fuel Loss Factor	5.80%
9) Gas Environmental Damage Factor =	$0.3500
Escalation Rate =	1.73%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0213
Escalation Rate =	1.73%
11) Participant Discount Rate =	2.67%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.67%
14) General Input Data Year =	2012
15a) Project Analysis Year 1 =	
15b) Project Analysis Year 2 =	
15c) Project Analysis Year 3 =	2016

			2016
Administrative & Operating Costs =	$0	$0	$251,142
Incentive Costs =	$0	$0	$1,143,364
16) Total Utility Project Costs =	$0	$0	$1,394,506
17) Direct Participant Costs ($/Part.) =	$0	$0	$2,484
18) Participant Non-Energy Costs (Annual $/Part.) =	$0	$0	$0
Escalation Rate =	1.73%	1.73%	1.73%
19) Participant Non-Energy Savings (Annual $/Part) =	$0	$0	$0
Escalation Rate =	1.73%	1.73%	1.73%
20) Project Life (Years) =	0.0	0.0	19.3
21) Avg. Dth/Part. Saved =	-	-	18.72
22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh	0 kWh	0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh	0 kWh	0 kWh
23) Number of Participants =	-	-	412
24) Total Annual Dth Saved =	0	0	7,712
25) Incentive/Participant =	$0.00	$0.00	$2,775.16

Cost Summary	2016
Utility Cost per Participant =	$3,385
Cost per Participant per Dth =	$313.51
Lifetime Energy Reduction (Dth)	149,228
Societal Cost per Dth	$8.54

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($1,675,017)	0.29
Utility Cost Test	($703,424)	0.50
Societal Test	($216,006)	0.83
Participant Test	$1,537,001	2.50

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **Xcel Energy**
Project: **Low-Income Home Energy Squad**

Input Data	2016
1) Retail Rate ($/Dth) =	$7.23
Escalation Rate =	4.28%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	2.80%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.34
Escalation Rate =	4.28%
4) Demand Cost ($/Unit/Yr) =	$74.00
Escalation Rate =	4.28%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0600
Escalation Rate =	4.28%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.027
Escalation Rate =	2.80%
8) Non-Gas Fuel Loss Factor	5.80%
9) Gas Environmental Damage Factor =	$0.3500
Escalation Rate =	1.73%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0213
Escalation Rate =	1.73%
11) Participant Discount Rate =	2.67%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.67%
14) General Input Data Year =	2012
15a) Project Analysis Year 1 =	2016
15b) Project Analysis Year 2 =	
15c) Project Analysis Year 3 =	

	2016
Administrative & Operating Costs =	$468,370
Incentive Costs =	$0
16) Total Utility Project Costs =	$468,370
17) Direct Participant Costs ($/Part.) =	$0
18) Participant Non-Energy Costs (Annual $/Part.) =	$0
Escalation Rate =	1.73%
19) Participant Non-Energy Savings (Annual $/Part) =	$35
Escalation Rate =	1.73%
20) Project Life (Years) =	7.9
21) Avg. Dth/Part. Saved =	8.65
22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh
23) Number of Participants =	1,650
24) Total Annual Dth Saved =	14,274
25) Incentive/Participant =	$0.00

Cost Summary	2016
Utility Cost per Participant =	$284
Cost per Participant per Dth =	$32.81
Lifetime Energy Reduction (Dth)	112,299
Societal Cost per Dth	$4.17

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($722,092)	0.46
Utility Cost Test	$156,714	1.33
Societal Test	$710,088	2.52
Participant Test	$1,430,098	INF

Conservation Improvement Program (CIP) ACTUAL

BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **Xcel Energy**
Project: **Low-Income Home Energy Squad**

Input Data

1) Retail Rate ($/Dth) =	$7.23
Escalation Rate =	4.28%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	2.80%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.34
Escalation Rate =	4.28%
4) Demand Cost ($/Unit/Yr) =	$74.00
Escalation Rate =	4.28%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0600
Escalation Rate =	4.28%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.027
Escalation Rate =	2.80%
8) Non-Gas Fuel Loss Factor	5.80%
9) Gas Environmental Damage Factor =	$0.3500
Escalation Rate =	1.73%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0213
Escalation Rate =	1.73%
11) Participant Discount Rate =	2.67%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.67%
14) General Input Data Year =	2012
15a) Project Analysis Year 1 =	
15b) Project Analysis Year 2 =	
15c) Project Analysis Year 3 =	2016

			2016
Administrative & Operating Costs =	$0	$0	$253,976
Incentive Costs =	$0	$0	$0
16) Total Utility Project Costs =	$0	$0	$253,976
17) Direct Participant Costs ($/Part.) =	$0	$0	$36
18) Participant Non-Energy Costs (Annual $/Part.) =	$0	$0	$0
Escalation Rate =	1.73%	1.73%	1.73%
19) Participant Non-Energy Savings (Annual $/Part) =	$0	$0	$35
Escalation Rate =	1.73%	1.73%	1.73%
20) Project Life (Years) =	0.0	0.0	7.9
21) Avg. Dth/Part. Saved =	-	-	9.26
22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh	0 kWh	0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh	0 kWh	0 kWh
23) Number of Participants =	-	-	774
24) Total Annual Dth Saved =	0	0	7,170
25) Incentive/Participant =	$0.00	$0.00	$0.00

Cost Summary	2016
Utility Cost per Participant =	$328
Cost per Participant per Dth =	$39.31
Lifetime Energy Reduction (Dth)	56,404
Societal Cost per Dth	$5.00

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($376,183)	0.44
Utility Cost Test	$47,100	1.19
Societal Test	$290,487	2.03
Participant Test	$665,175	24.86

MULTI-FAMILY ENERGY SAVINGS PROGRAM 2016 ELECTRIC GOAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$94,514	$94,514	$94,514	$94,514
T & D	N/A	$35,833	$35,833	$35,833	$35,833
Marginal Energy	N/A	$277,165	$277,165	$277,165	$277,165
Environmental Externality	N/A	N/A	N/A	N/A	$12,362
Subtotal	N/A	$407,512	$407,512	$407,512	$419,875
Participant Benefits					
Bill Reduction - Electric	$775,014	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$493,262	N/A	N/A	$493,262	$493,262
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$1,268,276	N/A	N/A	$493,262	$493,262
Total Benefits	$1,268,276	$407,512	$407,512	$900,774	$913,137
Costs					
Utility Project Costs					
Customer Services	N/A	$71,018	$71,018	$71,018	$71,018
Project Administration	N/A	$209,696	$209,696	$209,696	$209,696
Advertising & Promotion	N/A	$10,000	$10,000	$10,000	$10,000
Measurement & Verification	N/A	$35,000	$35,000	$35,000	$35,000
Rebates	N/A	$493,262	$493,262	$493,262	$493,262
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$818,976	$818,976	$818,976	$818,976
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$775,014	N/A	N/A
Subtotal	N/A	N/A	$775,014	N/A	N/A
Participant Costs					
Incremental Capital Costs	$493,262	N/A	N/A	$493,262	$493,262
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$493,262	N/A	N/A	$493,262	$493,262
Total Costs	$493,262	$818,976	$1,593,990	$1,312,238	$1,312,238
Net Benefit (Cost)	$775,014	($411,464)	($1,186,478)	($411,464)	($399,101)
Benefit/Cost Ratio	2.57	0.50	0.26	0.69	0.70

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	12.1 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	26.42%
Gross Load Factor at Customer	E	16.51%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	($929)

Program Summary per Participant

Gross kW Saved at Customer	I	0.72 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.21 kW
Gross Annual kWh Saved at Customer	(B x E x I)	1,042 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	1,138 kWh

Program Summary All Participants

Total Participants	J	596
Total Budget	K	**$818,976**
Gross kW Saved at Customer	(J x I)	430 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**124 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	621,037 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**677,988 kWh**
Societal Net Benefits	(J x I x H)	**($399,101)**

Utility Program Cost per kWh Lifetime	**$0.0999**
Utility Program Cost per kW at Gen	**$6,581.25**

MULTI-FAMILY ENERGY SAVINGS PROGRAM — 2016 ELECTRIC — ACTUAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$112,203	$112,203	$112,203	$112,203
T & D	N/A	$42,542	$42,542	$42,542	$42,542
Marginal Energy	N/A	$320,028	$320,028	$320,028	$320,028
Environmental Externality	N/A	N/A	N/A	N/A	$14,040
Subtotal	N/A	$474,774	$474,774	$474,774	$488,814
Participant Benefits					
Bill Reduction - Electric	$878,295	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$621,573	N/A	N/A	$621,573	$621,573
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$1,499,868	N/A	N/A	$621,573	$621,573
Total Benefits	$1,499,868	$474,774	$474,774	$1,096,347	$1,110,387
Costs					
Utility Project Costs					
Customer Services	N/A	$52,535	$52,535	$52,535	$52,535
Project Administration	N/A	$132,538	$132,538	$132,538	$132,538
Advertising & Promotion	N/A	$0	$0	$0	$0
Measurement & Verification	N/A	$4,520	$4,520	$4,520	$4,520
Rebates	N/A	$621,573	$621,573	$621,573	$621,573
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$811,166	$811,166	$811,166	$811,166
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$878,295	N/A	N/A
Subtotal	N/A	N/A	$878,295	N/A	N/A
Participant Costs					
Incremental Capital Costs	$677,955	N/A	N/A	$677,955	$677,955
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$677,955	N/A	N/A	$677,955	$677,955
Total Costs	$677,955	$811,166	$1,689,461	$1,489,121	$1,489,121
Net Benefit (Cost)	$821,913	($336,392)	($1,214,687)	($392,774)	($378,734)
Benefit/Cost Ratio	2.21	0.59	0.28	0.74	0.75

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	12.4 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	32.02%
Gross Load Factor at Customer	E	19.94%
Transmission Loss Factor (Energy)	F	8.399%
Transmission Loss Factor (Demand)	G	8.796%
Societal Net Benefit (Cost)	H	($971)

Program Summary per Participant

Gross Realized kW Saved at Customer	I	0.22 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.08 kW
Gross Realized Annual kWh Saved at Customer	(B x E x I)	382 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	417 kWh

Program Summary All Participants

Total Participants	J	1,783
Total Budget	K	**$811,166**
Gross kW Saved at Customer	(J x I)	390 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**137 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	681,720 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**744,224 kWh**
Societal Net Benefits	(J x I x H)	**($378,734)**

Utility Program Cost per kWh Lifetime	**$0.0876**
Utility Program Cost per kW at Gen	**$5,920.68**

EMIS				2016	ELECTRIC	GOAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$29,130	$29,130	$29,130	$29,130
T & D	N/A	$11,050	$11,050	$11,050	$11,050
Marginal Energy	N/A	$198,310	$198,310	$198,310	$198,310
Environmental Externality	N/A	N/A	N/A	N/A	$10,070
Subtotal	N/A	$238,490	$238,490	$238,490	$248,560
Participant Benefits					
Bill Reduction - Electric	$309,960	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$30,345	N/A	N/A	$30,345	$30,345
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$340,305	N/A	N/A	$30,345	$30,345
Total Benefits	$340,305	$238,490	$238,490	$268,835	$278,905
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$90,649	$90,649	$90,649	$90,649
Advertising & Promotion	N/A	$1,000	$1,000	$1,000	$1,000
Measurement & Verification	N/A	$5,000	$5,000	$5,000	$5,000
Rebates	N/A	$30,345	$30,345	$30,345	$30,345
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$126,994	$126,994	$126,994	$126,994
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$309,960	N/A	N/A
Subtotal	N/A	N/A	$309,960	N/A	N/A
Participant Costs					
Incremental Capital Costs	$82,065	N/A	N/A	$82,065	$82,065
Incremental O&M Costs	$193,364	N/A	N/A	$193,364	$193,364
Subtotal	$275,429	N/A	N/A	$275,429	$275,429
Total Costs	$275,429	$126,994	$436,954	$402,423	$402,423
Net Benefit (Cost)	$64,876	$111,496	($198,464)	($133,588)	($123,518)
Benefit/Cost Ratio	1.24	1.88	0.55	0.67	0.69

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	6.3 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	37.27%
Gross Load Factor at Customer	E	69.58%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	($926)

Program Summary per Participant

Gross kW Saved at Customer	I	13.34 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	5.35 kW
Gross Annual kWh Saved at Customer	(B x E x I)	81,330 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	87,077 kWh

Program Summary All Participants

Total Participants	J	10
Total Budget	K	**$126,994**
Gross kW Saved at Customer	(J x I)	133 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**53 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	813,297 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**870,767 kWh**
Societal Net Benefits	(J x I x H)	**($123,518)**

Utility Program Cost per kWh Lifetime	**$0.0233**
Utility Program Cost per kW at Gen	**$2,375**

ENERGY INFORMATION SYSTEMS PILOT — 2016 ELECTRIC — ACTUAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$0	$0	$0	$0
T & D	N/A	$0	$0	$0	$0
Marginal Energy	N/A	$0	$0	$0	$0
Environmental Externality	N/A	N/A	N/A	N/A	$0
Subtotal	N/A	$0	$0	$0	$0
Participant Benefits					
Bill Reduction - Electric	$0	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$0	N/A	N/A	$0	$0
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$0	N/A	N/A	$0	$0
Total Benefits	$0	$0	$0	$0	$0
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$224,790	$224,790	$224,790	$224,790
Advertising & Promotion	N/A	$977	$977	$977	$977
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$0	$0	$0	$0
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$225,768	$225,768	$225,768	$225,768
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$0	N/A	N/A
Subtotal	N/A	N/A	$0	N/A	N/A
Participant Costs					
Incremental Capital Costs	$0	N/A	N/A	$0	$0
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$0	N/A	N/A	$0	$0
Total Costs	$0	$225,768	$225,768	$225,768	$225,768
Net Benefit (Cost)	$0	($225,768)	($225,768)	($225,768)	($225,768)
Benefit/Cost Ratio	INF	-	-	-	-

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	0.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	0.00%
Gross Load Factor at Customer	E	#DIV/0!
Transmission Loss Factor (Energy)	F	0.000%
Transmission Loss Factor (Demand)	G	0.000%
Societal Net Benefit (Cost)	H	#DIV/0!

Program Summary per Participant

Gross Realized kW Saved at Customer	I	#DIV/0!
Net coincident kW Saved at Generator	(I x D) / (1 - G)	#DIV/0!
Gross Realized Annual kWh Saved at Customer	(B x E x I)	#DIV/0!
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	#DIV/0!

Program Summary All Participants

Total Participants	J	0
Total Budget	K	**$225,768**
Gross kW Saved at Customer	(J x I)	#DIV/0!
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**#DIV/0!**
Gross Annual kWh Saved at Customer	(B x E x I) x J	#DIV/0!
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**#DIV/0!**
Societal Net Benefits	(J x I x H)	**#DIV/0!**

Utility Program Cost per kWh Lifetime	**#DIV/0!**
Utility Program Cost per kW at Gen	**#DIV/0!**

Conservation Improvement Program (CIP)

BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **Xcel Energy**
Project: **EMIS**

Input Data	
1) Retail Rate ($/Dth) =	$6.60
Escalation Rate =	4.28%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	2.80%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.34
Escalation Rate =	4.28%
4) Demand Cost ($/Unit/Yr) =	$74.00
Escalation Rate =	4.28%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0600
Escalation Rate =	4.28%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.027
Escalation Rate =	2.80%
8) Non-Gas Fuel Loss Factor	5.80%
9) Gas Environmental Damage Factor =	$0.3500
Escalation Rate =	1.73%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0213
Escalation Rate =	1.73%
11) Participant Discount Rate =	2.67%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.67%
14) General Input Data Year =	2012
15a) Project Analysis Year 1 =	2014
15b) Project Analysis Year 2 =	2015
15c) Project Analysis Year 3 =	2016

	2014 First Year	2015 Second Year	2016 Third Year
Administrative & Operating Costs =	$0	$81,558	$93,856
Incentive Costs =	$0	$38,382	$43,289
16) Total Utility Project Costs =	$0	$119,940	$137,145
17) Direct Participant Costs ($/Part.) =	$0	$14,673	$10,539
18) Participant Non-Energy Costs (Annual $/Part.) =	$0	$12,916	$6,392
Escalation Rate =	1.73%	1.73%	1.73%
19) Participant Non-Energy Savings (Annual $/Part) =	$0	$0	$0
Escalation Rate =	1.73%	1.73%	1.73%
20) Project Life (Years) =	0.0	7.0	6.2
21) Avg. Dth/Part. Saved =	-	602.44	875.43
22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh	0 kWh	0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh	0 kWh	0 kWh
23) Number of Participants =	-	5	10
24) Total Annual Dth Saved =	0	3,012	8,754
25) Incentive/Participant =	$0.00	$7,676.40	$4,328.90

Cost Summary	1st Yr	2nd Yr	3rd Yr
Utility Cost per Participant =	#DIV/0!	$23,988	$13,715
Cost per Participant per Dth =	#DIV/0!	$85.61	$35.01
Lifetime Energy Reduction (Dth)	75,022		
Societal Cost per Dth	$12.57		

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($368,860)	0.52
Utility Cost Test	$136,344	1.53
Societal Test	($462,564)	0.51
Participant Test	($171,393)	0.78

Supplemental Information	2014 1st Yr	2015 2nd Yr	2016 3rd Yr	Total
Total Incremental Capital	$0	$367,764	$399,792	$767,556
Total O&M Savings	$0	$2,654	$6,634	$9,287
Societal ARR (does not include rebates)	$0	$139,047	$369,626	$508,672
Societal Costs (does not include rebates)	$0	$449,322	$493,648	$942,970
Societal Net Benefits	$0	-$310,276	-$124,022	-$434,298
Societal Ratio	#DIV/0!	0.31	0.75	0.54

Conservation Improvement Program (CIP) ACTUAL

BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **Xcel Energy**
Project: **Energy Information Systems Pilot**

Input Data

1) Retail Rate ($/Dth) =	$6.60
Escalation Rate =	4.28%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	2.80%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.34
Escalation Rate =	4.28%
4) Demand Cost ($/Unit/Yr) =	$74.00
Escalation Rate =	4.28%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0600
Escalation Rate =	4.28%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.027
Escalation Rate =	2.80%
8) Non-Gas Fuel Loss Factor	5.80%
9) Gas Environmental Damage Factor =	$0.3500
Escalation Rate =	1.73%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0213
Escalation Rate =	1.73%
11) Participant Discount Rate =	2.67%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.67%
14) General Input Data Year =	2012
15a) Project Analysis Year 1 =	
15b) Project Analysis Year 2 =	
15c) Project Analysis Year 3 =	2016

			2016
Administrative & Operating Costs =	$0	$0	$10,222
Incentive Costs =	$0	$0	$0
16) Total Utility Project Costs =	$0	$0	$10,222
17) Direct Participant Costs ($/Part.) =	$0	$0	$0
18) Participant Non-Energy Costs (Annual $/Part.) =	$0	$0	$0
Escalation Rate =	1.73%	1.73%	1.73%
19) Participant Non-Energy Savings (Annual $/Part) =	$0	$0	$0
Escalation Rate =	1.73%	1.73%	1.73%
20) Project Life (Years) =	0.0	0.0	0.0
21) Avg. Dth/Part. Saved =	-	-	-
22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh	0 kWh	0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh	0 kWh	0 kWh
23) Number of Participants =	-	-	-
24) Total Annual Dth Saved =	0	0	0
25) Incentive/Participant =	$0.00	$0.00	$0.00

Cost Summary	2016
Utility Cost per Participant =	#DIV/0!
Cost per Participant per Dth =	#DIV/0!
Lifetime Energy Reduction (Dth)	-
Societal Cost per Dth	#DIV/0!

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($10,222)	-
Utility Cost Test	($10,222)	-
Societal Test	($10,222)	-
Participant Test	$0	INF

ESRPP				2016	ELECTRIC	GOAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$225,626	$225,626	$225,626	$225,626
T & D	N/A	$85,543	$85,543	$85,543	$85,543
Marginal Energy	N/A	$355,736	$355,736	$355,736	$355,736
Environmental Externality	N/A	N/A	N/A	N/A	$15,212
Subtotal	N/A	$666,905	$666,905	$666,905	$682,117
Participant Benefits					
Bill Reduction - Electric	$921,732	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$199,469	N/A	N/A	$199,469	$199,469
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$8,561	N/A	N/A	$0	$0
Subtotal	$1,129,762	N/A	N/A	$199,469	$199,469
Total Benefits	$1,129,762	$666,905	$666,905	$866,375	$881,586
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$160,075	$160,075	$160,075	$160,075
Advertising & Promotion	N/A	$95,000	$95,000	$95,000	$95,000
Measurement & Verification	N/A	$19,000	$19,000	$19,000	$19,000
Rebates	N/A	$199,469	$199,469	$199,469	$199,469
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$473,544	$473,544	$473,544	$473,544
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$921,732	N/A	N/A
Subtotal	N/A	N/A	$921,732	N/A	N/A
Participant Costs					
Incremental Capital Costs	$980,459	N/A	N/A	$980,459	$980,459
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$980,459	N/A	N/A	$980,459	$980,459
Total Costs	$980,459	$473,544	$1,395,276	$1,454,004	$1,454,004
Net Benefit (Cost)	$149,303	$193,361	($728,371)	($587,629)	($572,417)
Benefit/Cost Ratio	1.15	1.41	0.48	0.60	0.61

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	10.1 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	18.95%
Gross Load Factor at Customer	E	6.07%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	($356)

Program Summary per Participant

Gross kW Saved at Customer	I	0.18 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.04 kW
Gross Annual kWh Saved at Customer	(B x E x I)	97 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	106 kWh

Program Summary All Participants

Total Participants	J	8,788
Total Budget	K	**$473,544**
Gross kW Saved at Customer	(J x I)	1,606 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**334 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	854,185 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**932,516 kWh**
Societal Net Benefits	(J x I x H)	**($572,417)**

Utility Program Cost per kWh Lifetime	**$0.0500**
Utility Program Cost per kW at Gen	**$1,419.70**

ESRPP **2016 ELECTRIC** **ACTUAL**

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$64,490	$64,490	$64,490	$64,490
T & D	N/A	$24,452	$24,452	$24,452	$24,452
Marginal Energy	N/A	$329,612	$329,612	$329,612	$329,612
Environmental Externality	N/A	N/A	N/A	N/A	$14,107
Subtotal	N/A	$418,553	$418,553	$418,553	$432,660
Participant Benefits					
Bill Reduction - Electric	$900,522	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$197,960	N/A	N/A	$197,960	$197,960
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$1,098,482	N/A	N/A	$197,960	$197,960
Total Benefits	$1,098,482	$418,553	$418,553	$616,513	$630,620
Costs					
Utility Project Costs					
Customer Services	N/A	$118,227	$118,227	$118,227	$118,227
Project Administration	N/A	$5,051	$5,051	$5,051	$5,051
Advertising & Promotion	N/A	$0	$0	$0	$0
Measurement & Verification	N/A	$242	$242	$242	$242
Rebates	N/A	$197,960	$197,960	$197,960	$197,960
Other	N/A	$30	$30	$30	$30
Subtotal	N/A	$321,510	$321,510	$321,510	$321,510
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$900,522	N/A	N/A
Subtotal	N/A	N/A	$900,522	N/A	N/A
Participant Costs					
Incremental Capital Costs	$792,997	N/A	N/A	$792,997	$792,997
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$792,997	N/A	N/A	$792,997	$792,997
Total Costs	$792,997	$321,510	$1,222,032	$1,114,507	$1,114,507
Net Benefit (Cost)	$305,485	$97,044	($803,478)	($497,993)	($483,887)
Benefit/Cost Ratio	1.39	1.30	0.34	0.55	0.57

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	10.7 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	72.49%
Gross Load Factor at Customer	E	75.07%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	($4,109)

Program Summary per Participant		
Gross Realized kW Saved at Customer	I	0.02 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.02 kW
Gross Realized Annual kWh Saved at Customer	(B x E x I)	126 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	138 kWh

Program Summary All Participants		
Total Participants	J	6,140
Total Budget	K	**$321,510**
Gross kW Saved at Customer	(J x I)	118 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**94 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	774,385 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**845,398 kWh**
Societal Net Benefits	(J x I x H)	**($483,887)**

Utility Program Cost per kWh Lifetime	**$0.0355**
Utility Program Cost per kW at Gen	**$3,434.74**

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **Xcel Energy**
Project: **ESRPP**

Input Data	
1) Retail Rate ($/Dth) =	$7.23
Escalation Rate =	4.28%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	2.80%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.34
Escalation Rate =	4.28%
4) Demand Cost ($/Unit/Yr) =	$74.00
Escalation Rate =	4.28%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0600
Escalation Rate =	4.28%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.027
Escalation Rate =	2.80%
8) Non-Gas Fuel Loss Factor	5.80%
9) Gas Environmental Damage Factor =	$0.3500
Escalation Rate =	1.73%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0213
Escalation Rate =	1.73%
11) Participant Discount Rate =	2.67%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.67%
14) General Input Data Year =	2012
15a) Project Analysis Year 1 =	2016
15b) Project Analysis Year 2 =	
15c) Project Analysis Year 3 =	

	First Year	Second Year	Third Year
Administrative & Operating Costs =	$0	$0	$14,425
Incentive Costs =	$0	$0	$12,126
16) Total Utility Project Costs =	$0	$0	$26,551
17) Direct Participant Costs ($/Part.) =	$0	$0	$244
18) Participant Non-Energy Costs (Annual $/Part.) =	$0	$0	$0
Escalation Rate =	1.73%	1.73%	1.73%
19) Participant Non-Energy Savings (Annual $/Part) =	$0	$0	$0
Escalation Rate =	1.73%	1.73%	1.73%
20) Project Life (Years) =	0.0	0.0	12.0
21) Avg. Dth/Part. Saved =	-	-	0.50
22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh	0 kWh	0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh	0 kWh	0 kWh
23) Number of Participants =	-	-	268
24) Total Annual Dth Saved =	0	0	134
25) Incentive/Participant =	$0.00	$0.00	$45.25

Cost Summary	2016
Utility Cost per Participant =	$99
Cost per Participant per Dth =	$686.82
Lifetime Energy Reduction (Dth)	1,609
Societal Cost per Dth	$45.82

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($28,966)	0.23
Utility Cost Test	($18,048)	0.32
Societal Test	($62,470)	0.15
Participant Test	($40,332)	0.38

Conservation Improvement Program (CIP) ACTUAL

BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **Xcel Energy**
Project: **ESRPP**

Input Data

1) Retail Rate ($/Dth) =	$6.60
Escalation Rate =	4.28%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	2.80%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.34
Escalation Rate =	4.28%
4) Demand Cost ($/Unit/Yr) =	$74.00
Escalation Rate =	4.28%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0600
Escalation Rate =	4.28%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.027
Escalation Rate =	2.80%
8) Non-Gas Fuel Loss Factor	5.80%
9) Gas Environmental Damage Factor =	$0.3500
Escalation Rate =	1.73%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0213
Escalation Rate =	1.73%
11) Participant Discount Rate =	2.67%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.67%
14) General Input Data Year =	2012
15a) Project Analysis Year 1 =	
15b) Project Analysis Year 2 =	
15c) Project Analysis Year 3 =	2016

			2016
Administrative & Operating Costs =	$0	$0	$8,136
Incentive Costs =	$0	$0	$62,800
16) Total Utility Project Costs =	$0	$0	$70,936
17) Direct Participant Costs ($/Part.) =	$0	$0	$243
18) Participant Non-Energy Costs (Annual $/Part.) =	$0	$0	$0
Escalation Rate =	1.73%	1.73%	1.73%
19) Participant Non-Energy Savings (Annual $/Part) =	$0	$0	$0
Escalation Rate =	1.73%	1.73%	1.73%
20) Project Life (Years) =	0.0	0.0	12.0
21) Avg. Dth/Part. Saved =	-	-	0.60
22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh	0 kWh	0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh	0 kWh	0 kWh
23) Number of Participants =	-	-	1,256
24) Total Annual Dth Saved =	0	0	758
25) Incentive/Participant =	$0.00	$0.00	$50.00

Cost Summary	2016
Utility Cost per Participant =	$56
Cost per Participant per Dth =	$496.27
Lifetime Energy Reduction (Dth)	9,100
Societal Cost per Dth	$34.45

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($89,659)	0.34
Utility Cost Test	($24,809)	0.65
Societal Test	($252,476)	0.19
Participant Test	($161,243)	0.47

BUSINESS ENERGY FEEDBACK PILOT **2016 ELECTRIC** **ACTUAL**

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$0	$0	$0	$0
T & D	N/A	$0	$0	$0	$0
Marginal Energy	N/A	$0	$0	$0	$0
Environmental Externality	N/A	N/A	N/A	N/A	$0
Subtotal	N/A	$0	$0	$0	$0
Participant Benefits					
Bill Reduction - Electric	$0	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$0	N/A	N/A	$0	$0
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$0	N/A	N/A	$0	$0
Total Benefits	$0	$0	$0	$0	$0
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$307,107	$307,107	$307,107	$307,107
Advertising & Promotion	N/A	$435	$435	$435	$435
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$0	$0	$0	$0
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$307,542	$307,542	$307,542	$307,542
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$0	N/A	N/A
Subtotal	N/A	N/A	$0	N/A	N/A
Participant Costs					
Incremental Capital Costs	$0	N/A	N/A	$0	$0
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$0	N/A	N/A	$0	$0
Total Costs	$0	$307,542	$307,542	$307,542	$307,542
Net Benefit (Cost)	$0	($307,542)	($307,542)	($307,542)	($307,542)
Benefit/Cost Ratio	INF	-	-	-	-

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	0.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	0.00%
Gross Load Factor at Customer	E	#DIV/0!
Transmission Loss Factor (Energy)	F	0.000%
Transmission Loss Factor (Demand)	G	0.000%
Societal Net Benefit (Cost)	H	#DIV/0!

Program Summary per Participant		
Gross Realized kW Saved at Customer	I	#DIV/0!
Net coincident kW Saved at Generator	(I x D) / (1 - G)	#DIV/0!
Gross Realized Annual kWh Saved at Customer	(B x E x I)	#DIV/0!
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	#DIV/0!

Program Summary All Participants		
Total Participants	J	0
Total Budget	K	**$307,542**
Gross kW Saved at Customer	(J x I)	#DIV/0!
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**#DIV/0!**
Gross Annual kWh Saved at Customer	(B x E x I) x J	#DIV/0!
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**#DIV/0!**
Societal Net Benefits	(J x I x H)	**#DIV/0!**

Utility Program Cost per kWh Lifetime	**#DIV/0!**
Utility Program Cost per kW at Gen	**#DIV/0!**

Conservation Improvement Program (CIP) ACTUAL

BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **Xcel Energy**
Project: **Business Energy Feedback Pilot**

Input Data

1) Retail Rate ($/Dth) =	$6.60
Escalation Rate =	4.28%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	2.80%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.34
Escalation Rate =	4.28%
4) Demand Cost ($/Unit/Yr) =	$74.00
Escalation Rate =	4.28%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0600
Escalation Rate =	4.28%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.027
Escalation Rate =	2.80%
8) Non-Gas Fuel Loss Factor	5.80%
9) Gas Environmental Damage Factor =	$0.3500
Escalation Rate =	1.73%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0213
Escalation Rate =	1.73%
11) Participant Discount Rate =	2.67%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.67%
14) General Input Data Year =	2012
15a) Project Analysis Year 1 =	
15b) Project Analysis Year 2 =	
15c) Project Analysis Year 3 =	2016

			2016
Administrative & Operating Costs =	$0	$0	$8,931
Incentive Costs =	$0	$0	$0
16) Total Utility Project Costs =	$0	$0	$8,931
17) Direct Participant Costs ($/Part.) =	$0	$0	$0
18) Participant Non-Energy Costs (Annual $/Part.) =	$0	$0	$0
Escalation Rate =	1.73%	1.73%	1.73%
19) Participant Non-Energy Savings (Annual $/Part) =	$0	$0	$0
Escalation Rate =	1.73%	1.73%	1.73%
20) Project Life (Years) =	0.0	0.0	0.0
21) Avg. Dth/Part. Saved =	-	-	-
22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh	0 kWh	0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh	0 kWh	0 kWh
23) Number of Participants =	-	-	4,016
24) Total Annual Dth Saved =	0	0	0
25) Incentive/Participant =	$0.00	$0.00	$0.00

Cost Summary		**2016**
Utility Cost per Participant =		$2
Cost per Participant per Dth =	#DIV/0!	
Lifetime Energy Reduction (Dth)		-
Societal Cost per Dth	#DIV/0!	

Test Results	**Triennial NPV**	**Triennial B/C**
Ratepayer Impact Measure Test	($8,931)	-
Utility Cost Test	($8,931)	-
Societal Test	($8,931)	-
Participant Test	$0	INF

SMART THERMOSTAT- 2016 ELECTRIC GOAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$628,280	$628,280	$628,280	$628,280
T & D	N/A	$238,204	$238,204	$238,204	$238,204
Marginal Energy	N/A	$388,117	$388,117	$388,117	$388,117
Environmental Externality	N/A	N/A	N/A	N/A	$14,876
Subtotal	N/A	$1,254,602	$1,254,602	$1,254,602	$1,269,478
Participant Benefits					
Bill Reduction - Electric	$1,009,371	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$127,140	N/A	N/A	$127,140	$127,140
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$1,136,511	N/A	N/A	$127,140	$127,140
Total Benefits	$1,136,511	$1,254,602	$1,254,602	$1,381,742	$1,396,618
Costs					
Utility Project Costs					
Customer Services	N/A	$56,456	$56,456	$56,456	$56,456
Project Administration	N/A	$77,855	$77,855	$77,855	$77,855
Advertising & Promotion	N/A	$9,000	$9,000	$9,000	$9,000
Measurement & Verification	N/A	$216,070	$216,070	$216,070	$216,070
Rebates	N/A	$127,140	$127,140	$127,140	$127,140
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$486,521	$486,521	$486,521	$486,521
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$1,009,371	N/A	N/A
Subtotal	N/A	N/A	$1,009,371	N/A	N/A
Participant Costs					
Incremental Capital Costs	$570,416	N/A	N/A	$570,416	$570,416
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$570,416	N/A	N/A	$570,416	$570,416
Total Costs	$570,416	$486,521	$1,495,892	$1,056,937	$1,056,937
Net Benefit (Cost)	$566,095	$768,081	($241,290)	$324,805	$339,681
Benefit/Cost Ratio	1.99	2.58	0.84	1.31	1.32

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	10.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	62.01%
Gross Load Factor at Customer	E	6.31%
Transmission Loss Factor (Energy)	F	8.400%
Transmission Loss Factor (Demand)	G	8.800%
Societal Net Benefit (Cost)	H	$239

Program Summary per Participant

Gross kW Saved at Customer	I	0.25 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.17 kW
Gross Annual kWh Saved at Customer	(B x E x I)	138 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	150 kWh

Program Summary All Participants

Total Participants	J	5,700
Total Budget	K	**$486,521**
Gross kW Saved at Customer	(J x I)	1,422 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**967 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	785,672 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**857,721 kWh**
Societal Net Benefits	(J x I x H)	**$339,681**

Utility Program Cost per kWh Lifetime	**$0.0567**
Utility Program Cost per kW at Gen	**$503**

SMART THERMOSTAT DR — 2016 ELECTRIC — ACTUAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$356,669	$356,669	$356,669	$356,669
T & D	N/A	$135,230	$135,230	$135,230	$135,230
Marginal Energy	N/A	$721	$721	$721	$721
Environmental Externality	N/A	N/A	N/A	N/A	$25
Subtotal	N/A	$492,621	$492,621	$492,621	$492,645
Participant Benefits					
Bill Reduction - Electric	$1,340	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$51,183	N/A	N/A	$51,183	$51,183
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$52,522	N/A	N/A	$51,183	$51,183
Total Benefits	$52,522	$492,621	$492,621	$543,803	$543,828
Costs					
Utility Project Costs					
Customer Services	N/A	$0	$0	$0	$0
Project Administration	N/A	$10,711	$10,711	$10,711	$10,711
Advertising & Promotion	N/A	$2,098	$2,098	$2,098	$2,098
Measurement & Verification	N/A	$98,430	$98,430	$98,430	$98,430
Rebates	N/A	$51,183	$51,183	$51,183	$51,183
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$162,421	$162,421	$162,421	$162,421
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$1,340	N/A	N/A
Subtotal	N/A	N/A	$1,340	N/A	N/A
Participant Costs					
Incremental Capital Costs	$0	N/A	N/A	$0	$0
Incremental O&M Costs	$0	N/A	N/A	$0	$0
Subtotal	$0	N/A	N/A	$0	$0
Total Costs	$0	$162,421	$163,761	$162,421	$162,421
Net Benefit (Cost)	$52,522	$330,199	$328,860	$381,382	$381,406
Benefit/Cost Ratio	INF	3.03	3.01	3.35	3.35

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	15.0 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	100.00%
Gross Load Factor at Customer	E	0.04%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$1,166

Program Summary per Participant

Gross Realized kW Saved at Customer	I	0.30 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	0.32 kW
Gross Realized Annual kWh Saved at Customer	(B x E x I)	1 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	1 kWh

Program Summary All Participants

Total Participants	J	1,089
Total Budget	K	**$162,421**
Gross kW Saved at Customer	(J x I)	327 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**352 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	1,096 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**1,173 kWh**
Societal Net Benefits	(J x I x H)	**$381,406**

Utility Program Cost per kWh Lifetime	**$9.2293**
Utility Program Cost per kW at Gen	**$461.93**

Conservation Improvement Program (CIP) BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **Xcel Energy**
Project: **Smart Thermostat-**

Input Data

1) Retail Rate ($/Dth) =	$7.23
Escalation Rate =	4.28%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	2.80%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.34
Escalation Rate =	4.28%
4) Demand Cost ($/Unit/Yr) =	$74.00
Escalation Rate =	4.28%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0600
Escalation Rate =	4.28%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.027
Escalation Rate =	2.80%
8) Non-Gas Fuel Loss Factor	5.80%
9) Gas Environmental Damage Factor =	$0.3500
Escalation Rate =	1.73%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0213
Escalation Rate =	1.73%
11) Participant Discount Rate =	2.67%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.67%
14) General Input Data Year =	2012
15a) Project Analysis Year 1 =	2014
15b) Project Analysis Year 2 =	2015
15c) Project Analysis Year 3 =	2016

	2014 First Year	2015 Second Year	2016 Third Year
Administrative & Operating Costs =	$0	$148,511	$76,119
Incentive Costs =	$0	$64,290	$42,860
16) Total Utility Project Costs =	$0	$212,801	$118,979
17) Direct Participant Costs ($/Part.) =	$0	$0	$86
18) Participant Non-Energy Costs (Annual $/Part.) =	$0	$0	$0
Escalation Rate =	1.73%	1.73%	1.73%
19) Participant Non-Energy Savings (Annual $/Part) =	$0	$0	$0
Escalation Rate =	1.73%	1.73%	1.73%
20) Project Life (Years) =	0.0	0.0	10.0
21) Avg. Dth/Part. Saved =	-	-	2.73
22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh	0 kWh	0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh	0 kWh	0 kWh
23) Number of Participants =	-	-	1,484
24) Total Annual Dth Saved =	0	0	4,049
25) Incentive/Participant =	$0.00	$0.00	$28.88

Cost Summary	1st Yr	2nd Yr	3rd Yr
Utility Cost per Participant =	#DIV/0!	#DIV/0!	$80
Cost per Participant per Dth =	#DIV/0!	#DIV/0!	$60.81
Lifetime Energy Reduction (Dth)	40,487		
Societal Cost per Dth	$5.55		

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	($331,780)	-
Utility Cost Test	($331,780)	-
Societal Test	($224,630)	-
Participant Test	$107,150	#DIV/0!

Supplemental Information

	1st Yr	2nd Yr	3rd Yr	Total
Total Incremental Capital	$0	$0	$127,208	$127,208
Total O&M Savings	$0	$0	$0	$0
Societal ARR (does not include rebates)	$0	$0	$278,765	$278,765
Societal Costs (does not include rebates)	$0	$148,511	$203,327	$351,838
Societal Net Benefits	$0	-$148,511	$75,437	-$73,074
Societal Ratio	#DIV/0!	0.00	1.37	0.79

Conservation Improvement Program (CIP) ACTUAL

BENEFIT COST FOR GAS CIPS-- Cost-Effectiveness Analysis

Company: **Xcel Energy**
Project: **Smart Thermostat DR**

Input Data

1) Retail Rate ($/Dth) =	$6.60
Escalation Rate =	4.28%
2) Non-Gas Fuel Retail Rate ($/Fuel Unit) =	$0.000
Escalation Rate =	2.80%
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh
3) Commodity Cost ($/Dth) =	$4.34
Escalation Rate =	4.28%
4) Demand Cost ($/Unit/Yr) =	$74.00
Escalation Rate =	4.28%
5) Peak Reduction Factor =	1.00%
6) Variable O&M ($/Dth) =	$0.0600
Escalation Rate =	4.28%
7) Non-Gas Fuel Cost ($/Fuel Unit) =	$0.027
Escalation Rate =	2.80%
8) Non-Gas Fuel Loss Factor	5.80%
9) Gas Environmental Damage Factor =	$0.3500
Escalation Rate =	1.73%
10) Non Gas Fuel Enviro. Damage Factor ($/Unit) =	$0.0213
Escalation Rate =	1.73%
11) Participant Discount Rate =	2.67%
12) Utility Discount Rate =	7.04%
13) Societal Discount Rate =	2.67%
14) General Input Data Year =	2012
15a) Project Analysis Year 1 =	
15b) Project Analysis Year 2 =	
15c) Project Analysis Year 3 =	2016

			2016
Administrative & Operating Costs =	$0	$0	$0
Incentive Costs =	$0	$0	$0
16) Total Utility Project Costs =	$0	$0	$0
17) Direct Participant Costs ($/Part.) =	$0	$0	$0
18) Participant Non-Energy Costs (Annual $/Part.) =	$0	$0	$0
Escalation Rate =	1.73%	1.73%	1.73%
19) Participant Non-Energy Savings (Annual $/Part) =	$0	$0	$0
Escalation Rate =	1.73%	1.73%	1.73%
20) Project Life (Years) =	0.0	0.0	0.0
21) Avg. Dth/Part. Saved =	-	-	-
22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh	0 kWh	0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used =	0 kWh	0 kWh	0 kWh
23) Number of Participants =	-	-	-
24) Total Annual Dth Saved =	0	0	0
25) Incentive/Participant =	$0.00	$0.00	$0.00

Cost Summary	2016
Utility Cost per Participant =	#DIV/0!
Cost per Participant per Dth =	#DIV/0!
Lifetime Energy Reduction (Dth)	-
Societal Cost per Dth	#DIV/0!

Test Results	Triennial NPV	Triennial B/C
Ratepayer Impact Measure Test	$0	#DIV/0!
Utility Cost Test	$0	#DIV/0!
Societal Test	$0	#DIV/0!
Participant Test	$0	INF

ALTERNATIVE FILINGS TOTAL — 2016 ELECTRIC — ACTUAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$12,753,620	$12,753,620	$12,753,620	$12,753,620
T & D	N/A	$4,835,565	$4,835,565	$4,835,565	$4,835,565
Marginal Energy	N/A	$40,159,240	$40,159,240	$40,159,240	$40,159,240
Environmental Externality	N/A	N/A	N/A	N/A	$1,708,503
Subtotal	N/A	$57,748,425	$57,748,425	$57,748,425	$59,456,928
Participant Benefits					
Bill Reduction - Electric	$62,523,358	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$9,493,084	N/A	N/A	$9,493,084	$9,493,084
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$72,016,442	N/A	N/A	$9,493,084	$9,493,084
Total Benefits	$72,016,442	$57,748,425	$57,748,425	$67,241,509	$68,950,012
Costs					
Utility Project Costs					
Customer Services	N/A	$50	$50	$50	$50
Project Administration	N/A	$12,137,133	$12,137,133	$12,137,133	$12,137,133
Advertising & Promotion	N/A	$24,514	$24,514	$24,514	$24,514
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$9,493,084	$9,493,084	$9,493,084	$9,493,084
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$21,654,782	$21,654,782	$21,654,782	$21,654,782
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$62,523,358	N/A	N/A
Subtotal	N/A	N/A	$62,523,358	N/A	N/A
Participant Costs					
Incremental Capital Costs	$31,676,341	N/A	N/A	$31,676,341	$31,676,341
Incremental O&M Costs	$4,538,163	N/A	N/A	$4,538,163	$4,538,163
Subtotal	$36,214,505	N/A	N/A	$36,214,505	$36,214,505
Total Costs	$36,214,505	$21,654,782	$84,178,140	$57,869,287	$57,869,287
Net Benefit (Cost)	$35,801,938	$36,093,643	($26,429,715)	$9,372,223	$11,080,725
Benefit/Cost Ratio	1.99	2.67	0.69	1.16	1.19

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW		
Lifetime (Weighted on Generator kWh)	A	14.5 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	91.23%
Gross Load Factor at Customer	E	60.46%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$756

Program Summary per Participant		
Gross Realized kW Saved at Customer	I	5.60 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	5.49 kW
Gross Realized Annual kWh Saved at Customer	(B x E x I)	29,634 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	31,729 kWh

Program Summary All Participants		
Total Participants	J	2,618
Total Budget	K	**$21,654,782**
Gross kW Saved at Customer	(J x I)	14,648 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**14,370 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	77,583,034 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**83,065,347 kWh**
Societal Net Benefits	(J x I x H)	**$11,080,725**

Utility Program Cost per kWh Lifetime	**$0.0180**
Utility Program Cost per kW at Gen	**$1,506.97**

CEE ONE-STOP EFFICIENCY SHOP — 2016 ELECTRIC — ACTUAL

2016 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Total Resource Cost Test ($Total)	Societal Test ($Total)
Benefits					
Avoided Revenue Requirements					
Generation	N/A	$12,753,620	$12,753,620	$12,753,620	$12,753,620
T & D	N/A	$4,835,565	$4,835,565	$4,835,565	$4,835,565
Marginal Energy	N/A	$40,159,240	$40,159,240	$40,159,240	$40,159,240
Environmental Externality	N/A	N/A	N/A	N/A	$1,708,503
Subtotal	N/A	$57,748,425	$57,748,425	$57,748,425	$59,456,928
Participant Benefits					
Bill Reduction - Electric	$62,523,358	N/A	N/A	N/A	N/A
Rebates from Xcel Energy	$9,493,084	N/A	N/A	$9,493,084	$9,493,084
Incremental Capital Savings	$0	N/A	N/A	$0	$0
Incremental O&M Savings	$0	N/A	N/A	$0	$0
Subtotal	$72,016,442	N/A	N/A	$9,493,084	$9,493,084
Total Benefits	$72,016,442	$57,748,425	$57,748,425	$67,241,509	$68,950,012
Costs					
Utility Project Costs					
Customer Services	N/A	$50	$50	$50	$50
Project Administration	N/A	$10,939,431	$10,939,431	$10,939,431	$10,939,431
Advertising & Promotion	N/A	$21,724	$21,724	$21,724	$21,724
Measurement & Verification	N/A	$0	$0	$0	$0
Rebates	N/A	$9,493,084	$9,493,084	$9,493,084	$9,493,084
Other	N/A	$0	$0	$0	$0
Subtotal	N/A	$20,454,290	$20,454,290	$20,454,290	$20,454,290
Utility Revenue Reduction					
Revenue Reduction - Electric	N/A	N/A	$62,523,358	N/A	N/A
Subtotal	N/A	N/A	$62,523,358	N/A	N/A
Participant Costs					
Incremental Capital Costs	$31,676,341	N/A	N/A	$31,676,341	$31,676,341
Incremental O&M Costs	$4,538,163	N/A	N/A	$4,538,163	$4,538,163
Subtotal	$36,214,505	N/A	N/A	$36,214,505	$36,214,505
Total Costs	$36,214,505	$20,454,290	$82,977,648	$56,668,795	$56,668,795
Net Benefit (Cost)	$35,801,938	$37,294,135	($25,229,223)	$10,572,715	$12,281,217
Benefit/Cost Ratio	1.99	2.82	0.70	1.19	1.22

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program "Inputs" per Customer kW

Lifetime (Weighted on Generator kWh)	A	14.5 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	91.23%
Gross Load Factor at Customer	E	60.46%
Transmission Loss Factor (Energy)	F	6.600%
Transmission Loss Factor (Demand)	G	7.000%
Societal Net Benefit (Cost)	H	$838

Program Summary per Participant

Gross Realized kW Saved at Customer	I	5.60 kW
Net coincident kW Saved at Generator	(I x D) / (1 - G)	5.49 kW
Gross Realized Annual kWh Saved at Customer	(B x E x I)	29,634 kWh
Net Annual kWh Saved at Generator	(B x E x I) / (1 - F)	31,729 kWh

Program Summary All Participants

Total Participants	J	2,618
Total Budget	K	**$20,454,290**
Gross kW Saved at Customer	(J x I)	14,648 kW
Net coincident kW Saved at Generator	**(I x D) / (1 - G) x J**	**14,370 kW**
Gross Annual kWh Saved at Customer	(B x E x I) x J	77,583,034 kWh
Net Annual kWh Saved at Generator	**((B x E x I) / (1 - F)) x J**	**83,065,347 kWh**
Societal Net Benefits	(J x I x H)	**$12,281,217**

Utility Program Cost per kWh Lifetime	**$0.0170**
Utility Program Cost per kW at Gen	**$1,423.42**

Electric Measure Description	Efficient Product Description / Rating	Efficient Product Consumption (watts)	Efficient Hours of Operation (hrs/yr)	Baseline Product Description / Rating	Baseline Product Consumption (watts)	Baseline Hours of Operation (hrs/yr)	Measure Lifetime (years)	Rebate Amount ($)	Incremental Cost of Efficient Product ($)	Rebate as a % of Incremental Cost (%)	Incremt'l Cost Payback Period w/o Rebate (yrs)	Incremt'l Cost Payback Period w/ Rebate (yrs)	Annual Customer kWh Savings (kWh/yr)	Rebated Cost / Cust kWh Saved ($/kWh)	Rebated Lifetime cost /Cust KWh Saved ($/kWh)	Customer kW Savings (kW)	Generator Peak kW Savings (kW)	Units 2016	Total Customer kWh for all Units Installed in 2016
TOTAL																			
Business																			
Business New Construction																			
EDA Standard Track	High Efficiency Building	0	3,211	Code Level Efficiency Building	153,871	3,211	20	$81,311	$184,837	44%	4.6	2.6	494,050	$0.165	$0.008	153.9	153.5	47	23,230,224
EDA Enhanced Track	High Efficiency Building	0	3,552	Code Level Efficiency Building	123,485	3,552	20	$64,008	$291,723	22%	8.4	6.5	438,649	$0.146	$0.007	123.5	123.2	8	3,474,103
EDA Quick Track	High Efficiency Building	0	3,593	Code Level Efficiency Building	71,509	3,593	20	$38,881	$117,153	33%	5.8	3.9	256,927	$0.151	$0.008	71.5	71.4	21	5,446,853
EEB Average Project	High Efficiency Building	0	3,807	Code Level Efficiency Building	4,615	3,807	20	$2,028	$5,341	38%	3.9	2.4	17,570	$0.115	$0.006	4.6	4.0	460	8,078,986
Commercial Efficiency																			0
Medium Custom Custom projects including Efficiency Controls	New energy efficient systems or equipment	0	5,792	Old or less efficient systems or equipment	0	5,792	18	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Large Custom Custom projects including Efficiency Controls	New energy efficient systems or equipment	0	4,551	Old or less efficient systems or equipment	37,300	4,551	16	$7,715	$29,172	26%	2.3	1.7	169,759	$0.045	$0.003	37.3	22.8	11	1,867,347
Lighting - Total	High Efficiency Product	0	4,431	Standard Efficiency Product	49	4,431	16	$25	$113	22%	7.0	5.5	217	$0.113	$0.007	0.0	0.0	45,303	9,819,759
Lighting Redesign Implementation	Redesign Lighting Solution Installed	0	6,844	Existing Overlit Lighitng System	0	6,844	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Fluid System Optimization - Total	System optimized	0	2,585	System not optimized	3,576	2,585	18	$1,400	$2,555	55%	3.2	1.4	9,242	$0.151	$0.008	3.6	3.4	3	27,727
Motor & Drive Efficiency - Total	New Equipment	0	4,336	Old or less efficient systems or equipment	4,552	4,336	15	$1,760	$4,887	36%	3.3	2.1	19,735	$0.089	$0.006	4.6	3.8	107	2,111,664
Implementation of ECO's found in studies	Optimized Building Systems	0	4,498	Existing Building System - Not Tuned or Optimized	214,639	4,498	7	$2,695	$47,357	6%	0.7	0.6	965,533	$0.003	$0.000	214.6	48.3	3	2,896,598
Cooling Efficiency - TOTAL	High Efficiency Product	0	1,922	Standard Efficiency Product	2,621	1,922	17	$1,943	$2,466	79%	5.0	1.1	5,037	$0.386	$0.023	2.6	2.4	50	251,838
Energy Design Assistance	High Efficiency Building	0	2,803	Code Level Efficiency Building	126,919	2,803	20	$64,844	$151,074	43%	5.0	2.8	355,701	$0.182	$0.009	126.9	126.2	24	8,536,824
Electric Food Service Equipment	High Efficiency Equipment	0	3,307	Standard Efficiency Equipment	5,131	3,307	17	$633	$8,752	7%	6.4	5.9	16,966	$0.037	$0.002	5.1	2.7	3	50,897
Computer Efficiency - End User Rebates	High Efficiency Equipment	0	7,311	Standard Efficiency Equipment	67	7,311	5	$60	$117	51%	3.5	1.7	486	$0.123	$0.025	0.1	0.1	336	163,359
Phase 2 Customer Contribution	0	0	0	0	0	0	0	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Behavioral Changes	Behavior changes that reduce energy use	0	8,760	No change in behavior	0	8,760	1	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Behavioral Adjustment	Behavior changes that reduce energy use	0	8,760	No change in behavior	0	8,760	0	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Computer Efficiency																			0
Desktop PC; with 80 Plus power supply	desktop computer meeting with an 80 Plus level power supply	0	7,311	desktop computer meeting ENERGY STAR version 3.0 with a standard efficiency power supply	0	7,311	5	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Desktop PC; with 80 Plus level power supply	desktop computer meeting with an 80 Plus level power supply	0	7,311	desktop computer meeting ENERGY STAR version 3.0 with a standard efficiency power supply	0	7,311	5	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Desktop PC; with 80 Plus level power supply	desktop computer meeting with an 80 Plus level power supply	0	7,515	desktop computer meeting ENERGY STAR version 3.0 with a standard efficiency power supply	32	7,515	5	$8	$20	40%	1.3	0.7	240	$0.034	$0.007	0.0	0.0	38,554	9,240,020
Desktop PC Virtualization	Hardware and/or software replacing desktop PC	0	7,311	Desktop PCs meeting ENERGY STAR 3.0 specifications	68	7,311	5	$65	$117	56%	3.5	1.5	495	$0.131	$0.026	0.1	0.1	806	398,726
PC Power Management	Desktop Computer with network controlled software installed	0	7,310	Desktop Computer with no network controlled software	16	7,310	6	$5	$7	68%	0.9	0.3	120	$0.042	$0.007	0.0	0.0	3,020	361,623
Cooling Efficiency																			0
DX Units less than 5.4 tons	Unit size 3.6 tons, 14.1 SEER, 12 EER	0	736	Unit size 3.6 tons, 13 SEER, 11.05 EER	620	736	20	$642	$649	99%	8.6	0.1	457	$1.406	$0.070	0.6	0.6	716	326,942
DX Units 5.5-11.3 tons	Unit size 8.5 tons, 13.1 SEER, 11.1 EER	0	753	Unit size 8.5 tons, 12.1 SEER, 10.3 EER	1,124	753	20	$984	$1,213	81%	8.8	1.7	847	$1.161	$0.058	1.1	1.1	635	537,996
DX Units11.4-19.9 tons	Unit size 14.9 tons, 13.1 SEER, 11.1 EER	0	831	Unit size 14.9 tons, 11.4 SEER, 9.7 EER	2,741	831	20	$1,653	$1,990	83%	5.7	1.0	2,278	$0.726	$0.036	2.7	2.7	196	446,400
DX Units 20-63.3 tons	Unit size 29.3 tons, 12.2 SEER, 10.4 EER	0	972	Unit size 29.3 tons, 11.2 SEER, 9.5 EER	5,015	972	20	$3,376	$3,477	97%	5.1	0.1	4,874	$0.693	$0.035	5.0	4.9	131	638,542
DX Units greater than 63.3 tons	Unit size 117 tons, 11.3 SEER, 9.6 EER	0	733	Unit size 117 tons, 10.8 SEER, 9.2 EER	15,880	733	20	$12,289	$10,652	115%	5.5	-0.9	11,647	$1.055	$0.053	15.9	15.4	21	244,592
RTU Economizer w/ Demand Control Ventilation	RTU with Demand Control	0	475	RTU with Standard Economizer	1,682	475	15	$420	$1,051	40%	5.9	3.5	799	$0.526	$0.035	1.7	1.6	79	63,103
MN ERV	60% Total Effectiveness heat recovery on 1670 CFM OA (Cooling Mode)	0	152	No Heat Recovery on 1670 CFM OA	5,984	152	15	$3,172	$9,691	33%	13.4	9.0	908	$3.494	$0.233	8.5	8.2	12	10,442
Water-source Heat Pumps	Unit size 2.5 tons, 14.4 SEER, 13 EER	0	1,016	Unit size 2.5 tons, 14.1 SEER, 12 EER	538	1,016	20	$451	$568	79%	7.7	1.6	547	$0.824	$0.041	0.5	0.5	125	68,366
PTAC	Condensing Units size 0.75 tons, 13.5 SEER, 11.5 EER	0	1,014	Condensing Units 0.75 tons, 12.5 SEER, 10.6 EER	225	1,014	20	$84	$189	45%	6.1	3.4	228	$0.371	$0.019	0.2	0.2	456	103,806
Scroll/Screw Chiller < 150 tons	Chiller size 77.1 tons, 0.61 full load kW/ton, 0.50 IPLV	0	826	Chiller size 77.1 tons, 0.79 full load kW/ton, 0.68 IPLV	0	826	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Scroll/Screw chiller 150 to 300 tons	Chiller size 225 tons, 0.54 full load kW/ton, 0.45 IPLV	0	1,805	Chiller size 225 tons, 0.72 full load kW/ton, 0.63 IPLV	20,360	1,805	20	$10,989	$22,000	50%	5.9	3.0	36,754	$0.299	$0.015	20.4	19.7	1	36,754
Centrifugal Chillers < 150 tons	Chiller size 125 tons, 0.60 full load kW/ton, 0.57 IPLV	0	833	Chiller size 125 tons, 0.70 full load kW/ton, 0.67 IPLV	0	833	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Centrifugal Chillers 150- 300 tons	Chiller size 225 tons, 0.55 full load kW/ton, 0.51 IPLV	0	9,874	Chiller size 225 tons, 0.63 full load kW/ton, 0.60 IPLV	5,709	9,874	20	$11,486	$23,333	49%	6.4	3.2	56,367	$0.204	$0.010	5.7	5.5	3	169,102
Centrifugal Chillers > 300 tons	Chiller size 750 tons, 0.55 full load kW/ton, 0.52 IPLV	0	3,271	Chiller size 750 tons, 0.58 full load kW/ton, 0.55 IPLV	12,062	3,271	20	$14,611	$45,000	32%	14.0	9.5	39,455	$0.370	$0.019	12.1	11.7	2	78,909
Air-Cooled Chillers - avg. capacity 250 tons	Air-cooled chiller average capacity 250 tons, 1.15 kW/ton	0	3,811	Air-cooled chiller average capacity 250 tons, 1.26 kW/ton	13,331	3,811	20	$8,088	$6,367	127%	1.6	-0.4	50,805	$0.159	$0.008	13.3	12.9	18	914,489
Cooling Studies	Customer has Study	0	0	No Study	0	0	0	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0

Electric Measure Description	Efficient Product Description / Rating	Efficient Product Consumption (watts)	Efficient Hours of Operation (hrs/yr)	Baseline Product Description / Rating	Baseline Product Consumption (watts)	Baseline Hours of Operation (hrs/yr)	Measure Lifetime (years)	Rebate Amount ($)	Incremental Cost of Efficient Product ($)	Rebate as a % of Incremental Cost (%)	Incremt'l Cost Payback Period w/o Rebate (yrs)	Incremt'l Cost Payback Period w/ Rebate (yrs)	Annual Customer kWh Savings (kWh/yr)	Rebated Cost / Cust kWh Saved ($/kWh)	Rebated Lifetime cost /Cust KWh Saved ($/kWh)	Customer kW Savings (kW)	Generator Peak kW Savings (kW)	Units 2016	Total Customer kWh for all Units Installed in 2016
TOTAL																			
Plate & Frame Heat Exchangers - Office Building	Install plate & frame heat exchanger to allow cooling tower to meet cooling load	0	8,760	Chiller-based cooling	0	8,760	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Plate & Frame Heat Exchangers - Data Center	Install plate & frame heat exchanger to allow cooling tower to meet cooling load	0	8,760	Chiller-based cooling	0	8,760	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Plate & Frame Heat Exchangers - Process Load	Install plate & frame heat exchanger to allow cooling tower to meet cooling load	0	8,760	Chiller-based cooling	0	8,760	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
VFD Chiller Retro Fit	Chiller size 378 tons, 0.576 full load kW/ton, 0.426 IPLV with VFD	0	762	Chiller size 378 tons, 0.588 full load kW/ton, 0.568 IPLV	0	762	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Custom Cooling Projects - (Managed Accounts)	Varies By Project	0	3,250	Varies By project	69,145	3,250	20	$26,256	$89,882	29%	4.9	3.5	224,725	$0.117	$0.006	69.1	37.7	6	1,348,348
ECM Motors - Medium Temp Display Case	ECM Motor	0	8,673	Shaded Pole	48	8,673	15	$40	$88	45%	3.2	1.8	414	$0.097	$0.006	0.0	0.1	100	41,406
ECM Motors - Low Temp Display Case	ECM Motor	0	8,672	Shaded Pole	0	8,672	15	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
ECM Motors - Medium Temp Walk-in, Evap fan <= 15" Diameter	ECM Motor	0	8,586	Shaded Pole	92	8,586	15	$70	$180	39%	3.4	2.1	793	$0.088	$0.006	0.1	0.1	65	51,539
ECM Motors - Low Temp Walk-in, Evap fan <= 15" Diameter	ECM Motor	0	8,584	Shaded Pole	109	8,584	15	$70	$180	39%	2.9	1.8	937	$0.075	$0.005	0.1	0.1	49	45,892
ECM Motors - Medium Temp Walk-in, Evap fan > 15" Diameter	ECM Motor	0	8,591	Perm. Split Cap	69	8,591	15	$70	$180	39%	4.6	2.8	593	$0.118	$0.008	0.1	0.1	5	2,964
ECM Motors - Low Temp Walk-in, Evap fan > 15" Diameter	ECM Motor	0	8,588	Perm. Split Cap	82	8,588	15	$70	$180	39%	3.9	2.4	700	$0.100	$0.007	0.1	0.1	13	9,103
Anti-Sweat Heater Controls	Anti-Sweat Heater Controls	0	8,761	Anti-Sweat Heaters running constantly	1,648	8,761	12	$828	$2,484	33%	2.6	1.7	14,435	$0.057	$0.005	1.6	0.0	20	288,694
Energy Efficient Case Doors	No heat Case Doors	0	8,759	Standard Case Doors with Anti-Sweat Heaters	2,069	8,759	10	$1,571	$5,468	29%	4.6	3.3	18,124	$0.087	$0.009	2.1	2.2	26	471,235
Custom Efficiency																			0
Custom Efficiency Electric	High Efficiency Product/system	0	4,148	Less Efficient Product/Systems	38,261	4,148	17	$13,240	$173,797	8%	14.4	13.3	158,704	$0.083	$0.005	38.3	15.0	47	7,459,087
Custom Studies Electric	0	0	0	0	0	0	0	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Data Center Efficiency																			0
Data Center Efficiency Study <= 5000 sq ft	0	0	0	0	0	0	0	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Data Center Efficiency Study > 5000 sq ft	0	0	0	0	0	0	0	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Data Center Bundled Project Implementation	Multiple Energy Conservation Measures Implemented	0	7,743	Existing Data Center Facilty or New Facility with Standard Systems	0	7,743	12	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Historical Averages from past custom projects	Historical Averages from past custom projects	0	9,369	Historical Averages from past custom projects	627,853	9,369	11	$373,400	$1,293,374	29%	3.4	2.4	5,882,418	$0.063	$0.006	627.9	563.0	1	5,882,418
Efficiency Controls																			0
Efficiency Controls - Electric	New Digital Controls System	0	6,778	Obsolete Controls System	17,681	6,778	15	$6,705	$23,544	28%	2.9	2.0	119,847	$0.056	$0.004	17.7	4.2	65	7,790,060
Efficiency Controls - Study Allocation	Study Allocation	0	0	0	0	0	0	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Fluid System Optimization																			0
Indentification of supply-side efficiency improvements, leak identification and repair	Study Completed	0	7,484	No Study Completed	4,720	7,484	5	$3,908	$5,537	71%	2.3	0.7	35,324	$0.111	$0.022	4.7	4.5	56	1,978,140
Leak identification and repair	Optimized Compressed Air System	0	8,757	Inefficient Compressed Air System	577	8,757	5	$0	$394		1.2	1.2	5,053	$0.000	$0.000	0.6	0.5	1	5,053
VFD Compressor - Plan A	VFD Compressor	0	3,287	Modulation or load no-load with less than 3gal of storage per CFM of Capacity	6,397	3,287	20	$2,667	$5,473	49%	3.2	1.6	21,025	$0.127	$0.006	6.4	6.1	21	441,523
VFD Compressor - Plan B	VFD Compressor	0	3,075	Modulation or load no-load with less than 3gal of storage per CFM of Capacity	5,738	3,075	20	$5,382	$16,763	32%	11.5	7.8	17,641	$0.305	$0.015	5.7	5.5	17	299,892
No Loss Air Drains	No-Air Loss Drains	0	6,996	Electronic Solenoid/Timed Drains	1,000	6,996	20	$200	$448	45%	0.9	0.5	6,996	$0.029	$0.001	1.0	1.0	95	664,620
Cycling Refrigerated Dryer	Cycling Dryer	0	7,165	Non-Cycling Dryer	881	7,165	20	$733	$1,287	57%	3.0	1.3	6,312	$0.116	$0.006	0.9	0.9	30	189,354
Dewpoint Demand Control	Purge Control	0	6,865	No Purge Control	0	6,865	10	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Mist Eliminator Filter	Mist Eliminator Filter	0	8,035	General Purpose Filter	1,796	8,035	15	$3,150	$5,239	60%	5.4	2.2	14,431	$0.218	$0.015	1.8	1.9	12	173,168
Identification of system opportunities	Non-Optimized System	0	5,380	Optimized System	0	5,380	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Implementation of efficiency measures with less than 9 months payback (Study driven credit)	Non-Optimized System	0	5,380	Optimized System	0	5,380	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Implementation of efficiency measures with greater than 9 months payback	Non-Optimized System	0	6,291	Optimized System	41,649	6,291	20	$15,688	$74,014	21%	4.1	3.2	262,028	$0.060	$0.003	41.6	36.0	36	9,433,019
VSD Compressor HP Reduction	Non-Optimized System	0	2,532	Optimized System	8,521	2,532	20	$4,500	$12,840	35%	6.7	4.4	21,580	$0.209	$0.010	8.5	8.1	4	86,319
Food Service																			0
Commercial Dishwasher - Under Counter, Electric Only or Combo Customer	ENERGY STAR qualified unit	0	6,570	Conventional unit as defined by ENERGY STAR	0	6,570	10	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Commercial Dishwasher - Door Type, Electric Only or Combo Customer	ENERGY STAR qualified unit	0	6,569	Conventional unit as defined by ENERGY STAR	1,576	6,569	15	$200	$315	63%	0.4	0.2	10,353	$0.019	$0.001	1.6	1.4	8	77,648
Hot Food Holding Cabinet	ENERGY STAR qualified unit	0	5,476	Conventional unit as defined by ENERGY STAR	967	5,476	12	$400	$1,713	23%	4.5	3.5	5,293	$0.076	$0.006	1.0	0.9	9	47,633
Demand Contolled Ventilation - Electric Only or Combo Customer	Commercial kitchen ventilation hoods with Demand Controlled Ventilation with 8.65 HP Motor	0	3,307	Commercial kitchen ventilation hoods without Demand Controlled Ventilation with 8.65 HP Motor	4,354	3,307	20	$761	$7,427	10%	6.4	5.7	14,399	$0.053	$0.003	4.4	2.3	12	173,649
Lighting Efficiency																			0
T8 Ballasts, 4 ft. or less, 1 and 2 lamp 2012	T8 1 and 2 Lamp systems	0	4,468	T12 1 and 2 Lamp systems, incandescents	0	4,468	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
T8 Ballasts, 4 ft. or less, 1 and 2 lamp 2013-2016	T8 High Efficiency 1 and 2 Lamp systems	0	4,468	T12 and Standard T8 Systems	0	4,468	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
T8 Ballasts, 4 ft. or less, 3 and 4 lamp 2012	T8 Lighting Systems	0	4,468	T12 3 and 4 Lamp systems	0	4,468	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
T8 Ballasts, 4 ft. or less, 3 and 4 lamp 2013-2016	T8 High Efficiency Lighting Systems	0	4,468	T12 and Standard T8 3 and 4 Lamp systems	0	4,468	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
T8 Ballasts, Length > 4 ft. and <= 8 ft., 1 lamp 2012	T8 8 FT 1 Lamp systems	0	4,468	T12 8 Ft 1 Lamp systems	0	4,468	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
T8 Ballasts, Length > 4 ft. and <= 8 ft., 1 lamp 2013-2016	T8 High Efficiency 8 FT 1 Lamp systems	0	4,468	T12 and Standard T8 8 Ft 1 Lamp systems	0	4,468	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0

Electric Measure Description	Efficient Product Description / Rating	Efficient Product Consumption (watts)	Efficient Hours of Operation (hrs/yr)	Baseline Product Description / Rating	Baseline Product Consumption (watts)	Baseline Hours of Operation (hrs/yr)	Measure Lifetime (years)	Rebate Amount ($)	Incremental Cost of Efficient Product ($)	Rebate as a % of Incremental Cost (%)	Incremt'l Cost Payback Period w/o Rebate (yrs)	Incremt'l Cost Payback Period w/ Rebate (yrs)	Annual Customer kWh Savings (kWh/yr)	Rebated Cost / Cust kWh Saved ($/kWh)	Rebated Lifetime cost /Cust KWh Saved ($/kWh)	Customer kW Savings (kW)	Generator Peak kW Savings (kW)	Units 2016	Total Customer kWh for all Units Installed in 2016
TOTAL																			
T8 Ballasts, Length > 4 ft. and <= 8 ft., 2 lamp 2012	T8 8 Ft 2 Lamp Systems	0	4,468	T12 8 Ft 2 Lamp systems	0	4,468	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
T8 Ballasts, Length > 4 ft. and <= 8 ft., 2 lamp 2013-2016	T8 High Efficiency 8 Ft 2 Lamp Systems	0	4,468	T12 and Standard T8 8 Ft 2 Lamp systems	0	4,468	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Low Wattage T8 4' lamps	T8 25W and 28W Lamps	0	3,594	T8 32W Lamps	6	3,594	7	$1	$2	25%	1.2	0.9	21	$0.024	$0.003	0.0	0.0	19,817	416,689
T8 to T8 Lighting Optimization	High Efficiency T8 with less lamps (3,2,1)	0	4,408	Standard T8 with more lamps (4,3,2)	58	4,408	20	$12	$43	28%	2.3	1.6	254	$0.047	$0.002	0.1	0.1	641	162,933
T12 to T8 Optimization 1 and 2 Lamp 2012	T8 Lighting Systems with less lamps	0	4,468	T12 Fluorescents with more lamps	0	4,468	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
T12 to T8 Optimization 1 and 2 Lamp 2013-2016	High Efficiency T8 Lighting Systems with less lamps	0	4,468	T12 Revised Baseline Fluorescents with more lamps	0	4,468	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
T12 to T8 Optimization 3 Lamp 2012	T8 Lighting Systems with less lamps	0	4,468	T12 Fluorescents with more lamps	0	4,468	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
T12 to T8 Optimization 3 Lamp 2013-2016	High Efficiency T8 Lighting Systems with less lamps	0	4,468	T12 Revised Baseline Fluorescents with more lamps	0	4,468	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
T5 Ballasts 1 and 2 Lamp 2012	T5 1 and 2 Lamp Lighting Systems	0	4,468	T12 Fluorescents	0	4,468	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
T5 Ballasts 1 and 2 Lamp 2013-2016	T5 1 and 2 Lamp Lighting Systems	0	4,468	T12 Revised Baseline Fluorescents	0	4,468	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
T5 Ballasts 3 and 4 Lamp 2012	T5 Lighting Systems	0	4,468	T12 Fluorescents	0	4,468	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
T5 Ballasts 3 and 4 Lamp 2013-2016	T5 Lighting Systems	0	0	T12 Revised Baseline Fluorescents	0	0	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
High Bay Fluorescents replacing 150, 175, 250 Watt HID	High Bay Fluorescent Fixtures with Electronic Ballasts replacing 250W HID systems	0	2,999	250W Lamp HID	162	2,999	20	$85	$193	44%	4.8	2.7	485	$0.175	$0.009	0.2	0.2	53	25,684
High Bay Fluorescents replacing 320, 350, 400 Watt HID	High Bay Fluorescent fixtures with Electronic Ballasts replacing 310-400W HID Systems	0	3,634	HID: 320, 350, 400W Lamp	263	3,634	19	$125	$269	46%	3.6	1.9	956	$0.131	$0.007	0.3	0.3	1,235	1,180,968
High Bay Fluorescents replacing 750 Watt HID	High Bay Fluorescents with Electronic Ballasts replacing 750W HID Systems	0	4,468	HID: 750W Lamp	0	4,468	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
High Bay Fluorescents replacing 1000 Watt HID	High Bay Fluorescent fixtures with Electronic Ballasts replacing 1000W HID Systems	0	4,468	HID: 1000W Lamp	0	4,468	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
2 and 3 lamp fluorescents replacing HID systems between 150 Watts and 175 Watts	High Efficiency Fluorescent T8 or T5 Systems	0	8,760	150W or 175W High Intensity Discharge	0	8,760	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Low Wattage T8 lamps 28 Watts and Less used in Parking Garage fixtures	T8 25W and 28W Lamps	0	8,760	T8 32W Lamps	6	8,760	4	$1	$2	25%	0.6	0.4	54	$0.009	$0.002	0.0	0.0	1,348	72,740
CFL Pin-Based < 19W Retrofit	Compact Fluorescent Fixtures 18W or less Pin Based	0	4,468	Incandescent	0	4,468	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
CFL Pin-Based 19 to 32W Retrofit	Pin Based Compact Fluorescent 19 to 32 Watts	0	4,468	Incandescent	0	4,468	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
CFL Pin-Based Greater than 32 Watt Retrofit	Pin Based Compact Fluorescent Fixtures 33 Watts or more	0	4,468	Incandescent	0	4,468	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
2-foot Low Wattage CFL 25 Watt to 28 Watt	PL 25W CFL	0	2,866	PL 40W CFL	16	2,866	6	$1	$3	20%	0.6	0.5	46	$0.011	$0.002	0.0	0.0	110	5,033
HID, 151 to 250W	Metal Halide	0	4,468	High Pressure Sodium	0	4,468	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
HID, 251 to 1000W	High Intensity Discharge 250 to 1000 Watts	0	4,468	High Pressure Sodium	0	4,468	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Ceramic Metal Halide <=150W	Ceramic Metal Halide <= 150 Watts	0	4,468	Incandescent	0	4,468	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Ceramic Metal Halide 151-250W	Ceramic Metal Halide	0	4,468	Incandescent	0	4,468	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Ceramic Metal Halide 251W-	Ceramic Metal Halide	0	4,468	Metal Halide	0	4,468	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Integrated 25W Ceramic Metal Halide	Ceramic Metal Halide	0	4,468	Incandescent	0	4,468	7	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Pulse-Start Metal Halide, <= 175W	175W or Less Pulse Start Metal Halide	0	4,468	Metal Halide	0	4,468	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Pulse-Start Metal Halide, 176W-319W	Pulse Start Metal Halide	0	4,468	Metal Halide	0	4,468	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Pulse-Start Metal Halide, 320W-749W	Pulse Start Metal Halide	0	4,468	Metal Halide	0	4,468	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Pulse-Start Metal Halide, 750W+	Pulse Start Metal Halide	0	4,468	Metal Halide	0	4,468	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Wall mount occupancy sensor - 50 Watts to 300 Watts Controlled Load	Lighting System with Occupancy Sensor	0	2,916	Lighting System without Occupancy Sensor	966	2,916	8	$316	$1,159	27%	4.9	3.6	2,816	$0.112	$0.014	1.0	0.8	38	107,021
Wall mount occupancy sensor - Greater than 300 Watts Controlled Load	Lighting System with Occupancy Sensor	0	2,901	Lighting System without Occupancy Sensor	3,780	2,901	8	$436	$959	45%	1.0	0.6	10,965	$0.040	$0.005	3.8	3.2	9	98,685
Ceiling mount occupancy sensor - 50 Watts to 300 Watts Controlled Laod	Lighting System with Occupancy Sensor	0	4,128	Lighting System without Occupancy Sensor	1,062	4,128	8	$693	$2,887	24%	8.6	6.6	4,385	$0.158	$0.020	1.1	1.0	131	574,442
Ceiling mount occupancy sensor - Greater than 300 Watts Controlled Laod	Lighting System with Occupancy Sensor	0	3,254	Lighting System without Occupancy Sensor	3,655	3,254	8	$843	$2,634	32%	2.7	1.9	11,895	$0.071	$0.009	3.7	3.2	27	321,161
Photocell	Lighting System with Photocell	0	4,211	Lighting System without Photocell	19	4,211	8	$25	$65	38%	10.7	6.6	80	$0.313	$0.039	0.0	0.0	1	80
Stairwell Fixture with Integral Occupancy Sensor	Stairwell Fixture with an integrated occupancy sensor	0	7,311	Fixture without an occupancy sensor	72	7,311	14	$25	$210	12%	5.9	5.2	526	$0.048	$0.003	0.1	0.1	311	163,581
Exit sign retrofit and replacement	LED	0	7,346	Incandescent	46	7,346	20	$25	$103	24%	4.5	3.4	339	$0.074	$0.004	0.0	0.0	479	162,178
LED Interior Lamp < 5W Energy Star Rated	LED lamp	0	4,468	Incandescent or Halogen lamp	0	4,468	10	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
LED Interior Lamp Greater than 5W to 10W Energy Start Rated	LED lamp	0	4,468	Incandescent or Halogen lamp	0	4,468	11	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
LED Interior Lamp Greater than 10W to 20W Energy Star Rated	LED lamp	0	4,468	Incandescent or Halogen lamp	0	4,468	10	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
LED Interior Screw In Fixture Retrofit	ENERGY STAR Qualified LED Downlight Retrofit Luminaire with min 35,000 hours lifetime	0	4,468	Incandescent Luminaire	0	4,468	8	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
LED Interior Fixture 25 Watts or Less Energy Star Rated	LED Downlight Luminaire	0	3,348	Incandescent Luminaire	51	3,348	20	$35	$192	18%	13.9	11.4	171	$0.205	$0.010	0.1	0.0	459	78,489
LED Interior Fixture Greater than 25 Watts to 50 Watts Energy Star Rated	LED Downlight Luminaire	0	4,126	Incandescent Luminaire	84	4,126	20	$50	$267	19%	10.1	8.2	347	$0.144	$0.007	0.1	0.1	863	299,464

Electric Measure Description	Efficient Product Description / Rating	Efficient Product Consumption (watts)	Efficient Hours of Operation (hrs/yr)	Baseline Product Description / Rating	Baseline Product Consumption (watts)	Baseline Hours of Operation (hrs/yr)	Measure Lifetime (years)	Rebate Amount ($)	Incremental Cost of Efficient Product ($)	Rebate as a % of Incremental Cost (%)	Incremt'l Cost Payback Period w/o Rebate (yrs)	Incremt'l Cost Payback Period w/ Rebate (yrs)	Annual Customer kWh Savings (kWh/yr)	Rebated Cost / Cust kWh Saved ($/kWh)	Rebated Lifetime cost /Cust KWh Saved ($/kWh)	Customer kW Savings (kW)	Generator Peak kW Savings (kW)	Units 2016	Total Customer kWh for all Units Installed in 2016
TOTAL																			
LED Refrigerated Case Lighting 2012	LED Strip lighting	0	3,226	T8 or T12 Fluorescent	112	3,226	20	$100	$171	58%	5.8	2.4	362	$0.276	$0.014	0.1	0.1	710	257,207
Parking Garage and Exterior LED Wall Packs less than or equal to 150 Watts	LED Wall Pack Fixture	0	8,760	HID Wall Pack Fixture	132	8,760	20	$135	$370	37%	4.8	3.1	1,160	$0.116	$0.006	0.1	0.1	1,208	1,401,181
Exterior LED Canopy and Soffit Fixtures from 25 watts to 150 Watts	LED	0	4,380	Metal Halide	0	4,380	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
LED Pedestrian Signals -9" (Walk/Don't Walk)	LED Pedestrian Signals -9" (Walk/Don't Walk)	0	4,380	Incandescent Pedestrian Signals - Large	0	4,380	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
LED Pedestrian Signals -12" (Walk/Don't Walk)	LED Pedestrian Signals -12" (Walk/Don't Walk)	0	6,570	Incandescent Pedestrian Signals - Large	106	6,570	20	$40	$110	36%	2.3	1.5	696	$0.057	$0.003	0.1	0.1	8	5,571
LED Traffic Balls and Arrows - 8" Red	LED Traffic Balls and Arrows - 8" Red	0	4,820	Incandescent Traffic Balls and Arrows 8" Red	0	4,820	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
LED Traffic Balls and Arrows - 12" Red	LED Traffic Balls and Arrows - 12" Red	0	4,827	Incandescent Traffic Balls and Arrows 12" Red	109	4,827	20	$50	$90	56%	2.3	1.0	525	$0.095	$0.005	0.1	0.1	16	8,403
LED Traffic Balls and Arrows - 8" Green	LED Traffic Balls and Arrows - 8" Green	0	3,675	Incandescent Traffic Balls and Arrows 8" Green	0	3,675	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
LED Traffic Balls and Arrows - 12" Green	LED Traffic Balls and Arrows - 12" Green	0	3,767	Incandescent Traffic Balls and Arrows 12" Green	124	3,767	20	$32	$90	36%	2.5	1.6	467	$0.069	$0.003	0.1	0.1	14	6,539
LED Traffic Arrows - 12" Red	LED Traffic Arrows - 12" Red	0	7,885	Incandescent Traffic Balls and Arrows 12" Red	0	7,885	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
LED Area Lighting - 100w Retrofit	LED	0	4,380	100W MH Fixture	160	4,380	20	$25	$129	19%	2.4	2.0	702	$0.036	$0.002	0.2	0.0	19	13,342
LED Area Lighting - 175w Retrofit	LED	0	4,380	175W MH Fixture	164	4,380	20	$25	$167	15%	3.1	2.6	720	$0.035	$0.002	0.2	0.0	147	105,852
LED Area Lighting - 250w Retrofit	LED	0	4,380	250W MH Fixture	213	4,380	20	$50	$269	19%	3.8	3.1	935	$0.053	$0.003	0.2	0.0	95	88,814
LED Area Lighting - 400w Retrofit	LED	0	4,380	400W MH Fixture	314	4,380	20	$50	$493	10%	4.8	4.3	1,375	$0.036	$0.002	0.3	0.0	477	656,058
LED High Bay Fixture - 190-290W			4,676		272	4,676	20	$150	$613	24%	6.5	4.9	1,271	$0.118	$0.006	0.3	0.3	735	933,903
LED High Bay Fixture - 465-625W			5,912		569	5,912	20	$250	$1,599	16%	6.7	5.7	3,364	$0.074	$0.004	0.6	0.6	1	3,364
LED High Bay Fixture - 124-189W			5,913		135	5,913	20	$135	$500	27%	8.9	6.5	798	$0.169	$0.008	0.1	0.1	22	17,562
LED High Bay Fixture - 95-189W			3,731		212	3,731	20	$135	$399	34%	6.5	4.3	791	$0.171	$0.009	0.2	0.2	929	734,804
LED Street Lighting - 110-130W		0	4,380		180	4,380	20	$75	$433	17%	7.3	6.0	788	$0.095	$0.005	0.2	0.0	198	156,107
LED Street Lighting - 45-55W		0	4,468		0	4,468	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
LED Street Lighting - 30-35W			4,380		60	4,380	20	$30	$403	7%	20.4	18.9	263	$0.114	$0.006	0.1	0.0	1,422	374,585
LED Street Lighting - 55-65W		0	4,380		89	4,380	20	$50	$188	27%	6.4	4.7	390	$0.128	$0.006	0.1	0.0	167	65,204
LED Wall Pack <= 25W - Building Exterior Retrofit	LED Wall Pack Fixture	0	4,380	HID Wall Pack Fixture	88	4,380	18	$35	$217	16%	7.5	6.3	386	$0.091	$0.005	0.1	0.0	68	26,215
LED Wall Pack 26W to 60W - Building Exterior Retrofit	LED Wall Pack Fixture	0	4,380	HID Wall Pack Fixture	164	4,380	18	$75	$378	20%	7.0	5.6	719	$0.104	$0.006	0.2	0.0	681	489,527
LED Wall Pack 61W to 150W - Building Exterior Retrofit	LED Wall Pack Fixture	0	4,350	HID Wall Pack Fixture	249	4,350	18	$100	$725	14%	8.9	7.7	1,083	$0.092	$0.005	0.2	0.0	223	241,517
LED Outdoor Canopy or Soffit lighting 25W -60W	LED	0	4,380	Metal Halide	157	4,380	20	$150	$537	28%	10.4	7.5	686	$0.219	$0.011	0.2	0.0	30	20,577
LED Outdoor Canopy or Soffit lighting 61W to 150W	LED	0	4,380	Metal Halide	300	4,380	20	$200	$609	33%	6.2	4.1	1,315	$0.152	$0.008	0.3	0.0	1,246	1,637,961
LED Wall Pack 26W to 60W - Parking Garage Retrofit	LED Wall Pack Fixture	0	5,660	HID Wall Pack Fixture	153	5,660	18	$75	$403	19%	6.6	5.3	866	$0.087	$0.005	0.2	0.0	50	43,293
LED Wall Pack 61W to 150W - Parking Garage Retrofit	LED Wall Pack Fixture	0	4,468	HID Wall Pack Fixture	0	4,468	18	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
LED Troffers 1x4 - Retrofit	LED Fixture	0	3,553	Fluorescent Fixture	50	3,553	20	$50	$235	21%	16.8	13.2	176	$0.284	$0.014	0.0	0.0	379	66,793
LED Troffers 2x2 - Retrofit	LED Fixture	0	2,835	Fluorescent Fixture	37	2,835	20	$50	$167	30%	18.7	13.1	105	$0.474	$0.024	0.0	0.0	2,835	298,999
LED Troffers 2x4 - Retrofit	LED Fixture	0	3,023	Fluorescent Fixture	72	3,023	20	$50	$242	21%	13.4	10.7	217	$0.231	$0.012	0.1	0.1	6,313	1,368,139
LED Troffers 1x4 Retrofit Kit - Retrofit	LED Fixture	0	2,878	Fluorescent Fixture	59	2,878	21	$30	$155	19%	10.9	8.8	169	$0.178	$0.008	0.1	0.0	128	21,623
LED Troffers 2x2 Retrofit Kit - Retrofit	LED Fixture	0	3,073	Fluorescent Fixture	35	3,073	20	$30	$138	22%	15.5	12.1	108	$0.278	$0.014	0.0	0.0	214	23,089
LED Troffers 2x4 Retrofit Kit - Retrofit	LED Fixture	0	2,928	Fluorescent Fixture	55	2,928	20	$30	$101	30%	7.5	5.3	160	$0.187	$0.009	0.1	0.0	4,005	641,351
Custom Lighting	Custom Lighting Solution	0	4,524	Existing Overlit Lighting System	21,262	4,524	16	$8,332	$36,429	23%	5.1	3.9	96,193	$0.087	$0.005	21.3	13.3	266	25,587,220
Lighting Redesign Implementation	Redesign Lighting Solution Installed	0	0	Existing Overlit Lighitng System	0	0	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0000		0
LED Interiors Lamp - A Lamps	LED lamp	0	2,994	Halogen, Incandescent, or CFL Lamp	16	2,994	8	$5	$5	97%	1.3	0.0	48	$0.104	$0.013	0.0	0.0155	49,030	2,357,771
LED Interior Lamp - PAR20, R20	LED lamp	0	2,994	Halogen, Incandescent, or CFL Lamp	24	2,994	9	$10	$10	98%	1.7	0.0	71	$0.140	$0.016	0.0	0.0230	4,435	315,780
LED Interior Lamp - PAR30	LED lamp	0	2,994	Halogen, Incandescent, or CFL Lamp	42	2,994	9	$15	$15	101%	1.4	0.0	125	$0.118	$0.013	0.0	0.0405	11,163	1,399,094
LED Interior Lamp - BR30	LED lamp	0	2,994	Halogen, Incandescent, or CFL Lamp	36	2,994	9	$10	$7	148%	0.8	-0.4	107	$0.093	$0.010	0.0	0.0346	7,801	835,840
LED Interior Lamp - PAR38	LED lamp	0	2,994	Halogen, Incandescent, or CFL Lamp	55	2,994	9	$20	$21	97%	1.5	0.0	166	$0.121	$0.013	0.1	0.0536	15,465	2,565,337
LED Interior Lamp - BR40	LED lamp	0	2,994	Halogen, Incandescent, or CFL Lamp	46	2,994	9	$20	$20	100%	1.7	0.0	138	$0.145	$0.016	0.0	0.0446	4,562	629,517
LED Interior Lamp - PAR16	LED lamp	0	2,993	Halogen, Incandescent, or CFL Lamp	19	2,993	9	$6	$6	93%	1.4	0.1	57	$0.105	$0.012	0.0	0.0184	100	5,695
LED Interior Lamp - MR16	LED lamp	0	2,995	Halogen, Incandescent, or CFL Lamp	40	2,995	8	$10	$13	75%	1.3	0.3	120	$0.084	$0.010	0.0	0.0386	533	63,708
LED Interior Lamp - GU10	LED lamp	0	2,994	Halogen, Incandescent, or CFL Lamp	59	2,994	9	$10	$14	69%	1.0	0.3	176	$0.057	$0.006	0.1	0.0570	15,358	2,709,948
LED Interior Lamp - Decorative (B, BA, Candle)	LED lamp	0	2,994	Halogen, Incandescent, or CFL Lamp	33	2,994	7	$5	$9	53%	1.2	0.5	99	$0.051	$0.007	0.0	0.0318	4,656	458,931
LED Retrofit Kit	LED lamp	0	2,994	Halogen, Incandescent, or CFL Fixture	29	2,994	10	$15	$33	46%	4.5	2.5	87	$0.171	$0.017	0.0	0.0282	1,998	174,736
LED Linear Tube Type A 2 foot			4,023		6	4,023	8	$2	$20	10%	11.7	10.6	22	$0.090	$0.011	0.0	0.0	1,097	24,391
LED Linear Tube Type A 4 foot			5,767		19	5,767	8	$4	$22	18%	2.9	2.4	110	$0.036	$0.005	0.0	0.0	82,577	9,099,862
LED Linear Tube Type B 4 foot			2,701		13	2,701	8	$6	$34	17%	11.3	9.3	35	$0.171	$0.021	0.0	0.0	6,338	222,916
LED Linear Tube Type C 4 foot			4,016		14	4,016	8	$10	$73	14%	17.6	15.1	54	$0.184	$0.023	0.0	0.0	1,152	62,512
Low Wattage T8 4' lamps	Low Wattage T8 Lamps	0	3,784	Standard T8 32 watt lamps	5	3,784	20	$1	$2	25%	1.4	1.1	18	$0.027	$0.001	0.0	0.0	330	6,001
High Bay Fluorescents <= 300 Watts	New Construction High Bay Less Than 300W	0	3,099	Metal Halide	0	3,099	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
High Bay Fluorescents <= 610 Watts	New Construction High Bay Less than 610W	0	3,382	Metal Halide	261	3,382	20	$40	$86	47%	1.2	0.6	883	$0.045	$0.002	0.3	0.3	2,916	2,576,207
High Bay Fluorescents <= 900 Watts	New Construction High Bay Less Than 900W	0	5,988	Metal Halide	460	5,988	20	$40	$102	39%	0.5	0.3	2,752	$0.015	$0.001	0.5	0.5	125	344,036
Compact Fluorescent, Pin Based <19 Watts	NC Pin Based Equal to or Less than 18 Watts	0	4,468	Incandescent	0	4,468	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0

Electric Measure Description	Efficient Product Description / Rating	Efficient Product Consumption (watts)	Efficient Hours of Operation (hrs/yr)	Baseline Product Description / Rating	Baseline Product Consumption (watts)	Baseline Hours of Operation (hrs/yr)	Measure Lifetime (years)	Rebate Amount ($)	Incremental Cost of Efficient Product ($)	Rebate as a % of Incremental Cost (%)	Incremt'l Cost Payback Period w/o Rebate (yrs)	Incremt'l Cost Payback Period w/ Rebate (yrs)	Annual Customer kWh Savings (kWh/yr)	Rebated Cost / Cust kWh Saved ($/kWh)	Rebated Lifetime cost /Cust KWh Saved ($/kWh)	Customer kW Savings (kW)	Generator Peak kW Savings (kW)	Units 2016	Total Customer kWh for all Units Installed in 2016
TOTAL																			
Compact Fluorescent, Pin Based 19-32 Watts	New Construction Compact Fluorescent 19-32 Watts	0	2,544	Incandescent	87	2,544	20	$15	$72	21%	3.7	2.9	222	$0.067	$0.003	0.1	0.1	155	34,462
Compact Fluorescent, Pin Based 33-100 Watts	New Construction Pin Based Compact Fluorescent 33 Watts or more	0	3,460	Incandescent	214	3,460	20	$20	$77	26%	1.3	1.0	740	$0.027	$0.001	0.2	0.2	424	313,759
2-foot Low Wattage CFL 25 Watt to 28 Watt	PL 25W CFL	0	4,468	PL 40W CFL	0	4,468	6	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
LED Interior Lamp < 5W Energy Star Rated	LED lamp	0	4,468	Incandescent or Halogen lamp	0	4,468	10	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
LED Interior Lamp Greater than 5W to 10W Energy Start Rated	LED lamp	0	6,872	Incandescent or Halogen lamp	35	6,872	11	$12	$38	32%	2.3	1.6	242	$0.050	$0.005	0.0	0.0	348	84,287
LED Interior Lamp Greater than 10W to 20W Energy Star Rated	LED lamp	0	6,872	Incandescent or Halogen lamp	55	6,872	10	$15	$61	25%	2.3	1.7	381	$0.039	$0.004	0.1	0.1	240	91,471
LED Interior Screw In Fixture New Construction	LED Downlight Retrofit Luminaire 35,000 Hours	0	4,468	Incandescent Luminaire	0	4,468	8	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
LED Interior Fixture 25 Watts or Less Energy Star Rated	LED Downlight Luminaire	0	3,217	Incandescent Luminaire	54	3,217	20	$25	$157	16%	11.0	9.2	175	$0.143	$0.007	0.1	0.0	3,140	548,401
LED Interior Fixture Greater than 25W to 50 Watts Energy Star Rated	LED Downlight Luminaire	0	2,981	Incandescent Luminaire	158	2,981	20	$40	$229	17%	5.8	4.8	470	$0.085	$0.004	0.2	0.1	673	316,054
LED Refrigerated Case Lighting 2012	LED Strip lighting	0	7,334	T8 or T12 Fluorescent	74	7,334	20	$70	$133	53%	3.6	1.7	541	$0.129	$0.006	0.1	0.1	338	182,843
Parking Garage and Exterior LED Wall Packs less than or equal to 150 Watts	LED Wall Pack Fixture	0	6,570	HID Wall Pack Fixture	0	6,570	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Exterior LED Canopy and Soffit Fixtures from 25 watts to 150 Watts	LED	0	4,380	Metal Halide	0	4,380	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Ceramic Metal Halide <=150W	Ceramic Metal Halide <= 150 Watts	0	4,468	Incandescent	0	4,468	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Ceramic Metal Halide 151-250W	Ceramic Metal Halide 151 to 250 Watts	0	4,468	Metal Halide	0	4,468	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Ceramic Metal Halide 251W-	Ceramic Metal Halide 151 to 250 Watts	0	4,468	Ceramic Metal Halide	0	4,468	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Integrated 25W Ceramic Metal Halide	Integrated Ceramic Metal Halide	0	4,468	Incandescent	0	4,468	7	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Pulse-Start Metal Halide, 176W-319W	Pulse Start Metal Halide	0	1,736	High Pressure Sodium, Metal Halide	221	1,736	20	$12	$105	11%	2.7	2.4	383	$0.031	$0.002	0.2	0.2	26	9,965
Pulse-Start Metal Halide, 320W-749W	Pulse Start Metal Halide 320 to 749W	0	4,468	High Pressure Sodium, Mercury Vapor, Metal Halide	0	4,468	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Pulse-Start Metal Halide, 750W+	750W Pulse Start Metal Halide	0	4,468	1000W Metal Halide	0	4,468	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Custom Lighting & Recommissioning	Engineering Study	0	0	Existing Overlit Lighting System	0	0	0	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Custom Lighting	Custom Lighting Solution	0	5,373	Existing Overlit Lighting System	0	5,373	16	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Lighting Redesign Studies	Redesign Lighting Solution Study	0	0	Existing Overlit Lighting System	0	0	0	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Lighting Redesign Implementation	Redesign Lighting Solution Installed	0	6,844	Existing Overlit Lighting System	0	6,844	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
LED Street Lighting - 56-79W	LED	0	4,379		116	4,379	20	$25	$121	21%	3.2	2.5	508	$0.049	$0.002	0.1	0.00000	4	2,032
LED Area Lighting - 250w New Construction	LED	0	4,380	250W MH Fixture	192	4,380	20	$30	$275	11%	4.4	3.9	841	$0.036	$0.002	0.2	0.0	58	48,795
LED Area Lighting - 100w New Construction	LED	0	4,379	250W MH Fixture	80	4,379	20	$15	$23	65%	0.9	0.3	350	$0.043	$0.002	0.1	0.0	3	1,051
LED Area Lighting - 175w New Construction	LED	0	4,380	400W MH Fixture	135	4,380	20	$15	$189	8%	4.3	3.9	593	$0.025	$0.001	0.1	0.0	35	20,744
LED Area Lighting - 400w New Construction	LED	0	4,380	400W MH Fixture	319	4,380	20	$30	$321	9%	3.1	2.8	1,395	$0.022	$0.001	0.3	0.0	109	152,076
LED Wall Pack <= 25W - Building Exterior New Construction	LED Wall Pack Fixture	0	4,380	HID Wall Pack Fixture	53	4,380	18	$15	$91	16%	5.2	4.3	234	$0.064	$0.004	0.1	0.0	59	13,779
LED Wall Pack 26W to 60W - Building Exterior New Construction	LED Wall Pack Fixture	0	4,380	HID Wall Pack Fixture	148	4,380	18	$30	$241	12%	5.0	4.3	647	$0.046	$0.003	0.1	0.0	303	196,142
LED Wall Pack 61W to 150W- Building Exterior New Construction	LED Wall Pack Fixture	0	4,380	HID Wall Pack Fixture	299	4,380	18	$50	$405	12%	4.1	3.6	1,308	$0.038	$0.002	0.3	0.0	132	172,720
LED Outdoor Canopy or Soffit lighting 25W - 60W	LED	0	8,760	Metal Halide	151	8,760	20	$35	$317	11%	3.6	3.2	1,324	$0.026	$0.001	0.2	0.2	204	270,158
LED Outdoor Canopy or Soffit lighting 61W - 150W	LED	0	4,380	Metal Halide	314	4,380	20	$100	$242	41%	2.3	1.4	1,375	$0.073	$0.004	0.3	0.0	434	596,775
LED Wall Pack <= 25W - Parking Garage Wallpack New Construction	LED Wall Pack Fixture	0	0	HID Wall Pack Fixture	0	0	18	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
LED Wall Pack 26W to 60W- Parking Garage Wallpack New Construction	LED Wall Pack Fixture	0	6,481	HID Wall Pack Fixture	0	6,481	18	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
LED High Bay Fixture - 465-625W		0	8,234		589	8,234	20	$175	$991	18%	3.1	2.5	4,850	$0.036	$0.002	0.6	0.6	52	252,191
LED High Bay Fixture - 190-290W		0	3,237		246	3,237	20	$140	$120	117%	1.9	-0.3	796	$0.176	$0.009	0.2	0.3	638	507,581
LED High Bay Fixture - 95-189W		0	4,296		204	4,296	20	$125	$165	76%	2.5	0.6	875	$0.143	$0.007	0.2	0.2	913	798,750
LED Troffers 1x4 - New Construction	LED Fixture	0	3,129	Fluorescent Fixture	13	3,129	20	$30	$216	14%	62.5	53.8	42	$0.714	$0.036	0.0	0.0	245	10,298
LED Troffers 2x4 - New Construction	LED Fixture	0	2,939	Fluorescent Fixture	12	2,939	20	$30	$208	14%	72.3	61.9	34	$0.877	$0.044	0.0	0.0	3,416	116,900
LED Troffers 2x2 - New Construction	LED Fixture	0	3,021	Fluorescent Fixture	13	3,021	20	$30	$156	19%	49.4	39.9	38	$0.789	$0.039	0.0	0.0	3,277	124,545
Motor Efficiency		0																	0
Plan A Enhanced (1 to 500 HP)	NEMA Premium plus 1% Efficient Motors	0	4,143	NEMA Premium	0	4,143	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Plan B (1 to 500 HP)	NEMA Premium Efficient Motors	0	4,414	EPACT	243	4,414	20	$1,074	$3,177	34%	39.5	26.2	1,072	$1.002	$0.050	0.2	0.2	189	202,701
Plan B Enhanced (1 to 500 HP)	NEMA Premium plus 1% Efficient Motors	0	2,000	EPACT	111	2,000	20	$325	$1,388	23%	64.7	49.5	222	$1.464	$0.073	0.1	0.1	2	444
VFD	Equipment coupled with an ASD/VFD	0	4,743	Equipment without an ASD/VFD	3,835	4,743	15	$1,544	$4,303	36%	3.2	2.1	18,191	$0.085	$0.006	3.8	3.2	847	15,407,936
Motor Controllers	Motor with Voltage Controller	0	4,520	Motor without Voltage Controller	779	4,520	20	$130	$275	47%	1.0	0.6	3,520	$0.037	$0.002	0.8	0.8	27	95,037
Study	Motor Study	0	0	No Study	0	0	7	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Water well pump VFDs		0	3,019		14,791	3,019	15	$4,443	$12,516	35%	3.4	2.2	44,656	$0.099	$0.007	14.8	6.0	22	982,430
Custom	New Equipment	0	4,793	Existing or New Inefficient	67,576	4,793	17	$27,030	$265,783	10%	11.2	10.0	323,874	$0.083	$0.005	67.6	39.1	4	1,295,496
Multi-Family Building Efficiency		0	6,363		0	6,363		$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Common Area LED	LED bulb	0	3,960	Incandescent light bulb	58	3,960	10	$7	$7	100%	0.3	0.0	230	$0.030	$0.003	0.1	0.0	789	181,478
Aerators - Bathroom Primary		0	8,765		28	8,765	5	$1			0.0	-0.1	244	$0.006	$0.001	0.0	0.0	27	6,600

Electric Measure Description	Efficient Product Description / Rating	Efficient Product Consumption (watts)	Efficient Hours of Operation (hrs/yr)	Baseline Product Description / Rating	Baseline Product Consumption (watts)	Baseline Hours of Operation (hrs/yr)	Measure Lifetime (years)	Rebate Amount ($)	Incremental Cost of Efficient Product ($)	Rebate as a % of Incremental Cost (%)	Incremt'l Cost Payback Period w/o Rebate (yrs)	Incremt'l Cost Payback Period w/ Rebate (yrs)	Annual Customer kWh Savings (kWh/yr)	Rebated Cost / Cust kWh Saved ($/kWh)	Rebated Lifetime cost /Cust KWh Saved ($/kWh)	Customer kW Savings (kW)	Generator Peak kW Savings (kW)	Units 2016	Total Customer kWh for all Units Installed in 2016
TOTAL																			
Aerators - Kitchen		0	8,758		16	8,758	5	$3			0.0	-0.2	143	$0.020	$0.004	0.0	0.0	29	4,134
Refrigerator Replacement		0	1,169		0	1,169	13	$0			0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Through the Wall AC		0	5,948		0	5,948	9	$0			0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Window/Wall AC Replacement		0	8,504		0	8,504	9	$0			0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
CFLs	CFL Bulb	0	626	Incandescent light bulb	3,259	626	16	$118	$118	100%	0.5	0.0	2,041	$0.058	$0.004	3.3	0.3	293	597,946
Process Efficiency		0	0		0			$0			0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Custom	New Equipment	0	6,115	Old or less efficient systems or equipment	70,981	6,115	15	$22,136	$553,540	4%	18.2	17.5	434,056	$0.051	$0.003	71.0	50.4	31	13,455,744
Lighting	New Equipment	0	5,396	Old or less efficient systems or equipment	26	5,396	16	$10	$42	24%	4.2	3.2	139	$0.072	$0.005	0.0	0.0	67,591	9,407,915
Motors	New Equipment	0	5,489	Old or less efficient systems or equipment	4,789	5,489	17	$1,907	$5,493	35%	2.9	1.9	26,289	$0.073	$0.004	4.8	4.0	299	7,860,388
Implementation of ECO's found in studies	Optimized System	0	8,278	Existing System - Not Tuned or Optimized	9,793	8,278	7	$3,660	$17,894	20%	3.3	2.6	81,066	$0.045	$0.006	9.8	5.7	4	324,264
Cooling	New Equipment	0	5,703	Old or less efficient systems or equipment	3,845	5,703	20	$2,203	$17,791	12%	11.4	10.0	21,930	$0.100	$0.005	3.8	3.5	68	1,491,230
Fluid System Optimization	New Equipment	0	7,756	Old or less efficient systems or equipment	10,348	7,756	18	$4,834	$13,177	37%	2.4	1.5	80,255	$0.060	$0.003	10.3	8.6	61	4,895,532
Compressed Air Leaks	Leaks & Waste Found and Repaired	0	8,655	Existing System in with Leaks & Waste that have not been repaired	50,061	8,655	5	$0	$13,713		0.5	0.5	433,272	$0.000	$0.000	50.1	47.4	1	433,272
Computer Efficiency - End User Rebates	High Efficiency Equipment	0	0	Standard Efficiency Equipment	0	0	0	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Energy Design Assistance	High Efficiency Building	0	3,855	Code Level Efficiency Building	0	3,855	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Behavioral Changes	Behavior changes that reduce energy use	0	8,760	No change in behavior	0	8,760	1	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Behavioral Adjustment	Behavior changes that reduce energy use	0	8,760	No change in behavior	0	8,760	0	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Desktop PC Virtualization	Hardware and/or software replacing desktop PC	0	7,311	Desktop PCs meeting ENERGY STAR 3.0 specifications	0	7,311	5	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Phase 2 new customer contribution	0	0	0	0	0	0	0	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Food Service	High Efficiency Equipment	0	4,590	Standard Efficiency Equipment	0	4,590	15	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Recommissioning	Optimized System	0	4,853	Existing System - Not Tuned or Optimized	127,705	4,853	16	$98	$11,585	1%	0.3	0.3	619,809	$0.000	$0.000	127.7	111.5	2	1,239,618
Recommissioning																			0
Implementation of ECO's found in studies	Optimized Building Systems	0	5,369	Existing Building System - Not Tuned or Optimized	43,394	5,369	7	$7,190	$37,110	19%	2.2	1.8	232,978	$0.031	$0.004	43.4	18.5	28	6,523,373
RCx Studies	0	0	0	0	0	0	0	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Refrigeration Recommissioning	Optimized Refrigeration Systems	0	8,165	Existing Refrigeration Systems - Not Tuned or Optimized	0	8,165	7	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Self Direct																			0
Average Project	New Equipment	0	7,244	Old or less efficient systems or equipment	175,428	7,244	17	$127,074	$1,573,271	8%	18.2	16.8	1,270,737	$0.100	$0.006	175.4	0.0	1	1,270,737
Turn Key Services																			0
Identification ~ Walk through, ASHREA LV1 & Eng Assistant Studies	Identification of opportunities	0	0	Do nothing	0	0	7	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Identification and repair~ Walk through, ASHREA LV1 & Eng Assistant LCNC measures	Identification and quick payback fixes	0	6,077	Current Operation	0	6,077	7	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Project Scoping	Project Scoping	0	0	Customer not interested in implementing identified measure	0	0	0	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Implementation	High Eff Project	0	4,787	Low Eff or Current Operation	82	4,787	13	$33	$108	30%	3.8	2.6	391	$0.084	$0.006	0.1	0.1	22,394	8,747,890
Residential																			0
Energy Efficient Showerheads																			0
Provide Energy Efficient Showerhead - 1.5 GPM	1.5 GPM Showerhead	0	238	2.5 GPM Showerhead	0	238	6	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Provide Energy Efficient Showerhead - 1.5 GPM	1.5 GPM Showerhead	0	238	2.5 GPM Showerhead	0	238	6	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Provide Energy Efficient Showerhead - 1.5 GPM	1.5 GPM Showerhead	0	238	2.5 GPM Showerhead	1,801	238	6	$3	$3	100%	0.1	0.0	429	$0.007	$0.001	0.0	0.0	1,587	680,823
Provide Energy Efficient Kitchen Aearator - 1.5 GPM	1.5 GPM Kitchen Faucet Aerator	0	92	2.2 GPM Kitchen Faucet Aerator	0	92	5	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Provide Energy Efficient Kitchen Aearator - 1.5 GPM	1.5 GPM Kitchen Faucet Aerator	0	92	2.2 GPM Kitchen Faucet Aerator	0	92	5	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Provide Energy Efficient Kitchen Aearator - 1.5 GPM	1.5 GPM Kitchen Faucet Aerator	0	92	2.2 GPM Kitchen Faucet Aerator	1,429	92	5	$1	$1	100%	0.1	0.0	132	$0.011	$0.002	0.0	0.0	1,587	209,055
Provide Energy Efficient Bath Faucet Aearator - 1.0 GPM	1.0 GPM Bath Faucet Aerator	0	92	2.2 GPM Bath Faucet Aerator	0	92	5	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Provide Energy Efficient Bath Faucet Aearator - 1.0 GPM	1.0 GPM Bath Faucet Aerator	0	92	2.2 GPM Bath Faucet Aerator	0	92	5	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Provide Energy Efficient Bath Faucet Aearator - 1.0 GPM	1.0 GPM Bath Faucet Aerator	0	92	2.2 GPM Bath Faucet Aerator	2,454	92	5	$0	$0	100%	0.0	0.0	226	$0.002	$0.000	0.0	0.0	1,587	359,026
Energy Feedback																			0
Print Reports	Aware use	0	4,041	Normal use	10,707,000	4,041	1	$0	$0		0.0	0.0	43,265,097	$0.000	$0.000	10,707.0	10,932.5	1	43,265,097
Electronic Reports	Aware use	0	7,755	Normal use	195,990	7,755	1	$0	$0		0.0	0.0	1,519,908	$0.000	$0.000	196.0	200.1	1	1,519,908
New Electric Print Reports	Aware use	0	8,760	Normal use	0	8,760	1	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Print Reports Behavioral Adjustment	Aware use	0	4,041	Normal use	-7,138,000	4,041	0	$0	$0		0.0	0.0	-28,843,398	$0.000	#DIV/0!	-7,138.0	-7,288.4		0
Electronic Reports Behavioral Adjustment	Aware use	0	7,755	Normal use	-130,660	7,755	0	$0	$0		0.0	0.0	-1,013,272	$0.000	#DIV/0!	-130.7	-133.4		0
New Electric Print Reports Behavioral Adjustment	Aware use	0	8,760	Normal use	0	8,760	0	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Energy Star Homes																			0
Energy Star New Homes (>2000 sq ft) - Electric Only Customer	Energy Efficient Home	0	1,411	2006 IECC	580	1,411	20	$250	$306	82%	3.5	0.6	818	$0.305	$0.015	0.6	0.6	5	4,092
Energy Star New Homes (<2000 sq ft) - Electric Only Customer	Energy Efficient Home	0	8,760	2006 IECC	0	8,760	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0

Electric Measure Description	Efficient Product Description / Rating	Efficient Product Consumption (watts)	Efficient Hours of Operation (hrs/yr)	Baseline Product Description / Rating	Baseline Product Consumption (watts)	Baseline Hours of Operation (hrs/yr)	Measure Lifetime (years)	Rebate Amount ($)	Incremental Cost of Efficient Product ($)	Rebate as a % of Incremental Cost (%)	Incremt'l Cost Payback Period w/o Rebate (yrs)	Incremt'l Cost Payback Period w/ Rebate (yrs)	Annual Customer kWh Savings (kWh/yr)	Rebated Cost / Cust kWh Saved ($/kWh)	Rebated Lifetime cost /Cust KWh Saved ($/kWh)	Customer kW Savings (kW)	Generator Peak kW Savings (kW)	Units 2016	Total Customer kWh for all Units Installed in 2016
TOTAL																			
Energy Star New Homes (Regular) - Combo Customer	Energy Efficient Home	0	1,548	2006 IECC	1,300	1,548	20	$0	$347		1.6	1.6	2,012	$0.000	$0.000	1.3	1.4	1	2,012
Energy Star New Homes (Low Income) - Combo Customer	Energy Efficient Home	0	8,760	2006 IECC	0	8,760	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Envelope Improvement - 20% - 24.99%		0	520		3,198	520	20	$506			0.0	-2.9	1,663	$0.304	$0.015	3.2	3.1	45	75,051
Envelope Improvement - 25% - 29.99%		0	1,117		3,854	1,117	20	$645			0.0	-1.4	4,305	$0.150	$0.007	3.9	3.7	6	25,917
Envelope Improvement - 30% - 34.99%		0	620		791	620	20	$797			0.0	-15.3	491	$1.625	$0.081	0.8	0.8	5	2,606
Envelope Improvement - 35% & Higher		0	3,476		7,593	3,476	20	$1,201			0.0	-0.4	26,390	$0.046	$0.002	7.6	2.4	1	28,501
Envelope Improvement - Electric Only		0	757		1,560	757	20	$100			0.0	-0.8	1,180	$0.085	$0.004	1.6	1.5	375	442,655
Envelope Improvement - Under 20%		0	647		308,200	647	20	$0			0.0	0.0	199,501	$0.000	$0.000	308.2	289.7	1	199,501
Envelope Improvement - Low income		0	-4,243		600	-4,243	20	$515			0.0	1.9	-2,546	-$0.202	-$0.010	0.6	-2.0	1	-2,546
ECM Furnace Fan Efficiency	ECM Furnace Fan (variable speed motor)	0	4,228	78 AFUE gas furnace with typical permanent split capacitor fan motor	170	4,228	15	$106	$216	49%	2.8	1.4	719	$0.148	$0.010	0.2	0.2	123	88,465
CFLs-Quantity of 20 (Required) - 2013	High efficiency CFL bulbs	0	814	baseline is incandescent bulbs	0	814	8	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
CFLs-Quantity of 20 (Required) - 2014	High efficiency CFL bulbs	0	814	baseline is incandescent bulbs	0	814	8	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
CFLs-Quantity of 20 (Required) - 2016	High efficiency CFL bulbs	0	814	baseline is incandescent bulbs	633	814	8	$25	$42	60%	0.8	0.3	515	$0.049	$0.006	0.6	0.1	3	1,545
Energy Star Clothes Washer	Energy Star Clothes washer	0	314	standard clothes washer	229	314	11	$51	$32	157%	4.2	-2.4	72	$0.706	$0.064	0.2	0.0	151	10,827
Energy Star Dishwasher	0.65 Energy Factor - energy star recommended	0	212	0.46 Energy Factor - Federal Minimum Standard	39	212	11	$10	$8	131%	8.7	-2.7	8	$1.207	$0.110	0.0	0.0	514	4,266
Energy Star Refrigerator	Energy Star Refrigerator	0	8,021	standard refrigerator	2	8,021	13	$15	$40	38%	22.5	14.0	17	$0.899	$0.069	0.0	0.0	339	5,655
Heating System Rebate																			0
New 92% AFUE Energy Star Furnace W/ ECM - Electric Only Customers	92 AFUE Furnace w/ EC Motor	0	2,484	78 AFUE Furnace w/ PSC Motor	0	2,484	18	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
New 96% AFUE Energy Star Furnace W/ ECM - Electric Only Customers	96 AFUE Furnace w/ EC Motor	0	2,484	78 AFUE Furnace w/ PSC Motor	0	2,484	18	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
New 92% AFUE Energy Star Furnace W/ ECM - Combo Customers	92 AFUE Furnace w/ EC Motor	0	2,484	78 AFUE Furnace w/ PSC Motor	0	2,484	18	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
New 96% AFUE Energy Star Furnace W/ ECM - Combo Customers	96 AFUE Furnace w/ EC Motor	0	3,734	78 AFUE Furnace w/ PSC Motor	188	3,734	18	$100	$269	37%	3.6	2.3	702	$0.143	$0.008	0.2	0.2	11,229	7,878,904
Home Energy Squad																			0
NEC Energy Squad Service 2013	weighted average Energy Efficient measures by participant	0	743	weighted average Baseline measures by participant	0	743	11	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
NEC Energy Squad Service 2014	weighted average Energy Efficient measures by participant	0	740	weighted average Baseline measures by participant	0	740	11	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
NEC Energy Squad Service 2016	weighted average Energy Efficient measures by participant	0	605	weighted average Baseline measures by participant	3,276,855	605	11	$0	$135,995		0.6	0.6	1,983,024	$0.000	$0.000	3,276.9	1,171.5	1	1,983,024
TV peripherals turned off with Timer (replacing power strip)	TV peripherals turned off with Timer (replacing power strip)	0	4,420	Power used in "standby" mode while equipment is unused	0	4,420	15	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
LED EcoSmart 13W 2013	LED EcoSmart 13W	0	778	60 W Incandescent DER deemed wattage	0	778	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
LED EcoSmart 13W 2014	LED EcoSmart 13W	0	778	60 W Incandescent DER deemed wattage	0	778	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
LED EcoSmart 13W 2016	LED EcoSmart 13W	0	697	60 W Incandescent DER deemed wattage	147,476	697	20	$0	$16,205		1.5	1.5	102,739	$0.000	$0.000	147.5	12.9	1	102,739
Install Second Programmable Thermostat	Second T-state w/ Auto setup by 1 F for cooling assume 3 ton AC, 10 SEER	0	320	Base modeled home w/ 10 SEER AC and no setup temp	7,655	320	15	$0	$38		0.1	0.1	2,450	$0.000	$0.000	7.7	7.6	1	2,450
CEE Energy Squad Service 2013	weighted average Energy Efficient measures by participant	0	727	weighted average Baseline measures by participant	0	727	11	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
CEE Energy Squad Service 2014	weighted average Energy Efficient measures by participant	0	728	weighted average Baseline measures by participant	0	728	11	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
CEE Energy Squad Service 2016	weighted average Energy Efficient measures by participant	0	594	weighted average Baseline measures by participant	2,589,788	594	11	$0	$138,486		0.8	0.8	1,538,540	$0.000	$0.000	2,589.8	831.1	1	1,538,540
Dimmable CFL (assume 23W) 2013	Dimmable CFL (assume 23W)	0	737	100 W Incandescent DER deemed wattage	0	737	11	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Dimmable CFL (assume 23W) 2014	Dimmable CFL (assume 23W)	0	737	100 W Incandescent DER deemed wattage	0	737	12	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Dimmable CFL (assume 23W) 2016	Dimmable CFL (assume 23W)	0	737	100 W Incandescent DER deemed wattage	0	737	12	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0	0	0
TV peripherals turned off with Timer (replacing power strip)	TV peripherals turned off with Timer (replacing power strip)	0	4,420	Power used in "standby" mode while equipment is unused	0	4,420	15	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
LED EcoSmart 13W	LED EcoSmart 13W	0	778	60 W Incandescent DER deemed wattage	0	778	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
LED EcoSmart 13W	LED EcoSmart 13W	0	778	60 W Incandescent DER deemed wattage	0	778	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
LED EcoSmart 13W	LED EcoSmart 13W	0	698	60 W Incandescent DER deemed wattage	174,250	698	20	$0	$18,830		1.5	1.5	121,594	$0.000	$0.000	174.3	15.3	1	121,594
Install Second Programmable Thermostat	Second T-state w/ Auto setup by 1 F for cooling assume 3 ton AC, 10 SEER	0	320	Base modeled home w/ 10 SEER AC and no setup temp	8,696	320	15	$0	$210		0.7	0.7	2,784	$0.000	$0.000	8.7	8.6	1	2,784
Home Lighting																			0
Residential Home Lighting 2013	CFL Bulb	0	838	Incandescent light bulb	0	838	12	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Residential Home Lighting 2013 6% business	CFL Bulb	0	3,729	Incandescent light bulb	0	3,729	2	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Residential Home Lighting 2013 Non EISA	CFL Bulb	0	838	Incandescent light bulb	0	838	12	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Residential Home Lighting 2013 6% business NON EISA	CFL Bulb	0	3,729	Incandescent light bulb	0	3,729	2	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Residential Home Lighting 2013 LEDs	LED Bulb	0	838	Incandescent light bulb	0	838	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Residential Home Lighting 2013 6% business LEDs	LED Bulb	0	3,729	Incandescent light bulb	0	3,729	2	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0

Electric Measure Description	Efficient Product Description / Rating	Efficient Product Consumption (watts)	Efficient Hours of Operation (hrs/yr)	Baseline Product Description / Rating	Baseline Product Consumption (watts)	Baseline Hours of Operation (hrs/yr)	Measure Lifetime (years)	Rebate Amount ($)	Incremental Cost of Efficient Product ($)	Rebate as a % of Incremental Cost (%)	Incremt'l Cost Payback Period w/o Rebate (yrs)	Incremt'l Cost Payback Period w/ Rebate (yrs)	Annual Customer kWh Savings (kWh/yr)	Rebated Cost / Cust kWh Saved ($/kWh)	Rebated Lifetime cost /Cust KWh Saved ($/kWh)	Customer kW Savings (kW)	Generator Peak kW Savings (kW)	Units 2016	Total Customer kWh for all Units Installed in 2016
TOTAL																			
Residential Home Lighting 2013 LEDs Non EISA	LED Bulb	0	838	Incandescent light bulb	0	838	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Residential Home Lighting 2013 6% business LEDs Non EISA	LED Bulb	0	3,729	Incandescent light bulb	0	3,729	6	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Residential Home Lighting 2014	CFL Bulb	0	838	Incandescent light bulb	0	838	12	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Residential Home Lighting 2014 6% business	CFL Bulb	0	3,729	Incandescent light bulb	0	3,729	2	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Residential Home Lighting 2014 Non EISA	CFL Bulb	0	838	Incandescent light bulb	0	838	12	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Residential Home Lighting 2014 6% business NON EISA	CFL Bulb	0	3,729	Incandescent light bulb	0	3,729	2	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Residential Home Lighting 2014 LEDs	LED Bulb	0	838	Incandescent light bulb	0	838	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Residential Home Lighting 2014 6% business LEDs	LED Bulb	0	3,729	Incandescent light bulb	0	3,729	2	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Residential Home Lighting 2014 LEDs Non EISA	LED Bulb	0	838	Incandescent light bulb	0	838	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Residential Home Lighting 2014 6% business LEDs Non EISA	LED Bulb	0	3,729	Incandescent light bulb	0	3,729	6	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Residential Home Lighting 2016	CFL Bulb	0	838	Incandescent light bulb	33	838	12	$1	$3	39%	1.1	0.7	27	$0.044	$0.004	0.0	0.0	2,293,526	62,546,304
Residential Home Lighting 2016 6% business	CFL Bulb	0	3,729	Incandescent light bulb	33	3,729	2	$1	$3	39%	0.3	0.2	121	$0.010	$0.004	0.0	0.0	145,853	17,704,618
Residential Home Lighting 2016 Non EISA	CFL Bulb	0	838	Incandescent light bulb	33	838	12	$1	$7	16%	2.5	2.1	27	$0.044	$0.004	0.0	0.0	9,809	267,501
Residential Home Lighting 2016 6% business NON EISA	CFL Bulb	0	3,729	Incandescent light bulb	33	3,729	2	$1	$7	16%	0.8	0.7	121	$0.010	$0.004	0.0	0.0	626	76,002
Residential Home Lighting 2016 Value LEDs	LED Bulb	0	838	Incandescent light bulb	34	838	20	$1	$3	49%	1.0	0.5	28	$0.051	$0.003	0.0	0.0	38,164	1,087,369
Residential Home Lighting 2016 6% business Value LEDs	LED Bulb	0	3,729	Incandescent light bulb	34	3,729	6	$1	$3	49%	0.3	0.2	127	$0.011	$0.002	0.0	0.0	2,436	308,851
Residential Home Lighting 2016 LEDs	LED Bulb	0	838	Incandescent light bulb	38	838	20	$3	$18	16%	5.4	4.5	32	$0.092	$0.005	0.0	0.0	940,842	29,684,830
Residential Home Lighting 2016 6% business LEDs	LED Bulb	0	3,729	Incandescent light bulb	38	3,729	6	$3	$18	16%	1.6	1.4	140	$0.021	$0.004	0.0	0.0	60,054	8,431,529
Residential Home Lighting 2016 LEDs Non EISA	LED Bulb	0	838	Incandescent light bulb	38	838	6	$3	$28	10%	8.4	7.6	32	$0.092	$0.017	0.0	0.0	308,998	9,749,301
Residential Home Lighting 2016 6% business LEDs Non EISA	LED Bulb	0	3,729	Incandescent light bulb	38	3,729	6	$3	$28	10%	2.6	2.3	140	$0.021	$0.004	0.0	0.0	19,723	2,769,142
Home Performance with Energy Star																			0
ECM Furnace Fan Efficiency	ECM Furnace Fan (variable speed motor)	0	3,693	78 AFUE gas furnace with typical permanent split capacitor fan motor	189	3,693	15	$100	$273	37%	3.7	2.3	698	$0.143	$0.010	0.2	0.2	25	17,444
Quality Install of High Efficiency AC Unit >=13 SEER to <14 SEER (Excludes Equipment)	Quality Installation of 2 Ton AC above 13.0 SEER & below 14.0 SEER	0	699	Non-Quality Installation of 2 Ton AC above 13.0 SEER & below 14.0 SEER	0	699	15	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Quality Install of High Efficiency AC Unit >=14 SEER to <14.5 SEER (Excludes Equipment)	Quality Installation of 2 Ton AC above 14.0 SEER & below 14.5 SEER	0	683	Non-Quality Installation of 2 Ton AC above 14.0 SEER & below 14.5 SEER	0	683	15	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Quality Install~~ation~~ of High Efficiency AC =>14.5 SEER, to < 15 SEER (Excludes Equipment)	Quality Installation of 2 Ton AC above 14.5 SEER & below 15 SEER	0	673	Non-Quality Installation of 2 Ton 14.5 SEER & below 15 SEER AC	0	673	15	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Quality Installation of High Efficiency AC Unit >=15 SEER to <16 SEER (Excludes Equipment)	Quality Installation of 2 Ton 15 SEER AC	0	729	Non-Quality Installation of 2 Ton 15 SEER AC	823	729	15	$375	$836	45%	13.1	7.2	600	$0.625	$0.042	0.8	0.8	3.0	1,800
Quality Installation of High Efficiency AC Unit >=16 SEER and higher (Excludes Equipment)	Quality Installation of 2 Ton AC 16 SEER or above	0	764	Non-Quality Installation of 2 Ton AC 16 SEER or above	918	764	15	$475	$944	50%	12.7	6.3	701	$0.677	$0.045	0.9	0.9	6.0	4,208
~~Quality~~ Installation of High Efficiency AC =>15 SEER, < 16 SEER	Non-Quality Installation of 2 Ton 15 SEER AC	0	1,058	Non-Quality Installlation of 2 Ton 13 SEER AC	0	1,058	14	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
~~Quality~~ Installation of High Efficiency AC =>16, < 17 SEER	Non-Quality Installation of 2 Ton 16 SEER AC	0	1,095	Non-Quality Installation of 2 Ton 13 SEER AC	0	1,095	14	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
~~*Quality Installation of High Efficiency AC =>17*~~	~~Quality Installation of 2 Ton 17 SEER AC~~	~~0~~	~~739~~	~~Non-Quality Installation of 2 Ton 12 SEER AC~~	~~0~~	~~739~~	~~14~~	~~$0~~	~~$0~~		~~0.0~~	~~0.0~~	~~0~~	~~$0.000~~	~~$0.000~~	~~0.0~~	~~0.0~~		0
Clothes Washer	Energy Star rated Clothes washer	0	394	Conventional Clothes Washer	347	394	11	$50	$198	25%	13.6	10.2	137	$0.362	$0.033	0.3	0.0	2	286
Dishwasher	Energy Star rated Dishwasher	0	215	Conventional Dishwasher	7,160	215	11	$14	$23	60%	0.1	0.1	1,540	$0.009	$0.001	7.2	0.2	1	1,232
Refrigerator Replacement	Energy Star qualified Refrigerator	0	8,455	Conventional Refrigerator	11	8,455	13	$15	$30	50%	3.0	1.5	93	$0.161	$0.012	0.0	0.0	11	1,023
Refrigerator Removal	Remvoal of Second Refrigerator	0	4,818	existing unit vintage from 7-18 years old	0	4,818	8	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Remove freezer from service and recycle	removal of freezer	0	4,818	existing secondary unit - age mostly >10 years	0	4,818	10	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
TV peripherals turned off with Timer Power Strip (replacing power strip)	TV peripherals turned off with Timer (replacing power strip)	0	12	Power used in "standby" mode while equipment is unused	28	12	15	$10	$20	50%	564.2	282.1	0	$30.000	$2.000	0.0	0.0	3	1
CFLs (15 Required) - 2013	High Efficiency CFL (15.5 watt average bulb)	0	752	Incandescent bulbs (per bulb 2013)	0	752	13	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
CFLs (15 Required) - 2014	High Efficiency CFL (15.5 watt average bulb)	0	752	Incandescent bulbs (per bulb 2014)	0	752	14	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
CFLs (15 Required) - 2016	High Efficiency CFL (15.5 watt average bulb)	0	629	Incandescent bulbs (per bulb 2015)	524	629	15	$13	$32	40%	0.9	0.5	329	$0.038	$0.002	0.5	0.0	24	7,903
Attic insulation ~~and Bypass Sealing~~ - Combo Customer	Add insulation to R44	0	384	Existing Avg R12 in attic	1,247	384	20	$284	$1,914	15%	37.6	32.0	479	$0.593	$0.030	1.2	1.2	24	11,253
Wall Insulation - Combo Customer	Filled cavity - add R 11	0	384	Empty cavity	2,160	384	20	$221	$1,911	12%	21.7	19.2	829	$0.267	$0.013	2.2	2.1	2	1,692
LED Indoor bulbs 2013	LED bulb to replace indoor type A lamp	0	752	Incandescent bulb DER deemed wattage	0	752	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
LED Indoor bulbs 2014	LED bulb to replace indoor type A lamp	0	752	Incandescent bulb DER deemed wattage	0	752	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
LED Indoor bulbs 2016	LED bulb to replace indoor type A lamp	0	838	Incandescent bulb DER deemed wattage	140.4126	838	20	$15	$24	61%	1.9	0.7	118	$0.125	$0.006	0.1	0.0	269	31,646
Programmable Thermostat	New T-state w/ Auto setback by 1 F for heating	0	325	Existing non-programmable thermostat	944	325	5	$10	$51	20%	1.6	1.2	306	$0.033	$0.007	0.9	0.9	6	1,862
Programmable Thermostat Setback	Auto setback existing thermostat by 1 F for heating	0	325	no thermostat setback	944	325	5	$10	$0		0.0	-0.3	306	$0.033	$0.007	0.9	0.9	1	392
Insulation Rebate		0	0		0	0		$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0

Electric Measure Description	Efficient Product Description / Rating	Efficient Product Consumption (watts)	Efficient Hours of Operation (hrs/yr)	Baseline Product Description / Rating	Baseline Product Consumption (watts)	Baseline Hours of Operation (hrs/yr)	Measure Lifetime (years)	Rebate Amount ($)	Incremental Cost of Efficient Product ($)	Rebate as a % of Incremental Cost (%)	Incremt'l Cost Payback Period w/o Rebate (yrs)	Incremt'l Cost Payback Period w/ Rebate (yrs)	Annual Customer kWh Savings (kWh/yr)	Rebated Cost / Cust kWh Saved ($/kWh)	Rebated Lifetime cost /Cust KWh Saved ($/kWh)	Customer kW Savings (kW)	Generator Peak kW Savings (kW)	Units 2016	Total Customer kWh for all Units Installed in 2016
TOTAL																			
Attic insulation and Bypass Sealing - Electric Only Customers with Electric Resistance Heat	Add insulation to R44	0	972	Existing Avg R12 in attic	3,401	972	20	$278	$2,439	11%	6.9	6.1	3,306	$0.084	$0.004	3.4	0.3	22	72,736
Air Sealing to Reduce Infiltration by 30% - Electric Only Customers with Electric Resistance Heat	3.5 ACH50	0	937	5.0 ACH50	907	937	7	$120	$1,075	11%	11.9	10.6	850	$0.141	$0.020	0.9	0.0	5	4,250
Wall Insulation - Electric Only Customers with Electric Resistance Heat	Filled cavity - add R 11	0	941	Empty cavity	6,082	941	20	$226	$1,851	12%	3.0	2.7	5,726	$0.039	$0.002	6.1	0.1	2	11,451
Attic insulation and Bypass Sealing - Gas and Electric Customer	Add insulation to R44	0	384	Existing Avg R12 in attic	1,352	384	20	$248	$1,955	13%	35.4	30.9	519	$0.477	$0.024	1.4	1.3	67	34,920
Wall Insulation - Gas and Electric Customer	Filled cavity - add R 11	0	385	Empty cavity	2,105	385	20	$243	$2,299	11%	26.7	23.9	810	$0.301	$0.015	2.1	2.1	3	2,624
Refrigerator Recycling		0	0		0	0		$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Remove second refrigerator from service and recycle	removal of second refrigerator	0	4,820	existing secondary unit - age mostly >10 years	220	4,820	8	$35	$0		0.0	-0.3	1,059	$0.033	$0.004	0.2	0.1	2,605	2,759,150
Remove freezer from service and recycle	removal of freezer	0	4,819	existing secondary unit - age mostly >10 years	207	4,819	10	$35	$0		0.0	-0.3	995	$0.035	$0.004	0.2	0.1	784	780,256
Residential Cooling																			0
2012 Quality AC/ASHP/GSHP Installation	Quality Installation	0	752	No Quality Installation	0	752	8	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
2012 EQ AC/ASHP/GSHP Installation	Non - Quality Installation of 2.5 Ton 15 SEER AC	0	752	Non-Quality Installation of 2.5 Ton 13 SEER AC	0	752	14	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Installation of High Efficiency AC equipment New Home	Non - Quality Installation of 2.5 Ton 15 SEER AC	0	878	Non-Quality Installation of 2.5 Ton 13 SEER AC	316	878	14	$200	$732	27%	24.8	18.0	278	$0.720	$0.051	0.3	0.3	11	3,058
Installation of High Efficiency AC equipment New Home	Non - Quality Installation of 2.5 Ton AC 16 or above SEER	0	986	Non-Quality Installation of 2.5 Ton 13 SEER AC	420	986	14	$300	$861	35%	19.6	12.8	414	$0.725	$0.052	0.4	0.4	18	7,444
Installation of High Efficiency ASHP equipment New Home	Non - Quality Installation of 2.5 Ton 15 SEER ASHP	0	804	Non-Quality Installation of 2.5 Ton 13 SEER ASHP	368	804	12	$200	$782	26%	24.9	18.5	296	$0.676	$0.056	0.4	0.4	2	592
Installation of High Efficiency ASHP equipment New Home	Non - Quality Installation of 2.5 Ton ASHP 16 or above SEER	0	1,608	Non-Quality Installation of 2.5 Ton 13 SEER ASHP	529	1,608	12	$300	$896	33%	9.9	6.6	851	$0.353	$0.029	0.5	0.5	1	851
Installation of High Efficiency GSHP equipment New Home	Non - Quality Installation of 2 Ton, closed loop, 16.89 EER GSHP	0	330	Non-Quality Installation of 2 Ton 13 SEER AC	1,554	330	20	$660	$1,028	64%	18.8	6.7	513	$1.286	$0.064	1.6	1.5	15	7,698
Quality Install of AC Unit New Home	Quality Installation of 2.5 Ton AC above 13.0 SEER & below 14.0 SEER	0	675	Non-Quality Installation of 2.5 Ton AC above 13.0 SEER & below 14.0 SEER	560	675	7	$150	$250	60%	6.2	2.5	378	$0.397	$0.057	0.6	0.6	164	61,964
Quality Install of AC Unit New Home	Quality Installation of 2.5 Ton AC above 14.0 SEER & below 14.5 SEER	0	682	Non-Quality Installation of 2.5 Ton AC above 14.0 SEER & below 14.5 SEER	685	682	7	$150	$250	60%	5.0	2.0	468	$0.321	$0.046	0.7	0.7	4	1,870
Quality Install of AC Unit New Home	Quality Installation of 2.5 Ton 14.5 SEER AC	0	679	Non-Quality Installation of 2.5 Ton 14.5 SEER AC	804	679	7	$150	$250	60%	4.3	1.7	545	$0.275	$0.039	0.8	0.8	2	1,091
Quality Install of AC Unit New Home	Quality Installation of 2.5 Ton 15 SEER AC	0	677	Non-Quality Installation of 2.5 Ton 15 SEER AC	777	677	7	$150	$250	60%	4.5	1.8	526	$0.285	$0.041	0.8	0.8	11	5,785
Quality Install of AC Unit New Home	Quality Installation of 2.5 Ton AC 16 SEER or above and below 17 SEER	0	618	Non-Quality Installation of 2.5 Ton AC 16 SEER or above and below 17 SEER	837	618	7	$150	$250	60%	4.5	1.8	517	$0.290	$0.041	0.8	0.8	22	11,383
Quality Install of ASHP Unit New Home	Quality Installation of 2.5 Ton ASHP above 13.0 SEER & below 14.0 SEER	0	688	Non Quality Installation of 2.5 Ton ASHP above 13.0 SEER & below 14.0 SEER	480	688	6	$150	$250	60%	7.1	2.8	330	$0.455	$0.076	0.5	0.5	1	330
Quality Install of ASHP Unit New Home	Quality Installation of 2.5 Ton ASHP above 14.0 SEER & below 14.5 SEER	0	546	Non-Quality Installation of 2.5 Ton ASHP above 14.0 SEER & below 14.5 SEER	0	546	6	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Quality Install of ASHP Unit New Home	Quality Installation of 2.5 Ton 14.5 SEER ASHP	0	538	Non-Quality Installation of 2.5 Ton 14.5 SEER ASHP	0	538	6	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Quality Install of ASHP Unit New Home	Quality Installation of 2.5 Ton 15 SEER ASHP	0	685	Non-Quality Installation of 2.5 Ton 15 SEER ASHP	822	685	6	$150	$250	60%	4.2	1.7	563	$0.267	$0.044	0.8	0.8	2	1,125
Quality Install of ASHP Unit New Home	Quality Installation of 2.5 Ton ASHP 16 SEER or above and below 17 SEER	0	510	Non-Quality Installation of 2.5 Ton ASHP 16 SEER or above and below 17 SEER	777	510	6	$150	$250	60%	5.9	2.4	397	$0.378	$0.063	0.8	0.8	1	397
Quality Install of GSHP Unit New Home	Quality Installation of 2 Ton, closed loop, 14.1 EER GSHP	0	784	Non-Quality Installation of 2 Ton, closed loop, 14.1 EER GSHP	0	784	10	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Installation of High Efficiency AC equipment Existing Home	Non - Quality Installation of 2.5 Ton 15 SEER AC	0	910	Non-Quality Installation of 2.5 Ton 13 SEER AC	293	910	14	$200	$676	30%	23.8	16.8	267	$0.750	$0.054	0.3	0.3	1,746	465,547
Installation of High Efficiency AC equipment Existing Home	Non - Quality Installation of 2.5 Ton AC 16 or above SEER	0	952	Non-Quality Installation of 2.5 Ton 13 SEER AC	364	952	14	$300	$724	41%	19.7	11.5	346	$0.866	$0.062	0.4	0.4	5,062	1,752,702
Installation of High Efficiency ASHP equipment Existing Home	Non - Quality Installation of 2.5 Ton 15 SEER ASHP	0	1,092	Non-Quality Installation of 2.5 Ton 13 SEER ASHP	344	1,092	12	$200	$734	27%	18.4	13.4	375	$0.533	$0.044	0.3	0.3	21	7,881
Installation of High Efficiency ASHP equipment Existing Home	Non - Quality Installation of 2.5 Ton ASHP 16 or above SEER	0	1,035	Non-Quality Installation of 2.5 Ton 13 SEER ASHP	341	1,035	12	$300	$685	44%	18.3	10.3	352	$0.851	$0.071	0.3	0.3	18	6,343
Installation of High Efficiency GSHP equipment Existing Home	Non - Quality Installation of 2 Ton, closed loop, 14.1 EER GSHP	0	330	Non-Quality Installation of 2 Ton 13 SEER AC	1,767	330	20	$649	$1,011	64%	16.3	5.8	584	$1.112	$0.056	1.8	1.7	44	25,687
Quality Install of AC Unit Existing Home	Quality Installation of 2.5 Ton AC above 13.0 SEER & below 14.0 SEER	0	674	Non-Quality Installation of 2.5 Ton AC above 13.0 SEER & below 14.0 SEER	660	674	7	$150	$250	60%	5.3	2.1	445	$0.338	$0.048	0.7	0.7	4,424	1,967,457
Quality Install of AC Unit Existing Home	Quality Installation of 2.5 Ton AC above 14.0 SEER & below 14.5 SEER	0	676	Non-Quality Installation of 2.5 Ton AC above 14.0 SEER & below 14.5 SEER	628	676	7	$150	$251	60%	5.6	2.2	424	$0.355	$0.051	0.6	0.6	985	417,864
Quality Install of AC Unit Existing Home	Quality Installation of 2.5 Ton 14.5 SEER AC	0	677	Non-Quality Installation of 2.5 Ton 14.5 SEER AC	672	677	7	$150	$250	60%	5.2	2.1	454	$0.330	$0.047	0.7	0.7	491	223,138
Quality Install of AC Unit Existing Home	Quality Installation of 2.5 Ton 15 SEER AC	0	675	Non-Quality Installation of 2.5 Ton 15 SEER AC	649	675	7	$150	$250	60%	5.4	2.1	438	$0.342	$0.049	0.6	0.6	1,776	778,706
Quality Install of AC Unit Existing Home	Quality Installation of 2.5 Ton AC 16 SEER or above and below 17 SEER	0	645	Non-Quality Installation of 2.5 Ton AC 16 SEER or above and below 17 SEER	608	645	7	$150	$250	60%	6.0	2.4	392	$0.382	$0.055	0.6	0.6	5,393	2,114,932
Quality Install of ASHP Unit Existing Home	Quality Installation of 2.5 Ton ASHP above 13.0 SEER & below 14.0 SEER	0	668	Non Quality Installation of 2.5 Ton ASHP above 13.0 SEER & below 14.0 SEER	665	668	6	$150	$250	60%	5.3	2.1	445	$0.337	$0.056	0.7	0.7	8	3,558
Quality Install of ASHP Unit Existing Home	Quality Installation of 2.5 Ton ASHP above 14.0 SEER & below 14.5 SEER	0	684	Non-Quality Installation of 2.5 Ton ASHP above 14.0 SEER & below 14.5 SEER	644	684	6	$150	$250	60%	5.3	2.1	440	$0.341	$0.057	0.6	0.6	6	2,640

Electric Measure Description	Efficient Product Description / Rating	Efficient Product Consumption (watts)	Efficient Hours of Operation (hrs/yr)	Baseline Product Description / Rating	Baseline Product Consumption (watts)	Baseline Hours of Operation (hrs/yr)	Measure Lifetime (years)	Rebate Amount ($)	Incremental Cost of Efficient Product ($)	Rebate as a % of Incremental Cost (%)	Incremt'l Cost Payback Period w/o Rebate (yrs)	Incremt'l Cost Payback Period w/ Rebate (yrs)	Annual Customer kWh Savings (kWh/yr)	Rebated Cost / Cust kWh Saved ($/kWh)	Rebated Lifetime cost /Cust KWh Saved ($/kWh)	Customer kW Savings (kW)	Generator Peak kW Savings (kW)	Units 2016	Total Customer kWh for all Units Installed in 2016
TOTAL																			
Quality Install of ASHP Unit Existing Home	Quality Installation of 2.5 Ton 14.5 SEER ASHP	0	665	Non-Quality Installation of 2.5 Ton 14.5 SEER ASHP	679	665	6	$150	$250	60%	5.2	2.1	452	$0.332	$0.055	0.7	0.7	3	1,356
Quality Install of ASHP Unit Existing Home	Quality Installation of 2.5 Ton 15 SEER ASHP	0	662	Non-Quality Installation of 2.5 Ton 15 SEER ASHP	606	662	6	$150	$250	60%	5.9	2.3	401	$0.374	$0.062	0.6	0.6	36	14,450
Quality Install of ASHP Unit Existing Home	Quality Installation of 2.5 Ton ASHP 16 SEER or above and below 17 SEER	0	518	Non-Quality Installation of 2.5 Ton ASHP 16 SEER or above and below 17 SEER	982	518	6	$150	$250	60%	4.6	1.8	509	$0.295	$0.049	1.0	1.0	20	10,175
School Education Kits		0	0		0	0		$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Replace incandescent lamps with CFLs - 2013	High efficiency CFL lighting (4 bulbs; 2 13W; 2 18W)	0	838	4 incandescent bulbs with a weighted average wattage = 58.50 W per bulb	0	838	11	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Replace incandescent lamps with CFLs - 2014	High efficiency CFL lighting (4 bulbs; 2 13W; 2 18W)	0	838	4 incandescent bulbs with a weighted average wattage = 52.27 W per bulb	0	838	12	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Replace incandescent lamps with CFLs - 2016	High efficiency CFL lighting (4 bulbs; 2 13W; 2 18W)	0	838	4 incandescent bulbs with a weighted average wattage = 46.73 W per bulb	65	838	12	$4	$4	100%	0.6	0.0	54	$0.066	$0.006	0.1	0.0	26,970	1,469,055
Provide Efficient Showerhead	Low Flow Shower head - 1.5 GPM	0	238	Federal Minimum Standard flow rate 2.5 GPM	1,802	238	6	$3	$3	100%	0.1	0.0	429	$0.007	$0.001	0.0	0.0	944	404,955
Provide Efficient Faucet Aerators	1.5 GPM flow rate aerator	0	92	Federal Minimum Standard flow rate 2.2 GPM	1,432	92	5	$1	$1	100%	0.1	0.0	132	$0.009	$0.002	0.0	0.0	944	124,602
Provide Efficient 2013 Bathroom Faucet Aerators	1.0 GPM flow rate aerator	0	92	Federal Minimum Standard flow rate 2.2 GPM	0	92	5	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Provide Efficient 2014 Bathroom Faucet Aerators	1.0 GPM flow rate aerator	0	92	Federal Minimum Standard flow rate 2.2 GPM	0	92	5	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Provide Efficient 2016 Bathroom Faucet Aerators	1.0 GPM flow rate aerator	0	92	Federal Minimum Standard flow rate 2.2 GPM	2,452	92	5	$0	$0	100%	0.0	0.0	226	$0.002	$0.000	0.0	0.0	944	213,333
Load Management																			0
Electric Rate Savings																			0
Average New Customer - Assumed PDL of 150 kW	Utility Load Control for control period	0	18	No Control	17,237,000	18	5	$0	$0		0.0	0.0	311,595	$0.000	$0.000	17,237.0	8,992.0	1	311,595
Saver's Switch for Business																			0
Single Stage Customer	Utility Load Control for control period	0	2	No Control, No Switch	11,852,635	2	15	$0	$0		0.0	0.0	18,835	$0.000	$0.000	11,852.6	3,263.2	1	18,835
Multi-Stage Customer	Utility Load Control for control period	0	1	No Control, No Switch	7,934,940	1	15	$0	$0		0.0	0.0	8,054	$0.000	$0.000	7,934.9	2,184.2	1	8,054
TOTAL											0.0	0.0		$0.000	$0.000				0
Saver's Switch																			0
AC Control	Utility Load Control for control period	0	3	No Control, No Switch	55,685,760	3	15	$0	$0		0.0	0.0	148,992	$0.000	$0.000	55,685.8	16,398.1	1	148,992
Water Heater Control	Utility Load Control for control period	0	3	No Control, No Switch	141,940	3	15	$0	$0		0.0	0.0	376	$0.000	$0.000	141.9	15.2	1	376
Low Income																			0
Home Energy Savings Program																			0
Refrigerator Replacements	Energy Star standard refrigerator	0	4,831	existing unit vintage from 7-18 years old	124	4,831	13	$574	$574	100%	9.0	0.0	599	$0.959	$0.074	0.1	0.1	574	343,826
Freezer Replacement	Compact Upright Freezers with Auto Defrost	0	4,824	Compact Upright Freezers with Auto Defrost	17	4,824	11	$303	$303	100%	34.8	0.0	82	$3.697	$0.336	0.0	0.0	286	23,452
Refrigerator Recycling	removal of second refrigerator	0	4,821	existing secondary unit - age mostly >10 years	234	4,821	8	$35	$35	100%	0.3	0.0	1,128	$0.031	$0.004	0.2	0.1	1	1,128
Freezer Recycling	removal of freezer	0	4,818	Compact Chest Freezers	0	4,818	8	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Window Air Conditioner Replacement	Energy Star 10,000 Btu/hr 10.8 EER Window AC Unit	0	670	Standard 10,000 Btu/hr 9.8 EER Window AC Unit	94	670	9	$368	$368	100%	54.9	0.0	63	$5.843	$0.649	0.1	0.1	584	36,792
Window Air Conditioner Recycling	Removal of Standard 10,000 Btu/hr 9.8 EER Window AC Unit	0	662	Standard 10,000 Btu/hr 9.8 EER Window AC Unit	0	662	5	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Attic Insulation for Electrically Heated Homes	Addition of attic insulation to R-44	0	810	R-13 Avg baseline level of insulation based on market study	5,300	810	20	$1,410	$1,410	100%	3.1	0.0	4,294	$0.328	$0.016	5.3	0.0	1	4,294
ECM furnace fan	EC Fan Motor	0	4,135	PSC Motor	141	4,135	15	$464	$464	100%	7.5	0.0	585	$0.794	$0.053	0.1	0.1	168	98,196
Attic Insulation for Electrically Cooled Homes	Addition of attic insulation to R-44	0	384	R-13 Avg baseline level of insulation based on market study	7,820	384	20	$1,495	$1,495	100%	4.7	0.0	3,000	$0.498	$0.025	7.8	7.7	5	13,950
Wall R-3 to R-11	Assuming 2x4 construction, up to R-11 insulation can fit in wall cavity	0	731	No insulation in wall cavity	11,281	731	20	$1,690	$1,690	100%	1.9	0.0	8,243	$0.205	$0.010	11.3	2.8	1	9,727
CFLs - 2013	High efficiency CFL lighting	0	838	Incandescent/Halogen Lighting	0	838	11	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
CFLs - 2014	High efficiency CFL lighting	0	838	Incandescent/Halogen Lighting	0	838	12	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
CFLs - 2016	High efficiency CFL lighting	0	825	Incandescent/Halogen Lighting	40	825	12	$4	$4	100%	1.0	0.0	33	$0.109	$0.009	0.0	0.0	10,244	338,052
Low-Income Home Energy Squad																			0
NEC Tier One Energy Squad Service 2013	weighted average Energy Efficient measures by participant	0	741	weighted average Baseline measures by participant	0	741	11	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
NEC Tier One Energy Squad Service 2014	weighted average Energy Efficient measures by participant	0	741	weighted average Baseline measures by participant	0	741	11	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
NEC Tier One Energy Squad Service 2016	weighted average Energy Efficient measures by participant	0	600	weighted average Baseline measures by participant	757,283	600	11	$0	$29,028		0.6	0.6	454,394	$0.000	$0.000	757.3	296.6	1	454,394
Multi-Family Electric Savings Program																			0
2008 Energy Star standard refrigerator	2008 Energy Star standard refrigerator	0	4,806	existing unit vintage from 7-18 years old	124	4,806	13	$574	$574	100%	9.1	0.0	596	$0.963	$0.074	0.1	0.1	738	439,848
Replace existing freezer with new high efficient	Compact Upright Freezers with Auto Defrost	0	4,818	Compact Upright Freezers with Auto Defrost	0	4,818	11	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0

Electric Measure Description	Efficient Product Description / Rating	Efficient Product Consumption (watts)	Efficient Hours of Operation (hrs/yr)	Baseline Product Description / Rating	Baseline Product Consumption (watts)	Baseline Hours of Operation (hrs/yr)	Measure Lifetime (years)	Rebate Amount ($)	Incremental Cost of Efficient Product ($)	Rebate as a % of Incremental Cost (%)	Incremt'l Cost Payback Period w/o Rebate (yrs)	Incremt'l Cost Payback Period w/ Rebate (yrs)	Annual Customer kWh Savings (kWh/yr)	Rebated Cost / Cust kWh Saved ($/kWh)	Rebated Lifetime cost /Cust KWh Saved ($/kWh)	Customer kW Savings (kW)	Generator Peak kW Savings (kW)	Units 2016	Total Customer kWh for all Units Installed in 2016
TOTAL																			
removal of second refrigerator	removal of second refriqerator	0	4,818	existing unit vintage from 7-18 years old	0	4,818	8	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
removal of freezer	removal of freezer	0	4,818	Compact Chest Freezers	0	4,818	8	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Energy Star 10,000 Btu/hr 10.8 EER Window AC Unit	Energy Star 10,000 Btu/hr 10.8 EER Window AC Unit	0	660	Standard 10,000 Btu/hr 9.8 EER Window AC Unit	156	660	9	$567	$567	100%	51.8	0.0	103	$5.505	$0.612	0.2	0.2	397	40,891
Removal of Standard 10,000 Btu/hr 9.8 EER Window AC Unit	Removal of Standard 10,000 Btu/hr 9.8 EER Window AC Unit	0	662	Standard 10,000 Btu/hr 9.8 EER Window AC Unit	0	662	5	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Addition of attic insulation to R-44	Addition of attic insulation to R-44	0	815	R-13 Avg baseline level of insulation based on market study	0	815	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
High efficiency CFL lighting - 4 bulbs	High efficiency CFL lighting - 4 bulbs	0	838	High efficiency CFL lighting - 4 bulbs	0	838	12	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
High efficiency CFL lighting - 4 bulbs	High efficiency CFL lighting - 4 bulbs	0	838	High efficiency CFL lighting - 4 bulbs	0	838	12	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
High efficiency CFL lighting - 4 bulbs	High efficiency CFL lighting - 4 bulbs	0	849	High efficiency CFL lighting - 4 bulbs	32	849	12	$4	$4	100%	1.3	0.0	27	$0.133	$0.011	0.0	0.0	7,919	213,813
Wall Air Conditioner Replacement	Energy Star 10,000 Btu/hr 10.8 EER Window AC Unit	926	662	Standard 10,000 Btu/hr 9.8 EER Window AC Unit	1,020	662	9	$368	$368	100%	55.8	0.0	62	$5.935	$0.659	0.1	0.1	2	124
Renewable			0																0
Solar Rewards			0																0
Solar PV Installation Residential (4.8 kW) - $1.50/Watt rebate	4.8 kW(dc) Solar PV System	0	1,286	Load without PV System	0	1,286	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
Solar PV Installation Retail - Commercial(29.8 kW) - $1.50/Watt rebate	29.8 kW(dc) Solar PV System	0	1,286	Load without PV System	0	1,286	20	$0	$0		0.0	0.0	0	$0.000	$0.000	0.0	0.0		0
CEE One-Stop Efficiency Shop																			0
CEE One-Stop Efficiency Shop	Efficient System	0	5,296	Inefficiency System	5,595	5,296	14	$3,624	$12,099	30%	5.7	4.0	29,634	$0.122	$0.008	5.6	5.5	2,618	77,583,034
ESRPP						0													0
Sounds Bars	Efficient System	0	8,759	Inefficiency System	7	8,759	7	$15	$0		0.0	-2.3	63	$0.240	$0.034	0.0	0.0	864	54,054
Freezers	Efficient System	0	8,754	Inefficiency System	4	8,754	11	$20	$10	198%	3.0	-3.0	31	$0.640	$0.058	0.0	0.0	730	22,812
Clothes Dryers	Efficient System	0	17,291	Inefficiency System	9	17,291	12	$50	$225	22%	13.2	10.3	160	$0.312	$0.026	0.0	0.0	2,892	463,983
Air Cleaners	Efficient System	0	5,840	Inefficiency System	37	5,840	9	$20	$56	36%	2.5	1.6	214	$0.094	$0.010	0.0	0.0	926	198,057
Room Air Conditioned	Efficient System	0	736	Inefficiency System	66	736	9	$10	$114	9%	22.1	20.2	49	$0.205	$0.023	0.1	0.1	728	35,479
Heating Efficiency																			
Heating Efficiency	Efficient System	0	8,760	Inefficiency System	59	8,760	15	$0	$0		0.0	0.0	513	$0.000	$0.000	0.1	0.0	5	2,565
Smart Thermostat Pilot																			
Smart Thermostat Pilot	Efficient System	0	616	Inefficiency System	260	616	15	$29	$0		0.0	-1.0	160	$0.179	$0.012	0.3	0.2	7,203	1,153,472
Smart Thermostat DR																			
Smart Thermostat DR	Efficient System	0	3	Inefficiency System	300	3	15	$47	$0		0.0	-2.0	1	$46.708	$3.114	0.3	0.3	1,089	1,096

Natural Gas Measure Description	High Efficiency Product Description / Rating	Efficient Product Consumption	Baseline Product Description / Rating	Baseline Product Consumption	Life of Product (years)	Rebate Amount	Assumed Energy Cost ($/Dth)	Rebate as a % of Incremental Cost	Incremt'l Cost Period w/o Rebate	Incremt'l Cost Payback Period w/ Rebate	Annual Customer Dth Savings	Rebated cost /Cust Dth Saved	Rebated Lifetime cost /Cust Dth Saved	Units 2016	Total Dth Saved for All Units Installed in 2016
		Dth/yr		Dth/yr	yr	$	$	%	Years	Years	Dth	$	$	#	Dth
TOTAL															
Business															
Business New Construction															
EDA Standard Track	High Efficiency Building	0	Code Level Efficiency Building	5,018.66	20	$25,094	$6.60	14%	5.5	4.7	5,019	$5.000	$0.250	17	85,217
EDA Enhanced Track	High Efficiency Building	0	Code Level Efficiency Building	3,420.38	20	$17,102	$6.60	11%	6.6	5.9	3,420	$5.000	$0.250	2	7,114
EDA Quick Track	High Efficiency Building	0	Code Level Efficiency Building	3,371.85	20	$16,860	$6.60	12%	6.3	5.5	3,372	$5.000	$0.250	5	16,185
EEB Average Project	High Efficiency Building	0	Code Level Efficiency Building	453.68	20	$3,397	$6.60	41%	2.8	1.6	454	$7.487	$0.374	30	13,692
Commercial Efficiency						$0			0.0	0.0	0	$0.000	$0.000	0	0
Custom Gas Project	New Equipment	0	Old Equipment	5,402.73	16	$1,735	$6.60	4%	1.2	1.1	5,403	$0.321	$0.021	4	21,611
Heating Efficiency - Total	New equipment	0	Old or less efficient equipment	92.39	9	$103	$6.60	14%	1.2	1.0	92	$1.118	$0.126	319	29,473
Implementation of ECO's found in studies	Optimized Building Systems	0	Existing Building System - Not Tuned or Optimized	1,101.00	7	$0	$6.60		0.4	0.4	1,101	$0.000	$0.000	1	1,101
Energy Design Assistance	High Efficiency Building	0	Code Level Efficiency Building	0.00	20	$0	$6.60		0.0	0.0	0	$0.000	$0.000	0	0
Gas Food Service Equipment	High-efficiency equipment	0	Standard-efficiency equipment	239.80	15	$1,583	$6.60	38%	2.6	1.6	240	$6.603	$0.452	3	719
Phase 2 Customer Contribution	0	0	0	0.00	0	$0	$6.60		0.0	0.0	0	$0.000	$0.000	0	0
Behavioral Changes	Behavior changes that reduce energy use	0	No change in behavior	0.00	1	$0	$6.60		0.0	0.0	0	$0.000	$0.000	0	0
Behavioral Adjustment	Behavior changes that reduce energy use	0	No change in behavior	0.00	0	$0	$6.60		0.0	0.0	0	$0.000	$0.000	0	0
Large Custom Custom projects including Efficiency Controls	High Efficiency Product/system		Less Efficient Product/Systems	0.00	20	$0	$7.60		0.0	0.0	0	$0.000	$0.000	0	0
Cooling Efficiency				0.00	2	$0	$8.60		0.0	0.0	0	$0.000	$0.000	0	0
MN ERV	High Efficiency Product/system	0	Less Efficient Product/Systems	392.20	20	$2,385	$6.60	33%	2.8	1.9	392	$6.080	$0.304	7	2,549
Custom Efficiency				0.00	2	$0	$8.60		0.0	0.0	0	$0.000	$0.000	0	0
Custom Efficiency Gas	High Efficiency Product/system	0	Less Efficient Product/Systems	2,506.00	19	$12,530	$6.60	5%	13.8	13.1	2,506	$5.000	$0.268	22	55,132
Custom Studies Gas	0	0	0	0.00	0	$0	$6.60		0.0	0.0	0	$0.000	$0.000	0	0
Efficiency Controls				0.00		$0			0.0	0.0	0	$0.000	$0.000	0	0
Efficiency Controls - Gas	New Digital Controls System	0	Obsolete Controls System	651.27	15	$2,938	$6.60	11%	6.3	5.6	651	$4.511	$0.301	23	14,979
Efficiency Controls - Study Allocation	Study Allocation	0	0	0.00	0	$0	$6.60		0.0	0.0	0	$0.000	$0.000	0	0
Food Service				0.00		$0			0.0	0.0	0	$0.000	$0.000	0	0
Convection Oven	Convection Oven	0	Deck Oven	102.26	11	$500	$7.23	25%	2.7	2.1	102	$4.889	$0.444	13	1,329
Conveyor Oven	Conveyor Oven	0	Pizza Deck Oven	213.94	11	$750	$7.23	9%	5.3	4.8	214	$3.506	$0.319	11	2,353
Combi-Oven	Combination Oven	0	Steamer	77.66	11	$1,000	$7.23	43%	4.2	2.4	78	$12.877	$1.171	10	777
Rotisserie Oven	Rotisserie Oven - Infrared	0	Open Flame Rotisserie Oven	0.00	11	$0	$7.23		0.0	0.0	0	$0.000	$0.000	0	0
Rotating Rack Oven	Rotating Rack Oven	0	Deck Oven	0.00	11	$0	$7.23		0.0	0.0	0	$0.000	$0.000	0	0
Commercial Gas Fryer	High Efficiency Unit	0	Standard Efficiency Unit	47.43	11	$250	$7.23	11%	6.6	5.8	47	$5.271	$0.479	19	901
Upright Broiler	Upright Broiler	0	Standard Radiant Broiler	0.00	11	$0	$7.23		0.0	0.0	0	$0.000	$0.000	0	0
Charbroiler	High Efficiency Charbroiler	0	Standard Charbroiler	0.00	11	$0	$7		0.0	0.0	0	$0.000	$0.000	0	0
Salamander Broiler	High Efficiency Salamander Broiler	0	Standard Salamander Broiler	26.50	11	$150	$7.23	13%	5.8	5.1	27	$5.660	$0.515	1	27
Commercial Gas Pasta Cooker	Pasta Cooker	0	Gas Range	0.00	11	$0	$7.23		0.0	0.0	0	$0.000	$0.000	0	0
Commercial Dishwasher - Under Counter, Gas Only or Combo Customer	ENERGY STAR qualified unit	0	Conventional unit as defined by ENERGY STAR	0.00	10	$0	$7.23		0.0	0.0	0	$0.000	$0.000	0	0
Commercial Dishwasher - Door Type, Gas Only or Combo Customer	ENERGY STAR qualified unit	0	Conventional unit as defined by ENERGY STAR	54.80	15	$167	$7.23	31%	1.4	1.0	55	$3.041	$0.203	2	82
Demand Controlled Ventilation - Gas Only or Combo Customer	Commercial kitchen ventilation hoods with Demand Controlled Ventilation with 8.65 HP Motor	0	Commercial kitchen ventilation hoods with Demand Controlled Ventilation with 8.65 HP Motor	155.48	20	$1,525	$7.23	56%	2.4	1.1	155	$9.808	$0.490	7	1,079
Heating Efficiency				0.00		$0			0.0	0.0	0	$0.000	$0.000	0	0
Non-Condensing Boiler	85% Efficient Boiler	0	80% Efficient Boiler	81.24	20	$1,097	$6.60	32%	6.4	4.4	81	$13.502	$0.675	7	569
Condensing Boiler	92% Efficient Boiler	0	80% Efficient Boiler	80.74	20	$1,522	$6.60	53%	5.4	2.6	81	$18.852	$0.943	74	5,975
Condensing Boiler	92% Efficient Boiler	0	78% Efficient Boiler	108.84	20	$3,197	$6.60	38%	11.7	7.2	109	$29.373	$1.469	7	762
Low Pressure Steam Boiler	84% Efficient Boiler	0	80% Efficient Boiler	91.75	20	$968	$6.60	31%	5.2	3.6	92	$10.545	$0.527	2	184
High Pressure Steam Boiler	83% Efficient Boiler	0	80% Efficient Boiler	8.95	20	$126	$6.60	10%	22.3	20.2	9	$14.078	$0.704	2	18
Commercial Water Heaters - Total	96% Efficient Storage or 95% Efficient Tankless Water Heater	0	80% Efficient Storage Water Heater	118.33	15	$786	$6.60	13%	8.0	7.0	118	$6.640	$0.443	32	3,787
90% Efficient Furnaces	90% Efficient Furnace	0	78% Efficient Furnace	0.00	18	$0	$6.60		0.0	0.0	0	$0.000	$0.000	0	0
92% Efficient Furnaces	92.37% Avg. Efficient Furnace	0	78% Efficient Furnace	15.45	18	$200	$6.60	15%	13.2	11.2	15	$12.945	$0.719	10	155
94% Efficient Furnaces	94.92% Avg. Efficient Furnace	0	78% Efficient Furnace	16.79	18	$250	$6.60	17%	12.9	10.6	17	$14.886	$0.827	19	319
96% Efficient Furnaces	96% Efficient Furnace	0	78% Efficient Furnace	17.81	18	$300	$6.60	20%	12.9	10.4	18	$16.845	$0.936	72	1,282
Custom Boilers	Various	0	Various	416.90	18	$2,085	$6.60	26%	2.9	2.1	417	$5.001	$0.276	1	417
Boiler Tune-up	Boiler Tune-up - 2% additive improvement in efficiency; Boiler now at 80% efficiency	0	Existing boiler Poorly functioning at 78% efficiency	89.42	2	$105	$6.60	23%	0.8	0.6	89	$1.169	$0.585	390	34,873
Outdoor Air Reset	83% Efficient Boiler	0	80% Efficient existing boiler	24.24	20	$200	$6.60	15%	8.4	7.2	24	$8.250	$0.413	12	291
Stack Dampers	81% Efficient Boiler	0	80% Efficient existing boiler	5.29	12	$145	$6.60	25%	16.6	12.4	5	$27.328	$2.277	14	74
Modulating Burners	83% Efficient Boiler	0	80% Efficient existing boiler	145.07	20	$4,183	$6.60	12%	37.8	33.5	145	$28.837	$1.442	3	435
Turbulators	83% Efficient Boiler	0	80% Efficient existing boiler	0.00	20	$0	$6.60		0.0	0.0	0	$0.000	$0.000	0	0
O2 Trim	82% Efficient Boiler	0	80% Efficient existing boiler	0.00	20	$0	$6.60		0.0	0.0	0	$0.000	$0.000	0	0
Steam Traps	New Steam Traps	0	Existing Boiler, malfunctioning steam traps	49.95	5	$30	$6.60	5%	1.9	1.8	50	$0.601	$0.120	1,460	72,921
Pipe Insulation	Pipe with new insulation	0	Pipe with no or old insulation	7.64	13	$112	$6.60	23%	9.8	7.5	8	$14.723	$1.133	27	206
Heating System Optimization Study	implement recommended measures	0	Existing system	0.00	7	$0	$6.60		0.0	0.0	0	$0.000	$0.000	0	0
Steam Trap Audit				0.00		$15	$6.60		0.0	0.0	0	$0.000	$0.000	1,273	0
Unit heaters - non-condensing				2.10	20	$30	$6.60	37%	5.8	3.7	2	$14.286	$0.714	2	4
Unit heaters - infrared				18.80	20	$100	$6.60	43%	1.9	1.1	19	$5.318	$0.266	12	226
Multi-Family Building Efficiency				0.00		$0	$6.60		0.0	0.0	0	$0.000	$0.000	0	0
Aerators - Bathroom Primary	1.5 GPM flow rate aerator	0	Federal Minimum Standard flow rate 2.5 GPM	0.61	5	$1	$6.60	100%	0.4	0.0	1	$2.434	$0.487	933	567
Aerators - Kitchen	1.0 GPM Bath Faucet Aerator	0	Federal Minimum Standard flow rate 2.2 GPM	1.04	5	$3	$6.60	100%	0.4	0.0	1	$2.744	$0.549	883	920

Natural Gas Measure Description	High Efficiency Product Description / Rating	Efficient Product Consumption	Baseline Product Description / Rating	Baseline Product Consumption	Life of Product (years)	Rebate Amount	Assumed Energy Cost ($/Dth)	Rebate as a % of Incremental Cost	Incremt'l Cost Period w/o Rebate	Incremt'l Cost Payback Period w/ Rebate	Annual Customer Dth Savings	Rebated cost /Cust Dth Saved	Rebated Lifetime cost /Cust Dth Saved	Units 2016	Total Dth Saved for All Units Installed in 2016
		Dth/yr		Dth/yr	yr	$	$	%	Years	Years	Dth	$	$	#	Dth
Showerhead Primary	Low Flow Shower head - 1.5 GPM	0	Federal Minimum Standard flow rate 2.2 GPM	1.95	6	$5	$6.60	100%	0.4	0.0	2	$2.472	$0.412	467	909
Process Efficiency						$0			0.0	0.0	0	$0.000	$0.000	0	0
Custom	New System	0	Old System	15,077.45	9	$9,775	$6.60	5%	2.1	2.0	15,077	$0.648	$0.069	6	90,465
Commercial Heating	New System	0	Old System	244.87	8	$37	$6.60	4%	0.6	0.5	245	$0.152	$0.020	432	105,783
Recommissioning	Optimized Building Systems	0	Existing Building System - Not Tuned or Optimized	1,289.00	7	$0	$6.60		0.0	0.0	1,289	$0.000	$0.000	1	1,289
Behavioral Changes	Behavior changes that reduce energy use	0	No change in behavior	0.00	1	$0	$6.60		0.0	0.0	0	$0.000	$0.000	0	0
Behavioral Adjustment	Behavior changes that reduce energy use	0	No change in behavior	0.00	0	$0	$6.60		0.0	0.0	0	$0.000	$0.000	0	0
Energy Design Assistance	High Efficiency Building	0	Code Level Efficiency Building	0.00	20	$0	$6.60		0.0	0.0	0	$0.000	$0.000	0	0
Phase 2 customer contribution	0	0	0	0.00	0	$0	$6.60		0.0	0.0	0	$0.000	$0.000	0	0
Food Service	High Efficiency Equipment	0	Standard Efficiency Equipment	0.00	12	$0	$6.60		0.0	0.0	0	$0.000	$0.000	0	0
Recommissioning		0		0.00		$0			0.0	0.0	0	$0.000	$0.000	0	0
Recommissioning - Implementation	Optimized Building Systems	0	Existing Building System - Not Tuned or Optimized	1,791.86	7	$2,272	$6.60	14%	1.4	1.2	1,792	$1.268	$0.181	7	12,543
Recommissioning - Studies	0	0	0	0.00	0	$0	$6.60		0.0	0.0	0	$0.000	$0.000	0	0
Self-Direct				0.00		$0			0.0	0.0	0	$0.000	$0.000	0	0
Average Project	New Equipment	0	Old or less efficient systems or equipment	0.00	17	$0	$6.60		0.0	0.0	0	$0.000	$0.000	0	0
Turn Key Services				0.00		$0			0.0	0.0	0	$0.000	$0.000	0	0
Identification ~ Walk through, ASHREA LV1 & Eng Assistant Studies	Perform Study + Low Cost No Cost	0	No Study or Current operation	0.00	7	$0	$6.60		0.0	0.0	0	$0.000	$0.000	0	0
Identification and repair~ Walk through, ASHREA LV1 & Eng Assistant LCNC measures	High Efficiency Solution	0	Current operation	0.00	7	$0	$6.60		0.0	0.0	0	$0.000	$0.000	0	0
Project Scoping Services	Project Scoping	0	Customer not interested in implementing identified measure	0.00	15	$0	$6.60		0.0	0.0	0	$0.000	$0.000	0	0
Implimentation	High Eff Project	0	Low Eff or Current Operation	165.01	10	$2,470	$6.60	31%	7.3	5.1	165	$14.969	$1.512	32	5,280
Residential				0.00		$0			0.0	0.0	0	$0.000	$0.000	0	0
Energy Efficient Showerheads				0.00		$0			0.0	0.0	0	$0.000	$0.000	0	0
Provide Energy Efficient Showerhead - 1.5 GPM	1.5 GPM Showerhead	0	2.5 GPM Showerhead	0.00	6	$0	$7.23		0.0	0.0	0	$0.000	$0.000	0	0
Provide Energy Efficient Showerhead - 1.5 GPM	1.5 GPM Showerhead	0	2.5 GPM Showerhead	0.00	6	$0	$7.23		0.0	0.0	0	$0.000	$0.000	0	0
Provide Energy Efficient Showerhead - 1.5 GPM	1.5 GPM Showerhead	0	2.5 GPM Showerhead	2.21	6	$3	$7.23	100%	0.2	0.0	2	$1.360	$0.227	11,724	25,856
Provide Energy Efficient Kitchen Aearator - 1.5 GPM	1.5 GPM Kitchen Faucet Aerator	0	2.2 GPM Kitchen Faucet Aerator	0.00	5	$0	$7.23		0.0	0.0	0	$0.000	$0.000	0	0
Provide Energy Efficient Kitchen Aearator - 1.5 GPM	1.5 GPM Kitchen Faucet Aerator	0	2.2 GPM Kitchen Faucet Aerator	0.00	5	$0	$7.23		0.0	0.0	0	$0.000	$0.000	0	0
Provide Energy Efficient Kitchen Aearator - 1.5 GPM	1.5 GPM Kitchen Faucet Aerator	0	2.2 GPM Kitchen Faucet Aerator	0.69	5	$1	$7.23	100%	0.3	0.0	1	$2.105	$0.421	11,723	8,075
Provide Energy Efficient Bath Faucet Aearator - 1.0 GPM	1.0 GPM Bath Faucet Aerator	0	2.2 GPM Bath Faucet Aerator	0.00	5	$0	$7.23		0.0	0.0	0	$0.000	$0.000	0	0
Provide Energy Efficient Bath Faucet Aearator - 1.0 GPM	1.0 GPM Bath Faucet Aerator	0	2.2 GPM Bath Faucet Aerator	0.00	5	$0	$7.23		0.0	0.0	0	$0.000	$0.000	0	0
Provide Energy Efficient Bath Faucet Aearator - 1.0 GPM	1.0 GPM Bath Faucet Aerator	0	2.2 GPM Bath Faucet Aerator	1.19	5	$0	$7.23	100%	0.1	0.0	1	$0.377	$0.075	11,724	14,002
Energy Feedback				0.00		$0			0.0	0.0	0	$0.000	$0.000	0	0
Print Reports	Aware use	0	Normal use	80,274.90	1	$0	$7.23		0.0	0.0	80,275	$0.000	$0.000	1	80,275
Electronic Reports	Aware use	0	Normal use	2,875.20	1	$0	$7.23		0.0	0.0	2,875	$0.000	$0.000	1	2,875
Print Reports Behavioral Adjustment	Aware use	0	Normal use	-53,516.60	0	$0	$7.23		0.0	0.0	-53,517	$0.000	$0.000	1	-53,517
Electronic Reports Behavioral Adjustment	Aware use	0	Normal use	-1,916.80	0	$0	$7.23		0.0	0.0	-1,917	$0.000	$0.000	1	-1,917
Energy Star Homes				0.00		$0			0.0	0.0	0	$0.000	$0.000	0	0
Energy Star New Homes (Regular) - Combo	Energy Efficient Home	0	2006 IECC	225.10	20	$0	$7.23		5.0	5.0	225	$0.000	$0.000	1	225
Energy Star New Homes (Low Income) - Combo	Energy Efficient Home	0	2006 IECC	0.00	20	$0	$7.23		0.0	0.0	0	$0.000	$0.000	0	0
Energy Star New Homes (Regular) - Gas only	Energy Efficient Home	0	2006 IECC	37.20	20	$0	$7.23		10.0	10.0	37	$0.000	$0.000	1	37
Energy Star New Homes (Low Income) - Gas only	Energy Efficient Home	0	2006 IECC	0.00	20	$0	$7.23		0.0	0.0	0	$0.000	$0.000	0	0
Envelope Improvement - 20% - 24.99%		0		46.68	20	$499	$7.23	11%	13.0	11.5	47	$10.691	$0.535	277	12,925
Envelope Improvement - 25% - 29.99%		0		54.91	20	$651	$7.23	12%	13.8	12.1	55	$11.849	$0.592	45	2,470
Envelope Improvement - 30% - 34.99%		0		102.48	20	$803	$7.23	12%	8.8	7.7	102	$7.831	$0.392	6	583
Envelope Improvement - 35% & Higher		0		61.20	20	$1,200	$7.23	14%	18.8	16.1	61	$19.603	$0.980	3	179
Envelope Improvement - Low Income		0		-0.76	20	$499	$7.23	-253%	35.8	126.5	-1	-$655.313	-$32.766	11	-8
Envelope Improvement - Under 20%		0		25,559.90	20	$0	$7.23		13.0	13.0	25,560	$0.000	$0.000	1	25,560
Energy Star Clothes Washer	Energy Star Clothes washer	0	standard clothes washer	1.04	11	$52	$7.23	104%	6.6	-0.3	1	$49.884	$4.535	73	76
Energy Star Dishwasher	0.65 Energy Factor - energy star recommended	0	0.46 Energy Factor - Federal Minimum Standard	0.04	11	$10	$7.23	109%	32.4	-3.0	0	$256.313	$23.301	134	5
Heating System Rebate				0.00		$0			0.0	0.0	0	$0.000	$0.000	0	0
New 90% AFUE Energy Star Furnace Existing Home	90 AFUE ENERGY STAR	0	78 AFUE is Federal Standard baseline efficiency for gas furnaces	0.00	18	$0	$11.91		0.0	0.0	0	$0.000	$0.000	0	0
New 94% AFUE Energy Star Furnace Existing Home	94 AFUE ENERGY STAR	0	78 AFUE is Federal Standard baseline efficiency for gas furnaces	0.00	18	$0	$11.91		0.0	0.0	0	$0.000	$0.000	0	0
New 92% AFUE Energy Star Furnace Gas Only Customers	92 AFUE 70.545 mbh Furnace w/ 4.9% oversize factor	0	78 AFUE Furnace w/ PSC Motor 61.74 MBH and 20.6% oversize factor	0.00	18	$0	$7.23		0.0	0.0	0	$0.000	$0.000	0	0
New 92% AFUE Energy Star Furnace Combo Customers	92 AFUE 70.545 mbh Furnace w/ 4.9% oversize factor	0	78 AFUE Furnace w/ PSC Motor 61.74 MBH and 20.6% oversize factor	14.56	18	$51	$7.23	5%	9.1	8.6	15	$3.474	$0.193	775	11,284
New 96% AFUE Energy Star Furnace Gas Only Customers	96 AFUE Furnace	0	78 AFUE Furnace w/ PSC Motor	0.00	18	$0	$7.23		0.0	0.0	0	$0.000	$0.000	0	0
New 96% AFUE Energy Star Furnace Combo Customers	96 AFUE Furnace	0	78 AFUE Furnace w/ PSC Motor	17.53	18	$300	$7.23	26%	9.2	6.9	18	$17.112	$0.951	6,318	110,766
New 84% Boiler	84% Efficient Boiler	0	80% Efficient boiler	4.94	20	$100	$7.23	20%	14.0	11.2	5	$20.251	$1.013	300	1,481
New 90% Boiler	90% condensing Boiler	0	80% Efficient boiler	15.15	20	$100	$7.23	5%	19.8	18.9	15	$6.600	$0.330	23	349
New 95% Boiler	95% condensing Boiler	0	80% Efficient boiler	17.91	20	$100	$7.23	3%	30.9	30.1	18	$5.582	$0.279	190	3,404

Natural Gas Measure Description	High Efficiency Product Description / Rating	Efficient Product Consumption	Baseline Product Description / Rating	Baseline Product Consumption	Life of Product (years)	Rebate Amount	Assumed Energy Cost ($/Dth)	Rebate as a % of Incremental Cost	Incremt'l Cost Period w/o Rebate	Incremt'l Cost Payback Period w/ Rebate	Annual Customer Dth Savings	Rebated cost /Cust Dth Saved	Rebated Lifetime cost /Cust Dth Saved	Units 2016	Total Dth Saved for All Units Installed in 2016
		Dth/yr		Dth/yr	yr	$	$	%	Years	Years	Dth	$	$	#	Dth
New 92% AFUE Furnace Gas Only Customers Post new DOE Install Standards	92 AFUE 70.545 mbh Furnace w/ 4.9% oversize factor	0	90% AFUE Furnace w/o ECM	0.00	18	$0	$7.23		0.0	0.0	0	$0.000	$0.000	0	0
New 92% AFUE Furnace Combo Customers Post new DOE Install Standards	92 AFUE 70.545 mbh Furnace w/ 4.9% oversize factor	0	90% AFUE Furnace w/o ECM	0.00	18	$0	$7.23		0.0	0.0	0	$0.000	$0.000	0	0
New 96% AFUE Furnace Gas Only Customers Post new DOE Install Standards	96 AFUE Furnace	0	90% AFUE Furnace w/o ECM	0.00	18	$0	$7.23		0.0	0.0	0	$0.000	$0.000	0	0
New 96% AFUE Furnace Combo Customers Post new DOE Install Standards	96 AFUE Furnace	0	90% AFUE Furnace w/o ECM	0.00	18	$0	$7.23		0.0	0.0	0	$0.000	$0.000	0	0
Home Energy Squad				0.00		$0			0.0	0.0	0	$0.000	$0.000	0	0
NEC Energy Squad Service 2013	weighted average Energy Efficient Gas measures by participant	0	weighted average Baseline Gas measures by participant	0.00	8	$0	$7.23		0.0	0.0	0	$0.000	$0.000	0	0
NEC Energy Squad Service 2014	weighted average Energy Efficient Gas measures by participant	0	weighted average Baseline Gas measures by participant	0.00	8	$0	$7.23		0.0	0.0	0	$0.000	$0.000	0	0
NEC Energy Squad Service 2016	weighted average Energy Efficient Gas measures by participant	0	weighted average Baseline Gas measures by participant	20,246.80	8	$0	$7.23		0.4	0.4	20,247	$0.000	$0.000	1	20,247
Weatherstrip 1 additional door	Weatherstip for one additional exterior door reduce air infiltration by an additional 10%	0	base program with two doors weather sealed	5,054.80	10	$0	$7.23		1.0	1.0	5,055	$0.000	$0.000	1	5,055
Install Second Programmable Thermostat	Install second T-stat and Auto setback thermostat by 1 F for heating	0	Existing non-programmable thermostat	107.40	15	$0	$7.23		0.4	0.4	107	$0.000	$0.000	1	107
Home Performance with Energy Star				0.00		$0			0.0	0.0	0	$0.000	$0.000	0	0
Attic insulation and Bypass Sealing - Combo Customer	Add R32 to make R44 total in attic	0	R12 insulation in existing attic	15.63	20	$284	$7.23	15%	17.1	14.6	16	$18.146	$0.907	97	1,508
Air Sealing to Reduce Infiltration by 30% - Combo Customer	3.5 ACH50	0	5.0 ACH50	3.90	7	$30	$7.23	7%	15.3	14.2	4	$7.640	$1.091	121	472
Wall Insulation - Combo Customer	Filled cavity - add R 11	0	No insulation in cavity	30.47	20	$215	$7.23	11%	8.9	7.9	30	$7.050	$0.353	52	1,583
Water Heater – (0.62 EF)	0.62 EF Standard tank type water heater	0	for 40 gallon tank .594 EF	0.90	13	$50	$7.23	62%	12.3	4.7	1	$55.556	$4.274	2	2
Water Heater – (0.64 EF)	0.64 EF Standard tank type water heater	0	for 40 gallon tank .594 EF	3.20	13	$70	$7.23	52%	5.9	2.8	3	$21.875	$1.683	1	3
Water Heater – (0.67 EF)	0.67 EF Standard tank type water heater	0	for 40 gallon tank .594 EF	2.65	13	$170	$7.23	31%	28.7	19.8	3	$64.050	$4.927	24	64
Water Heater – (0.70 EF)	0.70 EF Hot Water Heater	0	for 40 gallon tank .594 EF	0.00	13	$0	$7.23		0.0	0.0	0	$0.000	$0.000	0	0
Water Heater – Tankless (0.82 EF)	0.82 EF Hot Water Heater	0	for 40 gallon tank .594 EF	0.00	20	$0	$7.23		0.0	0.0	0	$0.000	$0.000	0	0
Water Heater – Tankless (0.90 EF)	0.90 EF Hot Water Heater	0	for 40 gallon tank .594 EF	8.20	20	$125	$7.23	15%	13.7	11.6	8	$15.244	$0.762	1	8
Water Heater Setback	Reduced water heater setpoint to 120 F if greater than 130 F	0	water heater with operating set point of 130 or greater	0.00	5	$0	$7.23		0.0	0.0	0	$0.000	$0.000	0	0
Furnace - 92% - 95.9%	Furnace with 92% AFUE or up to 95.9% AFUE	0	78% AFUE furnace	9.60	18	$70	$7.23	7%	13.7	12.7	10	$7.292	$0.405	1	10
Furnace - 96% and higher w/out EC Motor	96 AFUE Furnace	0	78% AFUE furnace	16.50	18	$325	$7.23	28%	9.8	7.1	17	$19.692	$1.094	24	396
Boiler 84% Efficiency	84% Efficient Boiler	0	80% Efficient Boiler	5.42	20	$125	$7.23	25%	12.8	9.6	5	$23.063	$1.153	10	54
Programmable Thermostat	New T-state w/ Auto setback by 1 F for heating	0	Existing non-programmable thermostat	3.39	5	$10	$7.23	20%	2.0	1.6	3	$2.936	$0.587	20	68
Programmable Thermostat Setback	Auto setback existing thermostat by 1 F for heating	0	no thermostat setback	3.82	5	$10	$7.23		0.0	-0.4	4	$2.600	$0.520	3	10
Clothes Washer	Energy Star rated Clothes washer	0	Conventional Clothes Washer	1.11	11	$50	$7.23	25%	25.0	18.7	1	$45.100	$4.100	9	10
Dishwasher	Energy Star rated Dishwasher	0	Conventional Dishwasher	1.37	11	$15	$7.23	60%	2.5	1.0	1	$11.000	$1.000	15	21
Insulation Rebate				0.00		$0			0.0	0.0	0	$0.000	$0.000	0	0
Attic insulation and Bypass Sealing - Gas Only Customer	Add R32 to make R44 total in attic	0	R12 insulation in existing attic	11.93	20	$242	$7.23	12%	22.6	19.8	12	$20.241	$1.012	56	668
Air Sealing to Reduce Infiltration by 30% - Gas Only Customer	3.5 ACH50	0	5.0 ACH50	3.90	7	$147	$7.23	12%	42.6	37.4	4	$37.750	$5.393	135	527
Wall Insulation - Gas Only Customer	Filled cavity - add R 11	0	No insulation in cavity	21.13	20	$229	$7.23	11%	14.2	12.7	21	$10.827	$0.541	9	190
Attic insulation and Bypass Sealing - Gas and Electric Customer	Add R32 to make R44 total in attic	0	R12 insulation in existing attic	18.06	20	$248	$7.23	13%	15.0	13.0	18	$13.758	$0.688	224	4,041
Air Sealing to Reduce Infiltration by 30% - Gas and Electric Customer	3.5 ACH50	0	5.0 ACH50	0.00	7	$0	$7.23		0.0	0.0	0	$0.000	$0.000	0	0
Wall Insulation - Gas and Electric Customer	Filled cavity - add R 11	0	No insulation in cavity	26.80	20	$225	$7.23	10%	11.1	9.9	27	$8.386	$0.419	54	1,441
School Education Kits				0.00		$0			0.0	0.0	0	$0.000	$0.000	0	0
Provide Efficient Showerhead	Low Flow Shower head - 1.5 GPM	0	Federal Maximum Standard flow rate 2.5 GPM	2.22	6	$3	$7.23	100%	0.2	0.0	2	$1.410	$0.235	12,541	27,841
Provide Efficient Faucet Aerator	1.5 GPM flow rate aerator	0	Federal Maximum Standard flow rate 2.2 GPM	0.69	5	$1	$7.23	100%	0.2	0.0	1	$1.710	$0.342	12,541	8,653
Provide Efficient 2013 Bathroom Faucet Aerators	1.0 GPM flow rate aerator	0	Federal Maximum Standard flow rate 2.2 GPM	0.00	5	$0	$8.23		0.0	0.0	0	$0.000	$0.000	0	0
Provide Efficient 2014 Bathroom Faucet Aerators	1.0 GPM flow rate aerator	0	Federal Maximum Standard flow rate 2.2 GPM	0.00	5	$0	$9.23		0.0	0.0	0	$0.000	$0.000	0	0
Provide Efficient 2016 Bathroom Faucet Aerators	1.0 GPM flow rate aerator	0	Federal Maximum Standard flow rate 2.2 GPM	1.18	5	$0	$10.23	100%	0.0	0.0	1	$0.398	$0.080	12,541	14,799
Water Heater Rebate				0.00		$0			0.0	0.0	0	$0.000	$0.000	0	0
0.62 EF Storage Water Heater	0.62 EF Storage Water Heater	0	for 40 gallon tank .594 EF	1.06	13	$40	$7.23	50%	10.5	5.3	1	$37.714	$2.901	1,896	2,011
0.64 EF Storage Water Heater	0.64 EF Storage Water Heater	0	for 40 gallon tank .594 EF	2.62	13	$60	$7.23	44%	7.2	4.0	3	$22.880	$1.760	94	247
0.67 EF Storage Water Heater	0.67 EF Storage Water Heater	0	for 40 gallon tank .594 EF	3.47	13	$150	$7.23	27%	22.0	16.0	3	$43.351	$3.335	1,506	5,221
0.82 EF Tankless Water Heater	0.82 EF Tankless Water Heater	0	for 40 gallon tank .594 EF	0.00	20	$0	$7.23		0.0	0.0	0	$0.000	$0.000	0	0
0.90 EF Tankless Water Heater	0.90 EF Tankless Water Heater	0	for 40 gallon tank .594 EF	8.00	20	$101	$7.23	12%	14.1	12.3	8	$12.606	$0.630	122	976
Low Income				0.00		$0			0.0	0.0	0	$0.000	$0.000	0	0
Home Energy Savings Program				0.00		$0			0.0	0.0	0	$0.000	$0.000	0	0
Ceiling R-13 to R-44	Addition of attic insulation to R-44	0	R-13 Avg baseline level of insulation based on market study	20.21	20	$1,403	$7.23	100%	9.6	0.0	20	$69.432	$3.472	181	3,664
Wall R-3 to R-11	Assuming 2x4 construction, up to R-11 insulation can fit in wall cavity	0	No insulation in wall cavity	38.62	20	$1,688	$7.23	100%	6.0	0.0	39	$43.711	$2.186	57	2,195
0.67 EF Hot Water Heater	0.67 EF Hot Water Heater Energy Star Standard	0	for 40 gallon tank .59 EF is IECC code	2.20	15	$1,617	$7.23	100%	101.7	0.0	2	$734.986	$48.999	198	436
Replace Furnace AFUE 78 to 92	92 AFUE ENERGY STAR	0	78 AFUE is the baseline efficiency for gas furnaces	14.00	18	$2,550	$7.23	100%	25.2	0.0	14	$182.143	$10.119	96	1,344
New 84% boiler	84 AFUE High Efficiency Unit	0	80 AFUE is federal baseline efficiency for boilers	4.10	18	$6,000	$7.23	100%	202.5	0.0	4	$1,463.415	$81.301	18	74

Natural Gas Measure Description	High Efficiency Product Description / Rating	Efficient Product Consumption	Baseline Product Description / Rating	Baseline Product Consumption	Life of Product (years)	Rebate Amount	Assumed Energy Cost ($/Dth)	Rebate as a % of Incremental Cost	Incremt'l Cost Period w/o Rebate	Incremt'l Cost Payback Period w/ Rebate	Annual Customer Dth Savings	Rebated cost /Cust Dth Saved	Rebated Lifetime cost /Cust Dth Saved	Units 2016	Total Dth Saved for All Units Installed in 2016
		Dth/yr		Dth/yr	yr	$	$	%	Years	Years	Dth	$	$	#	Dth
Low-Income Home Energy Squad				0.00		$0			0.0	0.0	0	$0.000	$0.000	0	0
NEC Tier One Energy Squad Service 2013	weighted average Energy Efficient Gas measures by participant	0	weighted average Baseline Gas measures by participant	0.00	8	$0	$7.23		0.0	0.0	0	$0.000	$0.000	0	0
NEC Tier One Energy Squad Service 2014	weighted average Energy Efficient Gas measures by participant	0	weighted average Baseline Gas measures by participant	0.00	8	$0	$7.23		0.0	0.0	0	$0.000	$0.000	0	0
NEC Tier One Energy Squad Service 2015	weighted average Energy Efficient Gas measures by participant	0	weighted average Baseline Gas measures by participant	7,169.50	8	$0	$7.23		0.5	0.5	7,170	$0.000	$0.000	1	7,170
ESRPP				0.00					0.0	0.0	0	$0.000	$0.000	0	0
ESRPP	Energy Star products	0	Non energy star	0.50	12	$41	$7.23	21%	55.7	44.3	1	$82.817	$6.901	1,516	758
Smart Thermostat				0.00					0.0	0.0	0	$0.000	$0.000	0	0
Smart Thermostat	Smart Thermostat	0	Standard Thermostat	2.73	8	$38	$7.23		0.0	-1.9	3	$13.975	$1.776	2,138	5,833

➢ Modifications

This section contains all the modifications that were submitted and approved during or for the 2016 program year.

Modification Name and Filing Date	Programs Included	Approval Date
May Informal (5-31-2016)	Lighting Efficiency	6/8/2016

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